

Contractor's Environmental and Social Management Plan For Proposed 100 Bedded District Hospital in Azara District – Kamrup (Metropolitan), Assam



Under

ASSAM STATE SECONDARY HEALTHCARE INITIATIVE FOR SERVICE DELIVERY TRANSFORMATION (ASSIST) PROJECT

Submitted to:

World Bank Funded Assam State Secondary Healthcare Initiative for Service Delivery
Transformation (ASSIST) Project

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

Prepared by:

M/S Tribeni Construction Limited

Address: Regd. Off.: TRIBENI COMMERCIAL COMPLEX

2nd floor, G.S. Road, Ulubari, Guwahati-7

E-mail: tribeni.Azara@gmail.com

INDEX

No.	Topics	Page No.
	Executive Summary	
	Details of Sub-project	
Chapter I	Introduction & Background	1
1.1	Introduction	1
1.2	Objectives of the ESIA and C-ESMP	2
1.3	Methodology	2
Chapter II	Project Description	4
2.1	Location	4
2.2	Introduction of the proposed project site	5-6
Chapter III	Environmental and Social Baseline	7
3.1	Introduction	7
3.2	Physical Environment	7
3.2.1	The institutions that exist in and around the proposed DH site	7
3.2.2	Environment Baseline Survey	8
3.2.3	Ambient Air Quality Monitoring	9
3.2.4	Noise Quality Monitoring	11
3.2.5	Ground Water Quality Monitoring	12
3.2.6	Surface Water Quality Monitoring	12
3.2.7	Soil Quality Monitoring	13
3.2.8	Weather Data	16
3.2.9	Rainfall data of Goalpara district	17
3.2.10	Flood data of Azara	18
3.3	Biological Environment	18
3.3.1	Rare or Endangered Species	18
3.3.2	Flora and Fauna	19
3.4	Social Environment	19
3.4.1	Socio-Economic Characteristics of Goalpara District	19
3.4.1.1	Population and Households	19
3.4.1.3	Population Density	21

No.	Topics	Page No.
3.4.1.4	Sex Ratio	22
3.4.1.5	Community Groups	22
3.4.3	Occupational Pattern	23
3.4.4	Education and Health Institutions	24
3.4.5	Connectivity	25
3.4.6	Land use & Land Cover Pattern	25
Chapter IV	Legal & Institutional Frame Work	27-32
Chapter V	Environmental & Social Risks and Impacts	33-40
Chapter VI	Stakeholder Engagement	41
6.1	Key Stakeholders	41
6.2	Stakeholder Engagement approach and methodology	42
6.3	Stakeholder Engagement conducted for proposed DH at Azara and key outcomes	42
Chapter VII	Environmental and Social management Plan (ESMP)	44
7.1	C-ESMP for proposed DH at Azara	45
7.2	Plan of Stakeholder engagement activities under the Project at Azara	57
Chapter VIII	Analysis of alternatives	60
8.1	Overview	60
8.2	Without Project Alternatives	60
8.3	Alternative Analysis during Detailed Design	60
8.4	Batching Plant	60
Chapter IX	Chance Find Procedures	61

LIST OF TABLES

Table 1: Details of the Infrastructure to be demolished	5
Table 2: Details of locations for collection of Baseline Environment data	9
Table 3: Ambient Air Quality Baseline Data	9
Table 4: Baseline Noise level data	11
Table 5: Baseline Ground Water Quality data	14
Table 6: Base line surface water quality Data.	16
Table 7: Baseline Soil Quality data	17
Table 8: Monthly rainfall distribution of Kamrup (Metro) district	17
Table 9: Demographic profile of Kamrup Metropolitan District	21
Table 10: Revenue Circle wise population of Kamrup Metro district	21
Table 11: Bifurcation of Rural and Urban population of Kamrup Metro district	21
Table 12: House hold of Kamrup Metropolitan District	22
Table 13: Decadal change in population of Revenue circles by residence 2001—2011	22
Table 14: Sex ratio by Revenue Circles as per census 2011	23
Table 15: Proportion of Main, Marginal and Non-workers across Kamrup Metropolitan District	24
Table 16: Proportion of Main workforce in the Kamrup Metropolitan District	25
Table 17: Occupational Pattern of Main Workforce of in Kamrup Metropolitan District	25
Table 18: Health Infrastructure in Kamrup Metropolitan District	25
Table 19: Schools/ colleges per 10,000 population in towns, 2011	26
Table 20: Applicable National & State Laws and Policies	28
Table 21: World Bank Environment and Social Standards (ESS) applicable to the Project	30
Table 22: A comparison between existing Legislation and WB Policies relevance to Project	31
Table 23: Environmental Statutory Clearance and approval—Pre-construction phase,	34
Table 24: Anticipated Impacts and Mitigation Approach –Pre-construction phase and Construction phase.	35
Table 25: Identified key stakeholders for the proposed project at Azara	42
Table 26: Contractor's Environment & Social Management Plan	46
Table 27 :Construction Phase Environmental Monitoring Plan.	61

LIST OF ANNEXURES

Annexure 1: Site Plan Of Proposed DH At Azara	66
Annexure 2: Planned Building Design And Summary Of Specification For Construction	67
Annexure 3: Major Flora and Fauna	70
Annexure 4: Participation List Of Public Consultation With Stakeholders	73
Annexure 5: Labour Management Plan/ Guidance	78
Annexure 6: Construction Health Safety Management Plan	93
Annexure 7: Construction & Demolition Waste Management Plan	102
Annexure 8: Photographs of Environmental Monitoring	108
Annexure 9: Emergency Response_Plan	109
Annexure 10: Construction and Other Waste Management Plan	146
Annexure 11: Traffic Management Plan	153
Annexure 12: Grievance Redressal Mechanism	159

ABBREVIATIONS

ADC	Autonomous District Council
ANM	Auxiliary nurse midwife
ASHA	Accredited social health activist
BMW	Bio-medical Waste
CBWTF	Common Biomedical Waste Treatment Facility
CERC	Contingent Emergency Response Component
CHC	Community Health Centre
FRU	First Referral Unit
BPHC	Bureau of Primary Health Care
CMO	Chief Medical Officer
DH	District Hospital
DOHFW	Department of Health and Family Welfare
E&S	Environmental and Social
ESF	Environmental and Social Framework of World Bank
ESMF	Environmental and Social management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
FPIC	Free, Prior, and Informed Consent
GBV	Gender Based Violence
GoI	Government of India
GoA	Government of Assam
GRIHA	Green Rating for Integrated Habitat Assessment
GRM	Grievance Redress Mechanism
HCF	Health Care Facility
HR	Human Resource
HWC	Health and Wellness Centre
ICT	Information and communication technology
IEC	Information, Education, and Communication
IPA	Internal performance agreement
IPF	Investment Project Financing
IPM	Internal Performance Management
IT	Information Technology
MMR	Maternal Mortality Rate
MO	Medical Officer
MoEF&CC	Ministry of Environment, Forest and Climate Change
MoHFW	Ministry of Health and Family Welfare
NCD	Non-communicable diseases
NGO	Non-governmental Organization
NHM	National Health Mission
NQAS	National Quality Assurance Standards
OHS	Occupation and Health Safety
OOPE	Out-of-pocket expenditure
OSC	One Stop Centre
PDO	Project Development Objective
PHC	Primary Health Centre

PMU	Project Management Unit
PPE	Personal Protective
PPP	Public Private Partnership
RKS	Rogi Kalyan Samiti
SBCC	Social and Behaviour Change Communication
SC	Sub-Centre
SEA/SH	Sexual exploitation and abuse/Sexual harassment
SEP	Stakeholder Engagement Plan
SOP	Standard Operating Procedure
WCD	Women and Child Development

EXECUTIVE SUMMARY

Government of Assam (GOA) is implementing “Assam State Secondary Health Care Initiative for Service Delivery Transformation (ASSIST) Project” under Assam Health Infrastructure Development & Management Society (AHIDMS), Medical Education and Research Department (MERD) with financial assistance from the World Bank. Major objective of the project is to initiate improvement in the quality and delivery of secondary health care system in the state. Under this project, 9 (Nine) new 100 to 200 bedded District Hospitals are going to be constructed in 9 districts of the state.

A 100 bedded District Hospital, is proposed to be constructed in the premises of existing 30 bedded Azara CHC. Proposed hospital building will have six floors with ground floor and a basement; total height of the infrastructure is considered as 33.15 meter & total ground area of the proposed site is estimated as 6687.2 Sqm. Establishment of 100 bedded New District Hospital at Azara is planned with primary objective to ameliorate health care facilities in the State. This site is located at Village: Mikirpara Chakardoi, Azara, Kamrup & is accessible through NH-17.

There is a significant shortage of public healthcare services in the area, particularly in the western part of the district. Existing facilities are inadequate, offering only basic primary care, preventive services, and maternity care. The proposed District Hospital at Azara, equipped with advanced infrastructure and modern medical facilities, is critically needed to address the growing demand for specialized and comprehensive healthcare services in the region. Once operational, the hospital will play a vital role in bridging the gap in secondary healthcare access, greatly benefiting the entire local population across all segments of society.

World Bank Environmental and Social Standards (ESS)-1: “Assessment and Management of Environmental and Social Risks and Impacts” sets out the requirement of identification and assessment of environmental and social risks and impacts associated with construction of DH at Azara under ASSIST Project; and subsequent mitigation management plans. The objective is to prevent and mitigate undue harm to people and their environment in the construction process.

In view of the above, ASSIST commits to adopt the site-specific Contractor’s Environment and Social Management Plan (C-ESMP) for the proposed DH at Azara. Once adopted, the C-ESMP has to be implemented throughout the period of pre-construction to the construction period by the Tribeni Construction Limited, who will be responsible to adhere to the same for compliance of environmental and social safeguards of the project. The C-ESMP will be updated as and when required or in case addition of any activity which is not a part of this C-ESMP.

The baseline environmental and social characteristics of the proposed District Hospital (DH) site and its surrounding area have been evaluated to identify potential impacts associated with the construction activities. The environmental screening results indicate that all parameters are within acceptable limits, suggesting that the proposed project is unlikely to cause any significant adverse environmental impacts during construction. However, some potential site-related concerns have been anticipated, including disturbance to the topsoil and existing vegetation, risks of soil erosion and contamination, surface runoff leading to flooding and water pollution, increased air pollution from dust and emissions, and noise pollution due to construction-related activities and vibrations.

Similarly, various social issues may arise at the site, including potential risks to community health and safety, inconvenience to the public, and possible disruption of medical services at the existing Azara CHC due to construction activities. Additional concerns include the potential for conflicts between the migrant workforce and local communities, risks of gender-based violence and sexual exploitation, abuse and harassment (SEA/SH) in and around the site, as well as occupational health and safety hazards for workers engaged in construction.

The C-ESMP has been developed by taking into account the identified risks and impacts associated with the construction of the proposed District Hospital at Azara. It outlines the responsibilities for implementing mitigation measures within defined timelines, starting from the pre-construction phase and continuing through the construction phase.

As part of the regulatory requirements, it is essential to obtain the necessary Consents, Permits, Clearances, and No Objection Certificates (NOCs) for the establishment of the new District Hospital, as well as for associated facilities such as the Ready-Mix Concrete (RMC) or Batching Plant, Labour Camp, construction material supply and storage areas, tree cutting or relocation, use of vehicles and construction equipment, water supply, electricity etc.

The mitigation measures have been designed to address the identified environmental and social risks associated with the pre-construction and construction phases of the proposed project at Azara. These measures aim to protect, prevent,

and minimize environmental impacts such as land disturbance, and water, soil, air pollution resulting from construction activities at the site and its surroundings. Additionally, the social mitigation strategies focus on safeguarding community health and safety, ensuring occupational health and safety for workers, and reducing public inconvenience and disruption. The plan also includes actions to enhance road safety, facilitate stakeholder engagement for raising awareness and participation, and prevent or mitigate the risk of sexual exploitation, abuse, and harassment (SEA/SH) toward community members—especially women and children—by contractor personnel, as well as workplace sexual harassment involving consultants, contractor staff, and labourers at the project site.

World Bank's ESS10 recognises 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 activities like consultation and meetings were conducted for making the community and hospital staff aware of the proposed DH, facilities to be provided through the proposed DH and making them aware of the possible public inconveniences during the construction of the proposed DH. Suggestions and inputs from stakeholders were also considered while preparing the C-ESMP.

The DH design and construction materials will conform to the seismicity of the region as it falls under Seismic Zone (V). Further, environment friendly building materials and technologies that are appropriate for the project site and surrounding environment will be used in the project. The proposed DH will be equipped with necessary contemporary healthcare facilities as per IPHS, 2022 norms and the building will be human centric and GRIHA V.2019 compliant.

Details of Sub Project

Assignment Title: Design & Construction of 100 Bedded New District Hospital in Azara, Assam in EPC Mode

Name of Contractor (EPC) : M/S Tribeni Construction Limited, Guwahati

Project Name : Assam State Secondary Healthcare Initiative for Service Delivery Transformation (ASSIST)

Financial Assistance : The World Bank

Project Management Unit : Assam Health Infrastructure Development and Management Society (AHIDMS), Government of Assam

Project Management Consultant : Mott MacDonald

Chapter I. Introduction and Background

1.1 Introduction

Assam, located in the easternmost part of India, is a state characterized by its diverse landscape of mountains, valleys, and two major river systems—the Brahmaputra and the Barak. It is the most populous state in the northeastern region and the second largest in terms of area, spanning 78,438 square kilometres. Assam shares its borders with Bhutan and Arunachal Pradesh to the north; Arunachal Pradesh, Nagaland, and Manipur to the east; Mizoram, Tripura, Meghalaya, and Bangladesh to the south; and West Bengal to the west. Administratively, the state comprises 35 districts, grouped into five distinct regions: Barak Valley, Central Assam, Lower Assam, North Assam, and Upper Assam.

Assam is continuously working towards development of the health sector. During 2017-19 Assam was one of the states with highest maternal mortality rates (MMR), with around 205 deaths per 100000 live births. However, NHFS data of (NFHS 2019-2021, and 2005-2006) indicates an improvement in other health outcomes, with 87 percent of women giving birth in a facility now as compared to 24 percent in 2005. Antenatal care has also improved from 66 to 85 percent. These improvements in the indicators can be attributed to several interventions of the Govt. of Assam in the health sector.

Presently District Hospital in Assam have 18 beds/100,000 population compared to the national average of 24 beds. The proportion of communicable, maternal, neonatal, and nutritional diseases (CMNND) contribute to 34.06% of total disease burden. Diarrheal diseases, lower respiratory tract infections, neonatal pre-term birth and tuberculosis are the leading causes of deaths due to CMNND in the State. Further, the burden of non-communicable diseases (NCDs) is growing in Assam.¹

In order to have enhanced access to and structural quality of secondary health care, Assam Health Infrastructure Development & Management Society (AHIDMS), Medical Education and Research Department, Govt. of Assam is implementing “Assam State Secondary Healthcare Initiative for Service Delivery Transformation (ASSIST)” Project with financial assistance from the World Bank. Under the project new 100-200 Bedded District Hospital will come up in 9 districts of the state. One of the proposed District Hospital is in Kamrup Metropolitan District where 100 bedded District Hospital is proposed in the premises of existing 30 bedded FRU (CHC), Azara. It is envisioned that the proposed DH at Azara will come a long way in fulfilling the gap in the provision of secondary health care services, not only for the surrounding areas and nearby locations but also for the entire western region of Guwahati in the district. Benefitting all section of people of the district, proposed DH will not only save life but also provide access to important health facilities that were not available in around 20 km.

For construction of these 100 bedded hospitals, contract has been awarded to Tribeni Construction Limited, Guwahati by AHIDMS. In order to address Environmental and Social Issues during implementation of the project, Tribeni Construction Limited is responsible for conducting the site specific ESIA and prepare the site-specific Contractor’s Environment and Social Management Plan (C-ESMP). Throughout the project implementation process, Tribeni Construction Limited will be responsible to adhere to this C-ESMP for compliance of environmental and social safeguards. The C-ESMP will be updated as and when required or in case addition of any activity which is not a part of this C-ESMP.

1.2. Objectives of the ESIA and C-ESMP:

1.2.1. ESIA: The major objectives of ESIA are:

- a) Assessment and collection of primary and secondary data on physical, ambient, ecological and social environment, of the proposed site.
- b) Review of existing National and State level policies, legislations and regulations along with that of policies and frameworks of World Bank and examine applicability of the relevant one in implementing the project at the proposed site.
- c) Assessment and identification of environmental, and social risks and impacts of the proposed site.

¹ ESMF Document of World Bank ASSIST Project.

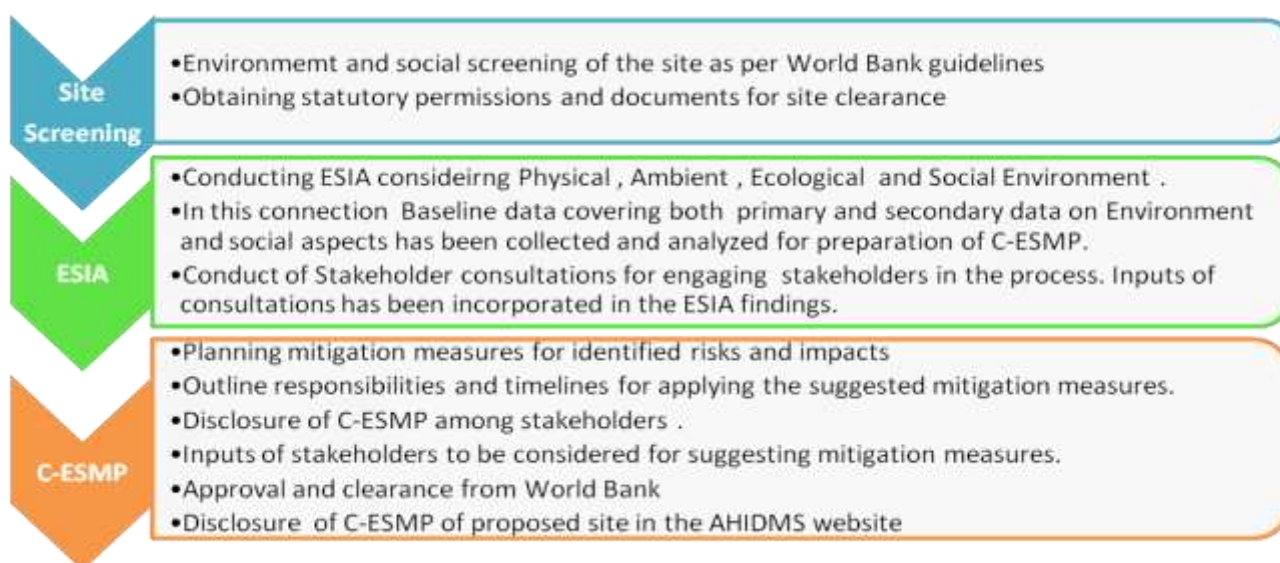
- d) Identification of Stakeholders of the project in the district and implementing Stakeholder engagement programme at the proposed site to involve all stakeholders in the project implementation process and to generate awareness for the local community.

1.2.2 C-ESMP: The major objectives of C-ESMP are:

- a) To manage all identified environmental and social impacts, risks and liabilities during pre-construction, construction and maintenance and operation of the project
- b) To plan and implement strategies for Environment, social, health, and safety (ESHS) safeguard elements
- c) To comply with all applicable regulations and standards related to Environment, Social and Labour management and safeguards.
- d) To avoid, mitigate and manage negative impacts on heritage and cultural properties.
- e) To plan and provide better living environment to labours at labour camps and work sites and maintain Water, Sanitation and Hygiene (WASH) standards.
- f) To prevent as well as redress grievances on possible risks of Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) and Gender-Based Violence (GBV), of workers and community and sensitization of both on the same.
- g) Disclosure of C-ESMP

1.3. Methodology:

The methodology for conducting ESIA and preparation of C-ESMP is broadly categorized in the 3 parts as given below:



Chapter II. Project Description

2.1 Location

The proposed location for the District Hospital is within the premises of the existing Azara Community Health Centre (CHC), situated approximately 8 km from Guwahati and accessible via NH-37 along the Guwahati Airport Road (Figure 1). The geographical coordinates of the site are 26.124524°N latitude and 91.617455°E longitude. The area features a mix of hilly and plain terrain, with the Brahmaputra River to the north, Meghalaya to the south, and Rampur Uparhali Block to the west. Deepor Beel, a nationally recognized bird sanctuary, lies about 2.0 km away from the proposed project site in the north-eastern direction.

The proposed site is situated around 2.2 kilometres (aerial distance) south of the Brahmaputra River. The site is situated in the revenue village of Mikirpara Chakordoi in the Kamrup Metropolitan district. As per the approved drawing, the proposed building has a total built-up area of 16,113.60 sqm, situated on a plot measuring 6,687.18 sqm. The basement footprint covers an area of 2,395.00 sqm. The land area for the proposed DH is available at site and no additional land is required.

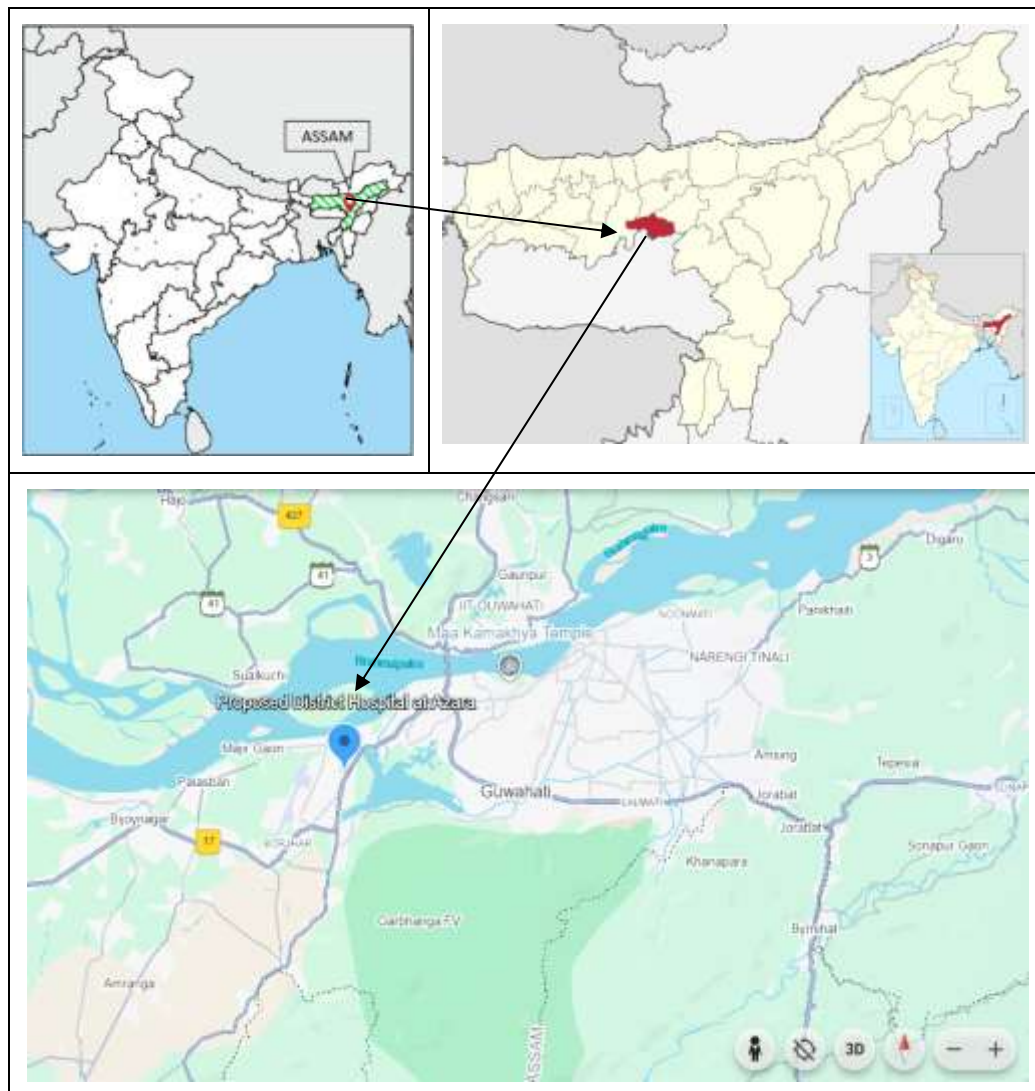


Fig-1: Location of proposed District Hospital Site at Azara

2.2. Introduction of the proposed project site:

The site of the proposed 100 bedded New District Hospital of Azara is in the location of 30 bedded Azara CHC in the Kamrup Metropolitan district (Fig.2). While primary care may be accessible, residents often travel long distances for specialized or emergency services. This area lacks a full-fledged secondary care facility, forcing patients to rely on overburdened tertiary hospitals in Guwahati. The primary objective of the proposed District Hospital is to strengthen

secondary healthcare facilities and services, ensuring that residents of the region have improved access to meet the growing demand for medical care.

The plot of the land for the proposed DH site at Azara measures 6687.18 sqm. Out of which the physical footprint of the building will be on 2395 sqm area. The existing 30 – bedded Azara CHC is being shifted to Garal MPHC site situated at approximately 2 kms from the site to ensure its functionality and providing uninterrupted services to the people of the area.

For construction of the new hospital building at the site, there is a need to demolish the old hospital building. Further, an assessment of the vegetative cover at the site needs to be carried out so as to ensure minimal felling or clearance of the same. The infrastructural details of the old hospital building to be demolished are as below:

Table 1: Details of the infrastructure area to be demolished

Sl. No	Building Details	Age of the Building	Area of the Building
1	RCC-1	15 Years	274.295 SQM
2	RCC-2	15 Years	203.347SQM
3	RCC-3	15 Years	111.604 SQM
4	RCC-4	15 Years	138,958 SQM
5	RCC-5	15 Years	179.797 SQM
6	Assam Type -1	25 Years	194.123 SQM
7	Assam Type-2	25 Years	83.242 SQM
8	Assam Type-3	25 Years.	129.319
	Total Area		1314.685 SQM



Figure 2: Proposed District Hospital Location

The demolition process involves careful dismantlement of structure to preserve the components for re-use, re-cycling or reprocess.

The design of the proposed 100 bedded DH Design will be human centric and user friendly and compliant with 3-star GRIHA rating. Planned building design and summary of specification for construction is given in **Annexure 2**.

2.3. Proposed Components for the Project Site

The proposed 100-bedded District Hospital (DH) will be designed to be human-centric, user-friendly, and compliant with GRIHA standards, with the objective of achieving a 3-Star GRIHA rating. The building will incorporate universal access features such as ramps, handrails, and appropriate fixtures on all floors. Fire safety provisions, including an additional staircase or ramp for emergency evacuation, will also be integrated into the design. The project will include an Effluent Treatment Plant (ETP) with a capacity of 20 KLD and a Sewage Treatment Plant (STP) with a capacity of 80 KLD. A dedicated biomedical waste storage facility has also been incorporated into the design.

Ground Floor: The ground floor will accommodate the Emergency Care Unit, Radiology Department including support services (Dietary), Room for category wise storage of Bio medical Wastes in colour coded Bins and the Outpatient Department (OPD), ensuring easy accessibility for patients requiring immediate medical attention and routine consultations.

First Floor: The first floor will house the Outpatient Department (OPD) and the Administrative Unit, facilitating efficient hospital management and coordination of outpatient services.

Second Floor: The second floor will be dedicated to the District Early Intervention Centres (DEIC), a specialized multidisciplinary centre under the National Health Mission. This centre will provide early detection, assessment and free therapeutic management for children (0-6 years) to detect and manage 4D conditions: Defects at birth, Diseases, Deficiencies and Developmental delays/disabilities. The second floor will also consist of Obstetrics critical care unit.

Third Floor: The third floor will include a waiting area with public toilets, lift lobby, and staircase, along with Mother and New Borne Baby Ward, SNCU & NICU, paying cabin complex in addition to supporting facilities such as the Doctor's Lounge, Nurse's Lounge, Pantry, and Nurse's Station to enhance staff comfort and operational efficiency.

Fourth Floor: The fourth floor will comprise waiting area with public toilets, General Ward Complex, Paying Cabin Complex, catering to specialized treatment, inpatient care, and maternal health services.

Fifth Floor: The fifth floor will accommodate the Burn Unit, High Dependency Unit (HDU) Ward, Paying Cabin Complex, providing critical care and advanced medical treatment facilities.

Sixth Floor: The Sixth Floor will be facilitated by the waiting area with public Toilet, OT Complex, Blood Bank, Central Sterile Supply Department to prevent hospital -acquired infections (HAIs) by ensuring that all reusable items are safely processed and sterile before patient use.

Basement: The Basement of the Hospital Unit will be densely packed, highly functional shell of infrastructure and support services such as Mortuary, UGT and Gas Manifold devices, Laundry. Parking facilities of 96 no's Four-Wheeler Closed parking, 11 no's of open four-wheeler parking and 9 no's of Two-wheeler parking will be available in the Basement.

In addition to the above, the hospital will be equipped with a comprehensive biomedical waste management system, including three categories of BMW rooms and collection areas on each floor. Supporting infrastructure will include an Effluent Treatment Plant (ETP) of 20 KLD capacity, a Sewage Treatment Plant (STP) of 80 KLD capacity, and a dedicated biomedical waste storage area. Other supporting facilities will include waiting and reception areas, body viewing and cold storage facilities, post-mortem and embalming rooms, instrument and storerooms, X-ray and supervisor rooms, changing rooms, and adequate toilet facilities to ensure smooth, hygienic, and environmentally compliant hospital operations. The details of the proposed site design and project components are provided in Annexure 2.

Chapter III. Environmental and Social Baseline

3.1. Introduction

The Environmental and Social Baseline study determines the characteristics of an area prior to the development of a project and establish the initial environmental and social status of the same. The baseline environmental quality is assessed through field surveys within the probable impact zones as well as secondary data for various component of the environment viz air, water, noise, land/soil and socio-economic conditions.

In accordance with the World Bank's Environmental and Social Safeguard Guidelines, the EPC contractor, M/s Tribeni Construction Ltd., is required to carry out an Environmental and Social Impact Assessment (ESIA) and subsequently prepare a Contractor's Environmental and Social Management Plan (C-ESMP).

The proposed project is located within the old hospital complex, does not involve any acquisition of land & therefore no impacts on indigenous people are envisaged.

3.2 Physical Environment

3.2.1 The institutions that exist in and around the proposed DH site

Hospital	Azara CHC (Presently shifted to Garal MPH) at a distance of 2.0 KM from the proposed construction site of new DH.
Market	Azara Gadhuli Bazar on daily basis evening market is famous for local vegetable, Fish etc. at a distance of 1.0 KM from the proposed site.
Police station	Azara Police station is approx. 600 m away from the proposed site
Educational Institutions	Nearest educational institution Azara Higher Secondary School & Azara college, Don Bosco University, Girijananda University are at a distance of 1.0 km from the proposed site.
Temple	Temple of Goddess Manasha locating at a distance of 1.5 KM from the proposed site.
Environmentally sensitive areas	Ramsar site Deepor Beel, a national bird sanctuary locating at an arial distance of 2.2 km from the proposed project site. No other environmentally sensitive areas such as Biosphere Reserve, National Park, Wild life Sanctuary, Archaeological Monuments/Sites are within 1.0 KM of the he proposed project site.
Railway Station	Azara Railway Station is at a distance of 2.0 km from the proposed site.
Airport	Lok Priya Gopinath Bordoloi International Airport (GAU), Guwahati is approximately 5 kilometres from the proposed site.

3.2.2 Environment Baseline Study:

Environmental Baseline Study determines the characteristics of an area prior to the development of a project and establish the initial environmental status. Main objectives of environmental baseline study are—

- To assess present environmental quality & the Environmental impacts.
- To identify environmentally significant factors that could preclude project development on environment basis.

The baseline environmental quality is assessed through field surveys within the probable impact zones for various components of the environment viz air, water, noise, land/soil & secondary data for socio-economic survey.

The baseline quality of various components of the environment viz air, water, noise, land/soil, metrological & socio-economic is assessed with the impact zone covering 5.0 km buffer area of the proposed site. Various components are monitored at five sampling locations including the project site. The environmental baseline study consists the following existing environmental scenario-

- Air Environment
- Noise Environment
- Soil Environment
- Biological Environment
- Socio Economic Environment

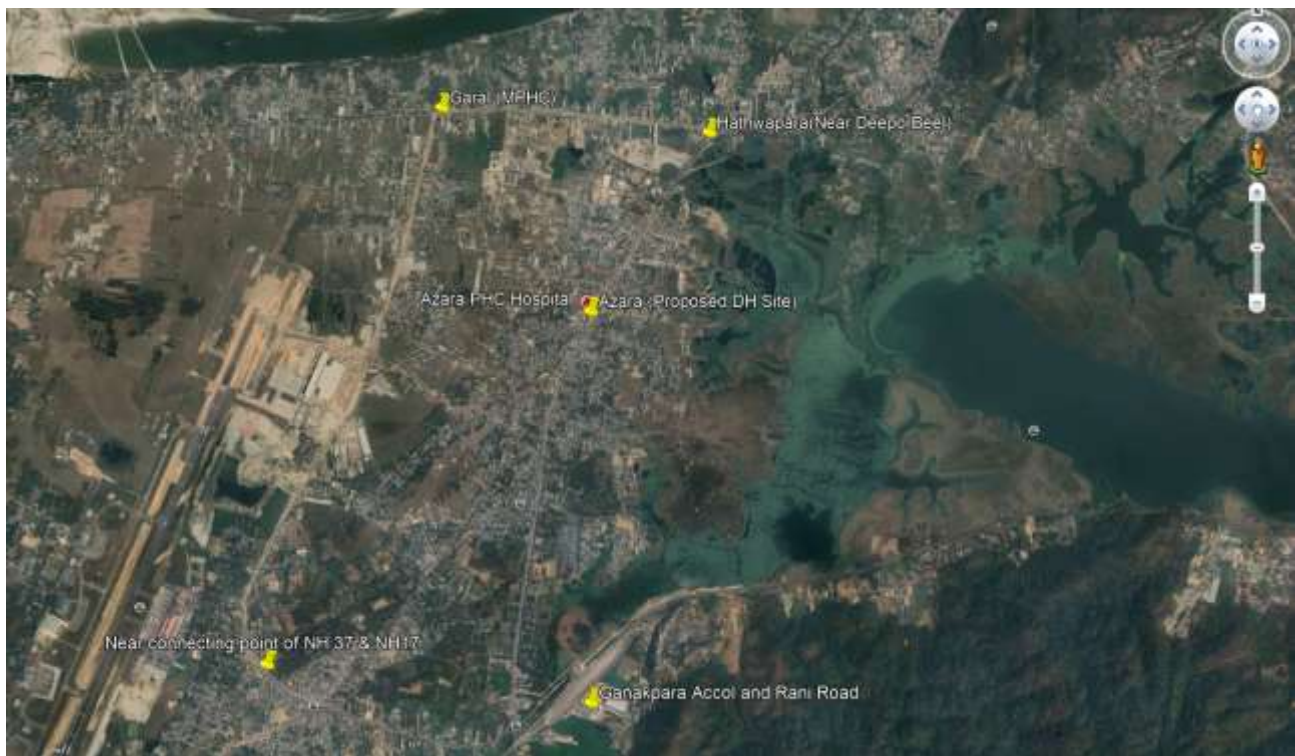


Figure 2: Environmental monitoring points located within the project premises

Table 2: Details of locations for collection of Baseline Environment data

Sl. No.	Sampling Location	Co-ordinate	Distance from DH site	Direction from the DH site
Location 1	Azara (Proposed DH Site)	26°07'28"N; 91°37'05"E	--	--
Location 2	Garal (MPHC)	26°08'23"N; 91°36'27"E	Approx. 2.0 km	South
Location 3	Hathwapara (Near DeeporBeel)	26°08'01"N; 91°37'27"E	Approx. 2.0 km	East
Location 4	Near connecting point of NH 37 & NH17	26°05'56"N; 91°35'38"E	Approx. 3.0 km	West
Location 5	Ganakpara Accol and Rani Road	26°05'45"N; 91°36'40"E	Approx. 4.0 km	North West

3.2.3 Ambient Air Quality Monitoring:

Methodology:

To establish baseline air quality, Ambient Air Quality Monitoring was conducted at the project site in August 2024. Additional air quality monitoring stations, equipped with weather forecasting facilities, were installed at four other locations in October 2024.

For assessing the air quality, Particulate Matter PM₁₀, PM_{2.5}, SO₂ and NO₂ were monitored in the ambient air at identified locations to establish baseline for air quality prior to the start of the construction activity. The air quality parameters were monitored in accordance with the National Ambient Air Quality Standards as given in Table-3.

Table 3: Ambient Air Quality Baseline Data

Sl No	Pollutant	Methods of Measurement	Time Weighted Average	NAAQ (2009) Standards	Ambient Air Quality Baseline Results ($\mu\text{g}/\text{m}^3$)				
					Locations				
					1	2	3	4	5
1	PM 10	IS 5182 (23)	24 hours	100 $\mu\text{g}/\text{m}^3$	44	39	45	54	47
2	PM 2.5	IS 5182(24)	24 hours	60 $\mu\text{g}/\text{m}^3$	21	20	22	23	26
3	Sulphur Dioxide (SO_2)	IS 5182 (2)	24 hours	80 $\mu\text{g}/\text{m}^3$	6	<25	<25	<25	<25
4	Nitrogen Dioxide (NO_2)	IS 5182 (6)	24 hours	80 $\mu\text{g}/\text{m}^3$	9	10	11	9	9

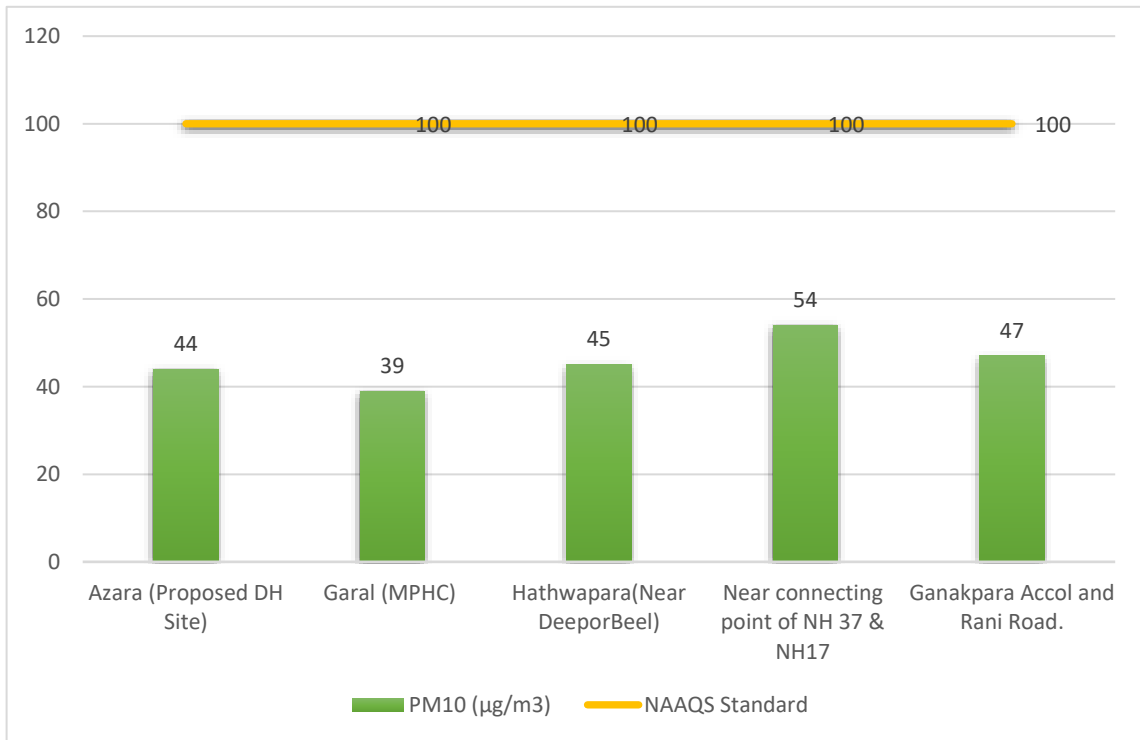


Figure 3: PM10 Concentration in Ambient Air along the Project Area

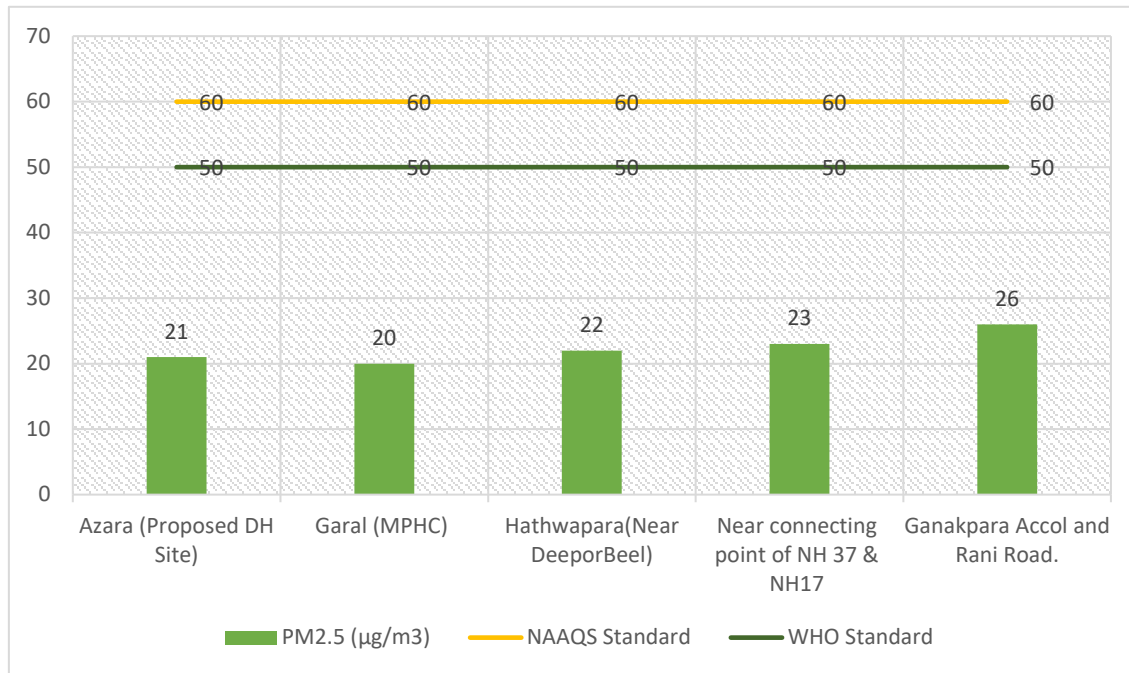


Figure 4: PM10 Concentration in Ambient Air along the Project Area

The monitored air quality values have been compared with the National Ambient Air Quality Standards (NAAQS) set by the Central Pollution Control Board (CPCB) and the IFC EHS guidelines for residential and rural areas. The ambient air quality levels at the proposed locations comply with these national standards. Overall, the air quality in the proposed project area remains well within the permissible limits prescribed by the Ministry of Environment, Forest and Climate Change (MoEF&CC).

3.2.4 Noise Quality Monitoring

A preliminary noise level monitoring was undertaken to establish baseline of noise level and to identify the major noise generating sources in the project area. To assess prevailing noise levels in the surroundings of project area, an ambient noise monitoring was carried out. Noise in the project area and at three different locations was assessed according to the provision of the Noise Pollution (Regulation and Control) Rules 2000 and as amended up to date, notified by the Ministry of Environment, Forest and Climate Change, Govt of India.

The results of noise level monitoring at the designated locations are presented in Table-4. The selected monitoring locations are representative of commercial, residential cum rural area. The background noise level at the monitoring location is generated from normal activities, congested market places and traffic on the road section in the rural area.

Methodology: -

Sound Pressure Level (SPL) measurement was taken at an interval of 1 minute using a sound level meter of Lutron make Digital Sound Level Meter. At the monitoring locations, daytime noise levels were monitored during the period 6 am to 9 pm and night-time noise levels during the period 9 pm to 6 am. The readings were analysed and a frequency distribution table prepared from which 24-hourly and average Leq noise levels were calculated.

It can be seen from the results that the ambient air quality in terms of noise levels at the proposed construction site and its surrounding areas are within the permissible limits.

Table 4: Baseline Noise level data

Sl. No	Location	Ambient Noise Standards (CPCB) for commercial area		Average Noise Level in dB	
				Day time (Leq)	Night Time (Leq)
		Day time	Night Time		
01	Location 1	<65dBA	<55dBA	61.6	43.4
02	Location 2	<65dBA	<55dBA	49.5	39.6
03	Location 3	<65dBA	<55dBA	62.3	48.9
04	Location 4	<65dBA	<55dBA	64.3	48.6
05	Location 5	<65dBA	<55dBA	53.4	41.3

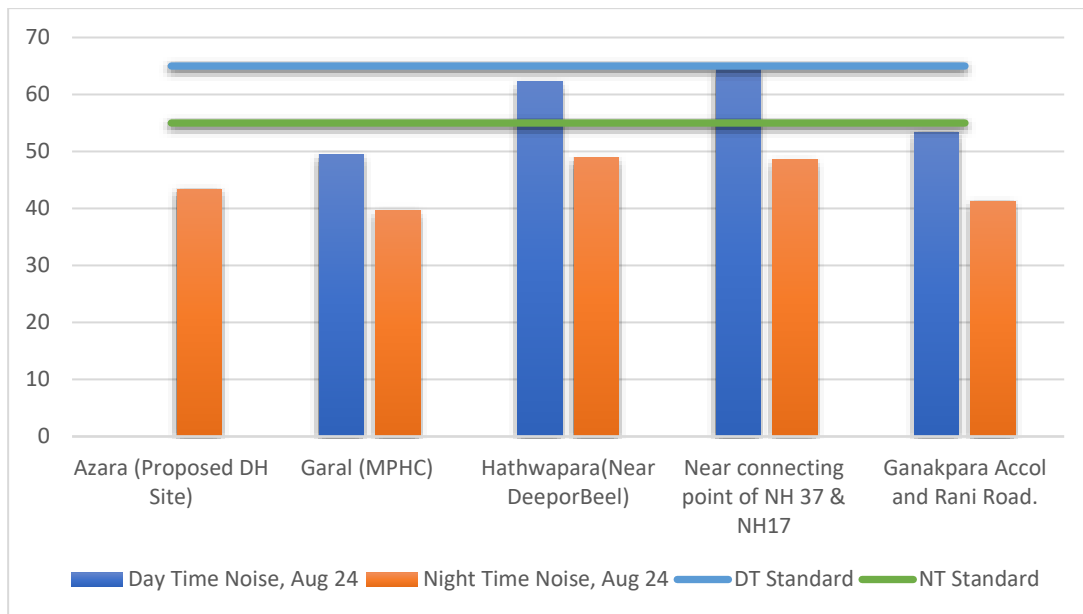


Figure 5: Ambient Noise Level in decibel (A) along the subproject location

3.2.5 Ground Water Quality Monitoring

The current study aims to evaluate the quality of groundwater for drinking purposes and to identify the primary contaminants present in the groundwater. The present study intends to assess the ground water quality for drinking purposes & to determine principal pollutants of Ground Water. Five locations, including the subproject site, were selected for groundwater sampling to establish the baseline water quality in the region. The sampling locations are detailed in the Table-1.

Methodology: Samples were collected as per IS- 2488 (Part I-V). Sample was analysed as per IS: 10500-1991. Grab sample was collected from water source and was analysed for various physio- chemical parameters as per the procedures laid down in the APHA and BIS. Atomic Absorption Spectrophotometer and UV/VIS Spectrophotometer were used for analysis of water samples according to the necessity.

The obtained results are compared with Indian Standard for drinking water specification IS:10500-1991. The study of Physio-chemical & Biological Characteristic of water sample suggests that, the evaluation of water quality parameters meets the IS: 10500-1991 standard for drinking water.

The baseline results of ground water quality are given in Table-5. As indicated, all tested parameters of the sampled water are within the permissible limits.

3.2.6 Surface Water Quality Monitoring

Baseline study on surface water is a process to assesses the surface water quality in terms of physical, chemical & biological characteristics of surface water. For surface water baseline sample was collected from three number of different locations as indicated at **Table 2**.

Methodology: Sample was collected as per IS- 2488 (Part I-V) and analysed as per IS-10500:2012. Grab samples were collected from water source and was analysed for various physio- chemical parameters as per the procedures laid down in the APHA and BIS. Atomic Absorption Spectrophotometer and UV/VIS Spectrophotometer were used for analysis of water samples.

From the analysis report it has been revealed that the surface water of the area including project site are free from nutrients, metals, pathogen & organic pollutants and is suitable for bathing, discharges in public sewers, irrigation etc. The baseline results of surface water quality are given in Table-6.

3.2.7 Soil Quality Monitoring

To establish soil quality baseline in the proposed Construction areas, five samples of soil was collected from the construction location and analysed for 7 parameters. The result of soil quality at the construction area is given in Table-7 below.

Methodology: -

Samples were collected as per IS- 2488 (Part I-V). Soil samples were collected during 3rd and 4th January, 2024 from the location as shown in **Table 2**. Samples were analysed as per IS-2720, IS-14767, IS-15106.

Table 5: Baseline Ground Water Quality data

Sl. No.	Description	Method	Unit	Results					IS- 10500:2012	
				Location 1	Location 2	Location 3	Location 4	Location 5	Requirement (Acceptable Limit)	Permissible Limit in the absence of alternate source
1	pH	IS 3025 Part112022	-	6.86	6.55	6.65	6.64	6.88	6.5-8.5	No relaxation
2	Conductivity	IS 3025 Part 14 1984 (RA:2019)	ms/cm	0.185	0.385	0.234	0.2	0.258	-	-
3	Colour	IS 3025 Part 4 2021	Hazen	Colourless	Colourless	Colourless	Colourless	Colourless	5	15
4	Total Dissolved Solids	IS 3025 Part 16 1984 (RA: 2017)s	Mg/l	104	107	78	200	146	500	2000
5	Total Suspended Solids	IS 3025 Part 17 1984 (RA:2017)	Mg/l	<10	<10	<10	<10	<10	-	-
6	Turbidity	IS 3025 Part 10 1984 (RA:2017)	NTU	<1	<1	0.15	0.6	0.5	1	5
7	Dissolved Oxygen	IS 3025 Part 38 1989 (RA:2019)	Mg/l	4.1	3.9	3.8	3.8	3.6	-	-
8	Chlorides	IS 3025 Part 32 1988 (RA:2019)	Mg/l	14.9	2.9	<1.0	<1	<1	250	1000
9	Fluoride	IS 3025 Part 60 2008 (RA:2019)	Mg/l	<0.05	<0.5	<0.5	<0.5	<0.5	1	1.5
10	Hardness	IS 3025 Part 21 2009 (RA:2019)	Mg/l	62	90	56.0	64.8	104	200	600
11	Iron	IS 3025 Part 53 2003 (RA:2019)	Mg/l	0.20	0.12	0.24	0.19	0.23	0.30	No relaxation
12	Odour	IS 3025 Part 5 1983 (RA:2017)	-	Agreeable	Agreeable	Agreeable	Agreeable	E	Agreeable	Agreeable
13	Oil & Grease	IS 3025 Part 39 2021	Mg/l	<2	<2	<2	<2	<2	-	-
14	Sulphates	IS 3025 Part 24 1986 (RA:2019)	Mg/l	4,3	3.7	3.8	<1	3.8	200	400
15	Alkalinity	IS 3025 Part 23 1986 (RA:2019)	Mg/l	40	75	85	70	170	200	600

Sl. No.	Description	Method	Unit	Results					IS- 10500:2012	
				Location 1	Location 2	Location 3	Location 4	Location 5	Requirement (Acceptable Limit)	Permissible Limit in the absence of alternate source
16	Aluminum	IS 3025 Part 55 2003 (RA:2017)	Mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.2
17	Calcium	IS 3025 Part 40 1991 (RA:2019)	Mg/l	16.3	16.0	16	14.4	23.2	75	200
18	Chromium (Hexavalent)	IS 3025 Part 52 2003 (RA:2019)	Mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	No relaxation
19	Copper	IS 3025 Part 42 1992 (RA:2019)	Mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	1.5
20	Lead	IS 3025 Part 47 1994 (RA:2019)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	No relaxation
21	Taste	IS 3025 Part 7 & 8 1984	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
22	Zinc	IS 3025 Part 49 1994 (RA:2019)	Mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	5	15
23	Boron	APHA 23rd Edition 2017	Mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	1
24	Cadmium	IS 3025 Part 41 1992 (RA:2019)	Mg/l	<0.003	<0.003	<0.003	<0.003	<0.003	0.003	No relaxation
25	Magnesium	IS 3025 Part 46 1994 (RA:2019)	Mg/l	5	5	5	6	18.5	30	100
26	Manganese	IS 3025 Part 59 2006 (RA:2019)	Mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3
27	Residue Chlorine	IS 3025 Part 26 2021	Mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	1
28	Nitrate	IS 3025 Part 34 1988 (RA:2019)	Mg/l	<5	<5	<5	<5	<5	45	No relaxation
29	Faucal coliform	APHA 23 rd Edition 2017	MPN/10 Oml	Absent	Absent	Absent	Absent	Absent	Absent	Absent
30	E. Coli	HI Media Kit	Present/ Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
31	Total coliform	APHA 23 rd Edition 2017	Present/ Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Table 6: Base line surface water quality Data.

Sl. No.	Description	Method	Unit	IS- 10500:2012				
				Azara	Garal (MPHC)	Hathwapara(Near Deepor Beel)	Requirement (Acceptable Limit)	Permissible Limit in the absence of alternate source
01	pH	IS 3025 Pt 11 2022	----	7.50	6,57	8.20	6.5-8.5	No relaxation
02	Conductivity	IS 3035 Pt 14	Ms/cm	0.195.	0.125	0.285	----	----
03	Colour	IS 3025 Pt 4	Hazen	Colourless.	Colourless	Colourless	5	15
04	Taste	IS 3025 Pt 7	----	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
05	Total Dissolved Solids	IS 3025 Pt 16	Mg/l	109	62	184	500	2000
06	Total Suspended Solids	IS 3025 Pt 17	Mg/l	<10	< 10	<10	----	----
07	Turbidity	IS 3025 Pt 10	NTU	6.6	0.85	2.20	1	5
08	Dissolved Oxygen	IS 3025 Pt 38	Mg/l	4.8	3.5	3.9	---	---
09	Alkalinity	IS 3025 Pt 23	Mg/l	70	25	60	200	600
10	Calcium	IS 3025 Pt 40	Mg/l	15.2	15.2	9.5	75	200
11	Chlorides	IS 3025 PT 32	Mg/l	4.9	<1	< 1	250	01000
12	Copper	IS 3025 Pt 42	Mg/l	<0.05	< 0.05	< 0.05	0.05	1.5
13	Fluoride	IS 3025 Pt 60	Mg/l	<0.5	< 0.5	< 0.5	1	1.5
14	Hardness	IS 3025 PT 21	Mg/l	64	30	54	200	600
15	Iron	IS 3025 Pt 53	Mg/l	0.18	0.22	0.16	0.30	No relaxation
16	Lead	IS 3025 pt 47	Mg/l	<0.01	< 0.01	<0.01	0.01	No relaxation
17	Odour	IS 3025 Pt 5	---	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
18	Oil & Grease	IS 3025 Pt 39	Mg/l	<2	< 2	< 2	---	---
19	Sulphates	IS 3025 Pt 24	Mg/l	17.3	< 2	< 1	200	400
20	Zinc	IS 3025 Pt 49	Mg/l	<0.1	< 0.1	< 0.1	5	15
21	Aluminium	IS 3025 Pt 55	Mg/l	<0.03	< 0.03	< 0.03	0.03	0.2
22	Boron	APHA 24 th EDITION, 2023.	Mg/l	<0.5	< 0.5	< 0.5	0.5	1
23	Cadmium	IS 3025 Pt 41	Mg/l	<0.003	< 0.003	< 0.003	0.003	No relaxation.
24	Chromium (Hexavalent)	IS 3025 Pt 52	Mg/l	<0.05	< 0.05	< 0.05	0.05	No relaxation.
25	Magnesium	IS 3025 Pt 46	Mg/l	6	2	7.3	30	0.1100
26	Manganese	IS 3025 PT 59	Mg/l	<0.1	< 0.1	< 0.1	0.1	0.3
27	Nitrate	IS 3025 Pt 34	Mg/l	< 5	< 5	< 5	45	No relaxation.
28	Residue Chlorine	IS 3025 Pt 26	Mg/l	< 0.2	< 0.2	< 0.2	0.2	1
29	E Coli	Hi Media Kit	Present/Absent	Absent	Absent	Absent	Absent	Absent
30	Faecal coliform	APHA 24 TH EDITION ,2023	Present/Absent	Absent	Absent	Absent	Absent	Absent
31	Total coliform	APHA 24 th edition, 2023.	Present/Absent	Absent	Absent	Absent	Absent	Absent

Table 7: Baseline Soil Quality data

Sl. No	Parameters	Unit	Result as per IS-2720, IS-14767, IS-15106 standards				
			Location 1	Location 2	Location 3	Location 4	Location 5
1	pH Value	-	6.02	6.09	6.06	6.96	6.91
2	Sulphite	mg/kg	12	8.6	11.8	12.4	8.6
3	Chloride	mg/kg	22	14.8	14.6	16.2	14.8
4	Water Soluble salts as EC	mg/m	256	244	214	370	345
5	Organic Matter	%	2.6	2.8	2.1	2.4	3.6
6	Moisture Content	%	18.7	17.8	18.6	14.6	16.4

3.2.8. Rainfall & Climate

The climate of the area has been classified as sub -tropical humid climate with heavy rainfall, hot summer and high humidity. The average annual rainfall recorded from 2011 to 2021 by I.M.D is 1295.42 mm. Rainfall during January to April contributes nearly 14.41% to the total rainfall whereas the rainy season which commences from May and continues up to September contributes 79.74%. October to December rainfall is only 5.8%. December receives least rainfall. The average monthly rainfall from 2011 to 2021 and also yearly rainfall distribution of Kamrup (Metro) district are illustrated in Figure 9.

Table 8: Monthly rainfall distribution of Kamrup (Metro) district²

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)	Actual (mm)
2011	7.25	7.27	54.01	62.94	172.64	184.91	222.29	183.04	133.81	29.31	14.11	0.89
2012	9.75	2.24	10.01	157.99	93.97	279.36	247.47	199.79	0.58	0.47	0	0
2013	0	9.48	26.18	68.27	238.14	263.5	298.76	251.25	184.72	109.04	0	2.27
2014	1.77	24.72	15.31	62.34	145.5	237.97	160.05	393.17	364.72	36.38	2.15	1.14
2015	4.7	16.21	23.5	135.15	218.19	196.66	236.66	347.48	190.25	53.92	15.58	14.34
2016	8.36	0.64	31.02	183.12	200.97	200.66	268.85	103.46	241.61	127.94	9.74	5.48
2017	1.28	4.83	46.72	195.02	151.01	229.28	196.12	346.13	148.63	145.25	24.82	5.73
2018	0.65	3.1	21.9	97.84	116.28	256.29	199.45	200.97	130.61	44.81	3.9	18.95
2019	3.35	12.53	49.26	127.75	211.38	154.45	259.01	168.07	187.39	135.42	9.75	1.93
2020	12.38	20.89	11.18	134.36	206.91	289.66	149.51	69.77	271.98	204.75	6.16	1.36
2021	0.91	4.45	29.98	45.11	158.28	199.66	215.75	231.45	161.56	105.23	0	3.01

² Report on Aquifer Mapping and Management Plan of Kamrup (Metro) District, Assam

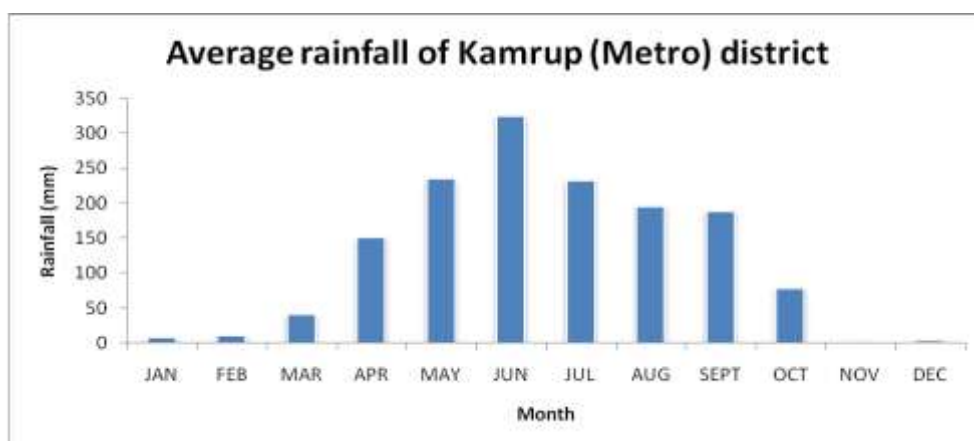


Figure 6: Average monthly rainfall variations of Kamrup (Metro) district (From 2011 to 2021)

The climate of the district is predominantly sub-tropical humid climate with heavy rainfall, hot semi dry summer and cold winter. The district experiences a maximum temperature of 37 to 39°C and a minimum temperature of 6 to 7°C. Average temperature ranges from 12 to 38°C during the year. In winter, temperature ranges from 15 to 25°C during day and 8 to 15°C during night. The summer temperature ranges from 25 to 38°C during day and 15 to 25°C during night. Monsoon usually starts from April and continues till end of September. Prevalence of Relative Humidity is generally high (78-80%) particularly during the summer months. Average humidity of the state is 76%. Winter months are cool and start from November to February.

3.2.9. Earthquake data of Guwahati

Kamrup Metropolitan district, encompassing Guwahati, is situated in one of India's most seismically active regions. According to the seismic zoning map of India, the district falls under Seismic Zone V, the highest risk category.

Given the district's high seismic vulnerability, the District Disaster Management Authority (DDMA) of Kamrup Metropolitan has emphasized the importance of disaster preparedness and mitigation strategies. The DDMA's plan outlines the need for earthquake-resistant infrastructure and public awareness campaigns to enhance community resilience.

Historically, the region has experienced significant seismic events. Notably, the Great Assam Earthquake of 1897, with a magnitude of 8.8, caused widespread devastation across Assam, including Guwahati. More recently, on April 28, 2021, a magnitude 6.4 earthquake struck near Dhekiajuli, with tremors felt in Kamrup Metropolitan district. This event resulted in two fatalities due to heart attacks and caused structural damages in the area.

3.2.10. Flood Data of Guwahati-Azara.

The city of Guwahati is located at the banks of the river Brahmaputra and several of its tributaries pass through the city. Urban growth in the city of Guwahati has been rapid, with uncontrolled development activities. These activities have a detrimental impact on the ecology and environment of the city. The city is surrounded by wetland that are under threat due to the encroachment and unplanned urban development of the city. The city is prone to floods and landslides and is located on the earthquake prone (Zone-V) belt. In addition to being vulnerable to these natural hazards, the city of Guwahati is frequently affected by seasonal flash floods, which are not entirely caused by natural factors. Every year during the monsoon season, the region experiences worst fury of nature in the form of Brahmaputra River flooding and erosion along its banks, devastating large areas of habituated landform and damaging agrarian lands, especially Guwahati city experiences its worst impact in the form of flash floods every year.

According to the DRMS (Disaster Reporting and Information Management System) report publish by ASDMA GoA, west Guwahati including Azara area is totally free from devastating flood, although river Brahmaputra flowing at a distance of 5.km from the area & also come under the catchment area (144 Sq.km) of Deepor Beel Basin and Kalmoni Basin (Catchment Area=66.5 Sq.km). The seasonal flash flood occurs in LGBI Airport and its adjoining areas. The undergoing works for improvement of sluice gate over Kalbhog channel with proper

pumping facilities including flood walls along both bank of Kalbhog channel and construction of new channel from back side of new terminal of LGBI Airport to Kalbhog channel will augment the area from flash flood.

3.3 Biological Environment:

There are three major wetlands/lakes, namely, Deepor Beel, Sola Beel and Silsako Lake, in Guwahati city which plays a major role in terms of housing a large portion of aquatic flora and faunas, acting as storm water reservoir and as a major conduit for ground water recharge in a rather concrete jungle of city.

Deepor Beel is located at a distance of 2 km(approx.) from proposed DH Site & about 10.0 km south western part of Guwahati city. It is considered as one of the large and important wet land in Brahmaputra Valley. This wetland has been recognized as Wild Life Bird Sanctuary under the Ramsar Convention which has listed in November 2002 as a Ramsar Site for undertaking conservation measures on the basis of Biological & Environmental importance. It is also categorized of the wetland Type under Burma Monsoon Forest of Biographic region. Deepor Beel is natural habitat for approximately 219 species of Birds including 70 migratory species.³

3.3.1 Rare or Endangered Species

As confirmed by the Forest Department official no rare & endangered species have been identified in an around the proposed construction site. However, if any endangered or protected species flora found within the surrounding project site, during the construction period, necessary mitigation measures will be adopted in consultation with Forest Department.

3.3.2 Flora and Fauna

There will be limited scope of disturbance to flora & fauna due to construction activities at proposed site. However strict observation will be made during construction for no disturbance.

3.4 Social Environment

3.4.1 Socio-Economic Characteristics of Kamrup Metropolitan District

The socio-economic data of the district has been collected from different secondary sources viz. District Census Handbook 2011 Kamrup Metropolitan District, Joint Director of Health Services Kamrup Rural and District Administration Kamrup Metropolitan.

(The data available in the District Census Handbook 2011 Kamrup Metropolitan District includes data of North Guwahati Revenue Circle which was then a part of Kamrup Metropolitan District. However as on date this Circle is not a part of Kamrup Metropolitan District, it is a part of the Kamrup district).

The socio-economic data of the district is summarized as follows:

3.4.2 Population and Household

Kamrup Metropolitan District is one of the most urbanized and economically significant districts in the state. The district headquarters is situated in Dispur, which is part of Guwahati—the largest city in Assam and the gateway to Northeast India.

The district consists of only six revenue circles viz. Azara having 21 villages, North Guwahati (Pt) having 5 villages, Sonapur having 142 villages, Chandrapur having 43 villages. Guwahati is entirely urban while Dispur comprises of parts of Guwahati as well as rural parts having 5 villages. It has 4 community development blocks within the district. The district comprises of 216 villages including 12 uninhabited villages. The district comprises twelve (12) towns: 2 Statutory Towns and 10 Census Town. The total area of the district is 955 sq.km as per the District Census Handbook, Kamrup Metropolitan, Census of India, 2011.⁴ *(However, as on date, North Guwahati (Pt) is not a part of Kamrup Metropolitan District)*⁵

³ Report On Aquifer Mapping And Management Plan Of Kamrup (Metro) District, Assam

⁴ District Census Handbook, Kamrup Metropolitan, Census of India, 2011

⁵ <https://kamrupmetro.assam.gov.in/information-and-services/list-revenue-villages>

In terms of connectivity, National Highways NH-31 and NH-37 (now part of NH-27 under the NH renumbering system) run through the district, providing vital road links to other parts of Assam and neighbouring states.

The district covering an area of 955 sq.km.is inhabited by a total population of 1253938 as per Census 2011, Male comprises 647585 while female consist of 606353. Out of the total population of the district 2,16,927 are rural and 10,37,011 are urban. In rural areas 111062 and 105865 are male and female respectively. In urban areas of the district, 536523 are male and 500488 are female. As per the census 2011 out of total population, 88.7 % are in urban areas while 17.3 % of total population are in rural areas. The total urban population as per 2011 census 1037011 out of which 536523 (51.74%) are male while the remaining 500488 (48.26%) are females.

Table 9: Demographic profile of Kamrup Metropolitan District⁶

Description	As per Census 2001	As per Census 2011
Population	1059578	1253938
Male	571774	647585
Female	487804	606353
Population Growth	45.91%	18.34%
Area sq.km.	627	955
Density per sq.km.	1690	1313
Proportion to Assam population	3.98%	4.02%
Sex Ratio (Per 1000)	853	936
Child sex ratio (0 to 6 years)	943	946
Average Literacy	83.21	88.71
Male Literacy	88.0	92.13
Female Literacy	77.51	85.07
Total Child Population	125007	125386

The population and area details for each Revenue Circles are provided below.

Table 10: Revenue Circle wise population of Kamrup Metropolitan district

Revenue Circles	Area(sq.km.)	Population (2011)	Density per sq.km.
Azara	141.56	64247	453.86
Chandrapur	149.47	49277	329.67
Dispur	128.46	534872	4163.72
Guwahati	99.87	433771	4343.36
Sonapur	402	143371	356.65
North Guwahati (Pt)	12.97	28400	1075

Table 11: Bifurcation of Rural and Urban population of Kamrup Metropolitan district

	Rural	Urban	Total
Total	216927	1037011	1253938
Male	111062	536523	647585
Female	105865	500488	606353

According to the 2011 Census, Kamrup Metropolitan District comprises approximately 293,112 households, with around 45,484 households (17.3%) in rural areas and 247,628 households (82.7%) in urban areas. The average household size in the district is 4.28 persons.

Table 12: House hold of Kamrup Metropolitan District

Type	House holds
Total	293112
Rural	45484
Urban	247628

⁶ District Census Hand Book. Kamrup Metropolitan 2011, Series 19, Part-XIIA, Directorate of Census Operation, Govt of Assam.

Table 13: Decadal change in population of Revenue circles by residence 2001—2011

Sl. No.	Revenue Circle	2001	2011	Percentage of Decadal Variation			Percentage of Urban Population	
				Total	Rural	Urban	2001	2011
1	Azara	48366	64281	32.92	-30.66	369.04	15.86	55.98
2	North Guwahati (Pt)	21418	28401	21.27	29.23	17.29	69.54	67.55
3	Guwahati	40620	433771	6.77	0	6.77	100	100
4	Dispur	419772	534872	27.42	-12.69	28.12	98.28	98.82
5	Sonapur	124043	143371	15.58	3.96	0	0	10.06
6	Chandrapur	37746	49277	30.55	45.43	-30.75	19.53	10.36

Table shows the decadal change in population of Revenue Circles by residence between 2001 to 2011. Total population changes from 1059578 (Census 2001) to 1253938 (Census 2011). Percentage of decadal variation for the district is 18.34 (3.57 for rural and 21.98 for urban). Amongst the revenue circle, Azara shows the highest percentage of decadal variation with 32.92 while Guwahati shows the lowest with 6.77. Due to urbanization, Azara and Dispur Revenue Circles have recorded a negative rural population growth rate, while Chandrapur Revenue Circle has shown a negative urban growth rate. However, all Revenue Circles have experienced an overall positive population growth. In Sonapur, the urban population growth rate is recorded as zero, as there was no urban population in the area during the 2001 Census. Percentage decadal Change is from 80.23 to 82.70.

3.4.1.2. Population Density

According to the Census 2011, Kamrup Metropolitan had population of 1253938 of which male and female were 647585 and 606353 respectively. Thus, the density of Kamrup Metropolitan district is 1313 people per sq.km.

3.4.1.3. Child Population

According to the census 2011, the district population in the age group of 0-6 is 27333 with 13806 are male and 13527 are female. The child sex ratio of the district recorded 980 females per 1000 male.

3.4.1.4. Sex Ratio

The Sex ratio of the district is 936, which is lower than the State sex ratio of 958. In rural area, the sex ratio of the district is 953 females and that of the State is 960 females per 1000 males. In urban district recorded 933 females per 1000 males which is also lower than the state sex ratio of 346 females per 1000 males.

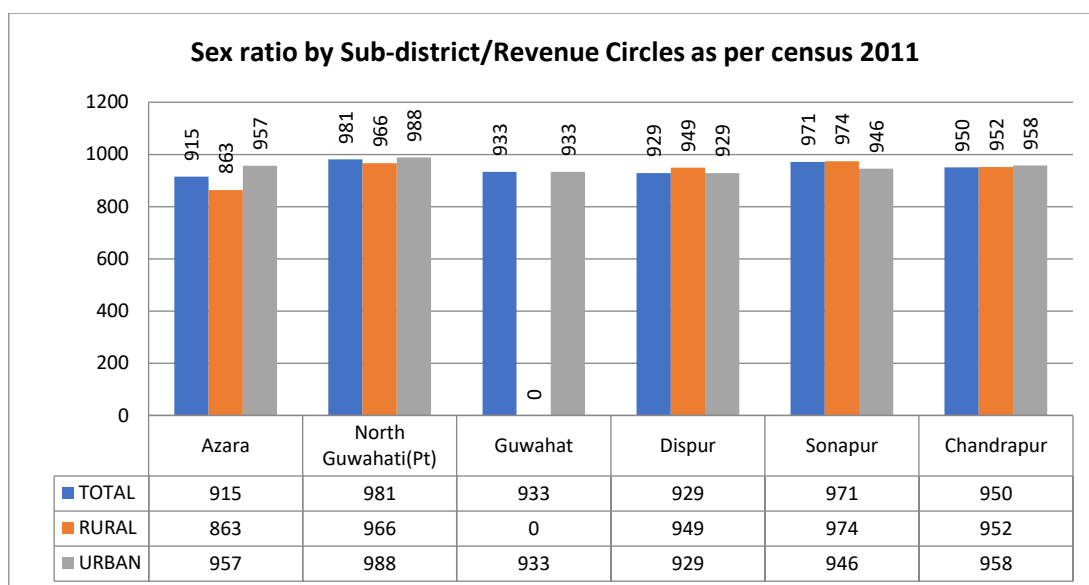
Table 14: Sex ratio by Revenue Circles as per census 2011

Sl.No.	REV.CIRCLE	TOTAL	RURAL	URBAN
1	Azara	915	863	957
2	North Guwahati (Pt)	981	966	988
3	Guwahati	933	0	933
4	Dispur	929	949	929
5	Sonapur	971	974	946
6	Chandrapur	950	952	958

Source: District Census Hand book 2011

The Table 14 presents the sex ratio across different revenue circles of Kamrup Metropolitan district.

The total population of children in the 0–6 age group stands at 125,386. The district's overall sex ratio for this age group is 946 females per 1,000 males i.e.980 in rural areas and 936 in urban areas. Chandrapur revenue circle has the highest sex ratio for the 0–6 age group at 1,021, while the lowest is observed in Azara at 881.



3.4.1.5 Community Groups

The religious composition of the district includes Hinduism with total population consisting of 84.89% majority, second most population is Muslim community constituting of 12.05%, and 3.06% of population comprises other religions like Sikhism, Christianity, Buddhism and Jainism. The district is inhabited by people belonging to various indigenous Assamese communities like Keots/Kaibarta, Bodo, Rabha, Lalung Koch Rajbongshi etc.

3.4.2. Occupational Pattern

The occupational structure of Kamrup Metropolitan District is largely shaped by its urban character, with a significant portion of the workforce employed in the service sector, followed by manufacturing and agriculture. As a key urban center, the district has a high concentration of workers engaged in services such as trade, hospitality, and business-related activities. Additionally, the district hosts a notable manufacturing sector, comprising both large-scale and small-scale industries. Although agriculture is not the main economic driver, it continues to contribute to the district's employment, particularly in regions outside the core urban areas.

Table 15: Proportion of Main, Marginal and Non-workers across Kamrup Metropolitan District

Sl. No.	Revenue Circle	Total Population	Total Workers	Non-Workers	Main Workers	Marginal Workers
1	Azara	64247	22522	41725	19024	3498
2	North Guwahati (Pt)	28400	11313	17087	8563	2750
3	Guwahati	433771	169336	264435	146944	22392
4	Dispur	534872	209034	325838	181875	27159
5	Sonapur	143371	59458	83913	41890	17568
6	Chandrapur	49277	19269	30008	14858	4411
	District	125938	490932	763006	413154	77778

Source- District Census Hand Book. Kamrup Metropolitan 2011, Series 19, Part-XIIA, Directorate of Census Operation, Govt of Assam.

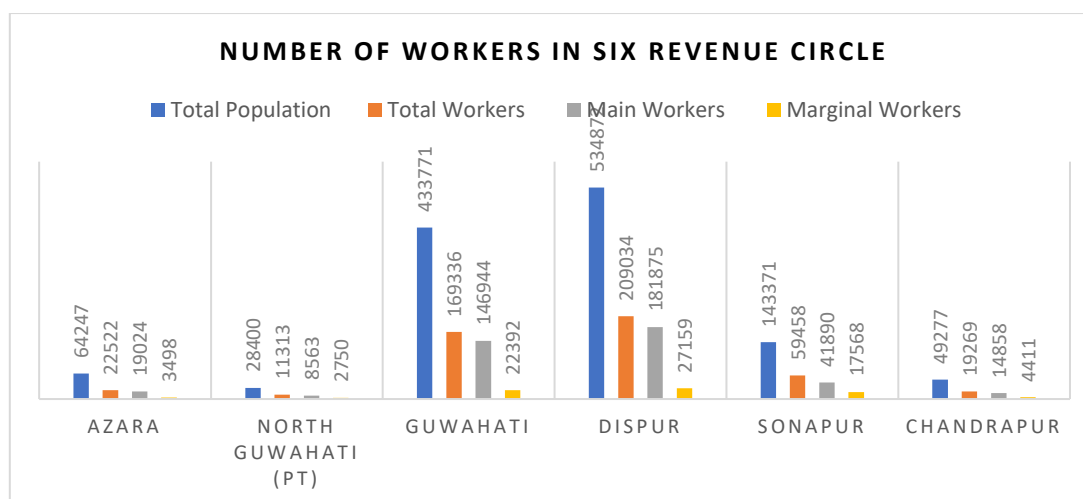


Table 16: Proportion of Main workforce in the Kamrup Metropolitan District

	Total population	Total Workers	Cultivator (%)	Agriculture (%)	Household Industry Worker (%)	Other Worker (%)
Kamrup Metro	1253938	490932	5.14	3.46	2.54	88.86
Male	647585	375613	5.36	2.03	1.81	90.80
Female	606353	115319	4.43	6.82	4.90	83.85

Source: District Census Hand book 2011.

As per the table, the total number of main workers in the district is 490,932, comprising 375,613 male workers and 115,319 female workers. Cultivators account for 5.14% of the total workforce, with 5.36% being male and 4.43% female. Agricultural labourers make up 3.46% of the total workers, including 2.43% males and 6.82% females. The majority of workers, 88.86%, are engaged in other occupations.

Table 17: Occupational Pattern of Main Workforce of in Kamrup Metropolitan District

Sl. No.	Revenue Circle	Total Population	Cultivator (%)	Agricultural Labour (%)	Household Industry Worker (%)	Other Worker (%)
1	Azara	64247	8.26	3.29	3.26	85.19
2	North Guwahati (Pt)	28400	1.75	1.23	4.50	92.52
3	Guwahati	433721	0.68	0.82	2.26	96.28
4	Dispur	584872	0.79	0.60	2.11	96.50
5	Sonapur	143371	28.61	18.31	4.59	48.48
6	Chandrapur	49277	17.47	13.44	1.66	67.43

3.4.3 Health

The district hospital performance report by NITI Aayog, 2021, indicates that the state has lower bed strength (18 beds) at the district level compared to the National average (24 beds) per 100,000 population⁷. With regard to healthcare facilities under Govt. of Assam, Table-18 gives the details of the Health Infrastructure of the Kamrup Metropolitan District.

⁷ ESMF of ASSIST Project

Table 18: Health Infrastructure in Kamrup Metropolitan District

Type	Numbers
Medical College & Hospital	1 (GMCH)
District Hospital	1
Community Health Center (CHC)	3
Primary Health Center (PHC)	25
Sub-Centers (SC)	51

Source: Directorate of Health Services, Kamrup⁸

The proposed District Hospital at Azara is expected to play a significant role in meeting the long-standing demand of the local population for quality and advanced healthcare services.

3.4.4. Education

The analysis of educational institutions in the towns of Kamrup Metropolitan district shows that, on average, there are 3 primary schools, 1 middle school, 1 secondary/matriculation school, and 1 senior secondary school for every ten thousand population, while colleges are negligible in this ratio. Among the towns, Garal (CT) records the highest number of primary schools with 11, North Guwahati (TC) leads in middle schools with 5, and Amingaon (CT) has the maximum secondary/matriculation schools with 3. For senior secondary schools, Majir Gaon (CT) and Barua Bari Gaon (CT) each have 2 institutions, while North Guwahati (TC) stands out as the only town with a college per ten thousand population. Overall, primary education facilities are relatively well distributed, whereas higher education institutions are limited, with colleges being almost absent across the district towns.⁹

Table 19: Schools/ colleges per 10,000 population in towns, 2011

Sr. No.	Name of the town	Primary	Middle	Secondary / matriculation	Senior secondary	College
1	Guwahati	3	1	1	1	0
2	Azara (CT)	6	3	1	1	0
3	Gara (CT)	11	2	0	0	0
4	Majir Gaon (CT)	6	0	2	2	0
5	Kahi Kuchi (CT)	6	0	1	0	0
6	Dharapur (CT)	4	2	2	1	0
7	North Guwahati (TC)	7	5	1	1	1
8	Amin Gaon (CT)	6	3	3	1	0
9	Digar Gaon (Diguabar Gaon) (CT)	9	3	0	0	0
10	Barua Bari Gaon (CT)	4	2	2	2	0
11	Sonapur Gaon (CT)	9	3	0	0	0
12	Chandrapur Baghicha (CT)	6	0	0	0	0

3.4.5. Connectivity

Kamrup Metropolitan District is well connected to the rest of the State and country through a network of roads, rail, air & inland water transport. The project site has good connectivity via roads and a railway station, making it a well-connected residential area. It is accessible via roads like Daharapur-Palashbari Road, New Airport Road, and Kahikuchi Road, with NH-17 (Chhaygaon-Guwahati Road) providing inter-city connectivity. The Loka Priya Gopinath Bordoloi International Airport is about 6 km away via NH-17. Additionally, Azara Railway Station located about 2 km from the locality, is accessible via National Highway 17 (NH-17). The Loka Priya Gopinath Bordoloi International Airport is located about 5 km away from Azara via NH-17.

⁸ <https://dhs.assam.gov.in/information-services/health-institute-details>

⁹ District Census Handbook, Kamrup Metropolitan, 2011

3.4.6. Land use & Land Cover Pattern

Over the past two decades, the region has experienced **rapid urbanization**, driven by population growth, expanding economic activity, and extensive infrastructure development. This transformation has significantly altered the region's land use and land cover patterns, with notable impacts on the environment and sustainability.

The total land utilization in the district covers 87,150 hectares, with the net sown area constituting 32.42% of the total utilized land. The district is covered in Moderately Dense to Very Dense Forest area covering mainly the hilly portion (slope >20% rise) of the district. Patches of Scrub Land is found in Amingaon and Maligaon area. Forest area in the district accounts for 2.945% of total area for land utilisation. Area under non-agricultural uses is 19405 ha. Barren and Uncultivable Land comes to be around 4400 ha. Grazing land of the district is around 606 ha. Cultivable waste land is around 452 ha.

The district situated in the west central part of Assam, has a diverse geology due to its location within the North Eastern part of the Indian subcontinent. It lies on the northern edge of Shillong Plateau & is bordered by the mighty river Brahmaputra to the North.

Socio-Economic Study of the Area:

Following activities are involved as a part of Socio-Economic Study-

- Reconnaissance Survey
- Socioeconomic Survey
- Site vignette
- Mapping of stake holders, consultations with them.
- Delimitations of the study

The study has been delimited to Mikirpara Village where the proposed 100 bedded District Hospital will be established. Mikirpara village comes under the Rani Development block of Kamrup District nearly 15 KM away from Guwahati city. The inhabitants of this village are mixed community with permanent households -. Total number of families in the village is 122 with total population of 435 out of which 53.33 % are male & 46.67% are female. Poverty status of 122 families---BPL (30.32%), APL (47.62%), Others (27.04%).

Major problems faced by the inhabitant which have been revealed during interaction with the villagers---

- Water logging in most of the inhabited area during rainy season
- Most of the interior roads are kutcha. Further these roads are in the low -lying area.
- The villagers are facing trouble during rainy season.
- Medical Facilities: The villagers are facing lack of proper medical facilities

The 30-bedded Azara CHC, which has been temporarily relocated to Garal MPHC, is currently inadequate to meet the healthcare needs of the local population. In the absence of a well-equipped healthcare facility—either in the government or private sector—residents of the area are experiencing significant hardships. The community has expressed strong support for the establishment of the proposed New District Hospital and has emphasized the need to expedite its construction and development.

Additionally, the area suffers from other critical infrastructure deficiencies, such as an inadequate drainage system and the absence of a proper garbage disposal mechanism.

Chapter IV. Legal and Institutional Framework

This Chapter outlines existing National and State level policies, legislations, and regulations that are relevant to the project (Table-20). Further World Bank Environmental and Social Standards are set out to prevent and mitigate undue harm to people and their environment in the project implementation process (Table-21). 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. Table 22 highlights a comparison between the existing Legislation and WB Policies relevance to Project. Environmental Statutory clearance applicable for the project is given in Table 23.

Table 20: Applicable National & State Laws and Policies

Sl. No.	National and State Legislations/ Policies/ Regulations	Regulatory Bodies
1	The Constitution of India (especially, Articles 15, 16 and 46)	Govt. of India/Govt. of Assam
2	Biomedical Waste (Management and Handling) Rules 2016, and subsequent amendments	Ministry of Environment, Forest and Climate Change (MoEF & CC) / Central Pollution Control Board (CPCB) / State Pollution Control Board Assam
3	E-Waste (Management and Handling) Rules 2011 as Amendment up to 2018	MoEF & CC/CPCB/ State Pollution Control Board Assam
4	Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules 2008 Hazardous and Other Wastes (Management and Trans-boundary Movement) Amendment Rules, 2016.	MoEF & CC/CPCB/ State Pollution Control Board Assam
5	Plastic Waste Management Rules 2016	MoEF & CC/CPCB/ State Pollution Control Board Assam
6	The Epidemic Diseases Act 1897 The Epidemic Diseases (Amendment) Ordinance, 2020	Parliament of India Ministry of Law and Justice
7	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	MoEF & CC/CPCB/ State Pollution Control Board Assam
8	The Water (Prevention and Control of Pollution) Cess Act, 1977 Rules framed under the Water (Prevention & Control of Pollution) Act, 1974 (Assam) Rules 1977	MoEF & CC/CPCB/ State Pollution Control Board Assam
9	Environmental Impact Assessment (EIA) Notification 2006 & and subsequent amendments	MoEF & CC/CPCB/ State Pollution Control Board Assam/SEIAA
10	Central Pollution Control Board Guidelines: CPCB Guidelines for CBWTFs (2003). CPCB Guidelines for BMW Incinerators (2003). Draft Guidelines for Biomedical Waste Incinerator, 2017 Revised guidelines for Common Biomedical Waste Treatment Facilities (2016). Guidelines for Bar Code System for Effective Management of Biomedical Waste Standards for treatment and disposal of Bio medical waste by Incineration	MoEF & CC/CPCB/ State Pollution Control Board Assam
11	Environmentally Sound Management of Mercury Waste Generated from Health Care Facilities.	MoEF&CC/ CPCB/ State Pollution Control Board Assam

Sl. No.	National and State Legislations/ Policies/ Regulations	Regulatory Bodies
12	The Assam Air (Prevention and Control of Pollution) (Amendment) Rules, 2010	Assam State Pollution Control Board
13	Noise (Regulation and Control) Rules 2000 amended in 2010	MoEF &CC/CPCB/Assam State Pollution Control Board
14	National Disaster Management Act 2005	National Disaster Management Authority, State Disaster Management Authority & District Disaster Management Authority
15	Solid waste management rules, 2016	MoEF &CC/CPCB/ State Pollution Control Board Assam
16	Construction and demolition waste (Management & Handling) rules 2016.	MoEF &CC/CPCB/ State Pollution Control Board Assam
17	Guidance notes on Liquid Medical Oxygen (LMO) Storage Tanks, April 2021	Petroleum and Explosives Safety Organisation (PESO)/ DoHFW
18	Maternity Benefit Act, 1961 and Assam Rules, 1965	Ministry of Labour & Employment/ Commissionerate of Labour, GoA
19	Child Labour (Prohibition and Regulation) Act 1986 and Assam (Amendment) Rules, 2017	Ministry of Labour & Employment /Commissionerate of Labour, GoA
20	Contract Labour (Regulation and Abolition) Act, 1970 and Assam Rules 1971	Ministry of Labour & Employment /Commissionerate of Labour, GoA
21	Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and Assam Rules, 2007	Ministry of Labour & Employment /Commissionerate of Labour, GoA
22	Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979 and Assam Rules 1981	Ministry of Labour & Employment /Commissionerate of Labour, GoA
23	Equal Remuneration Act, 1976 Minimum Wages Act, 1948 and Assam Rules, 1952	Ministry of Labour & Employment /Commissionerate of Labour, GoA
24	Payment of Wages Act, 1936 and Assam Rules, 1937	Ministry of Labour & Employment /Commissionerate of Labour, GoA
25	Employees' Compensation Act, 1923	Ministry of Labour & Employment /Commissionerate of Labour, GoA
26	National Policy on Tribal Development, 1999	Ministry of Tribal Affairs (MoTA)/ Department for Welfare of Plain Tribes and Backward Classes, GoA
27	Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989 and Rules, 1995	Department of Social Justice, GoI/ Department for Welfare of Plain Tribes and Backward Classes, GoA
28	Rights of Persons with Disabilities (PWD) Act, 2016	Commissioner for Persons with Disabilities, GoA
29	Sexual Harassment of Women at Workplace Prevention, Prohibition, and Redressal Act 2013	Ministry of Women and Child Development /Directorate of Women and Child Development, GoA/ DOHFW, GoA
30	Right to Information Act, 2005	Ministry of Law and Justice, GoI /DoHFW, GoA

Table 21: World Bank Environment and Social Standards (ESS) applicable to the Project

Sl. No	Environment and Social Standards (ESS)	Applicability to the Project	References of relevance of ESS to the Project
1	ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant	Construction & Development of 100 bedded New District Hospital with modern amenities & infrastructure require C-ESMP.
2	ESS 2: Labour and Working Conditions	Relevant	Labour force will be required for construction activities
3	ESS 3: Resource Efficiency & Pollution Prevention and Management	Relevant	Protection of the natural resources and efficient utilization of the resources during construction
4	ESS 4: Community Health and Safety	Relevant	Establishment of 100 bedded DH may cause discomfort to the community
5	ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Relevant	Proposed DH will be established at the existing site of 30 bedded Azara CHC which belongs to the Government of Assam.
6	ESS 6: Biodiversity Conservation and Sustainable Management of Living Nature Resources	Not Relevant	Not Relevant.
7	ESS7: Indigenous peoples	Relevant	IPPF not Triggered as the site is not in Six Scheduled Area
8	ESS 8 Cultural Heritage	Relevant	No ASI identified cultural heritage, monument etc of State/National Archaeological significance exist at the site.
9	ESS 9 Financial Intermediaries	Not Relevant	Not Relevant.
10	ESS 10 Stakeholder engagement and information disclosure	Relevant	Stakeholders will be consulted during the construction phase whenever required.

Table 22: A comparison between existing Legislation and WB Policies relevance to Project

Sl. No	Government Laws	World Bank Policy	Relevance to the proposed DH under project
1	- Construction and demolition waste management rules, 2016 - Biomedical Waste (Management and Handling) Rules 2016, as amended up to 2019 - Biomedical Waste Management (Amendment) Rules, 2018 - 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 Tran's boundary Movement) Amendment Rules, 2016.	ESS 1 Assessment and Management of Environmental and Social Risks and Impacts	- Total 8 structures including 4 Assam type with total area 1315.0 SQM are required to be demolished for site clearance. The waste materials generated during demolition are handled according to the provision of Construction & demolition Waste Management Rules 2016. - No scope for generation of Bio Medical Wastes during the construction activities. The small amount of BMW generating from First Aid services will be disposed at the site of Mini PHC at GARAL. - No major e-waste generation is anticipated during construction activities. - Hazardous wastes to be generated during the construction stage are mainly used or spent oil which will be collected & stored in

Sl. No	Government Laws	World Bank Policy	Relevance to the proposed DH under project
	Plastic Waste Management Rules 2016		an isolated location within the premises. Disposal of Hazardous Wastes will be done through authorized recyclers according to the provision of Hazardous & Other Wastes (MHTM) Rules 2016. - The most common type of plastic waste to be generated will be soft plastic, plastic packaging, pipes & expanded polystyrene. To avoid plastic waste dumping in the construction premises, maximum possible measures will be taken to reused in construction. Plastic wastes which are not suitable for reuse will be disposed according to the provision of Plastic wastes Management Rules 2016. - However, C-ESMP is planned considering the magnitude of impact and mitigation measures to avoid any damages to the society and the environment.
2	- Contract Labour (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.	ESS 2: Labour and Working Conditions	Construction activities will require labour force in large number. Protecting their rights and providing comfortable environment to the labour may be a challenge for the contractor. Labour Management Procedures will address and take care of the labour comfort and their rights.
3	- 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 - Environmental Impact Assessment (EIA) Notification 2006 & and subsequent amendments.	ESS 3: Resource Efficiency & Pollution Prevention and Management	Construction activities are a major cause for environmental pollution and exploitation/degradation of the natural resources. To assess the extent of impacts, baseline survey is required. However, a well-planned C-ESMP is prepared to mitigate the anticipated impacts.

Sl. No	Government Laws	World Bank Policy	Relevance to the proposed DH under project
	- The Assam Air (Prevention and Control of Pollution) (Amendment) Rules, 2010. - Noise (Regulation and Control) Rules 2000 amended in 2010. - Solid waste management rules, 2016.		
4	- Child Labour (Prohibition and Regulation) Act 1986 and Assam (Amendment) Rules, 2017 - Scheduled Castes 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	ESS 4 Community Health and Safety	The labour may include child labour also. Protection of rights of the vulnerable can be challenging during construction activities. To avoid any mismanagement by the contractor, stringent policies will be required from the project side and effective GRM need to be in place.
5	- Assam Scheduled Castes and Scheduled Tribes (Reservation of Posts in Services) Act, 1978 - Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989 and Rules, 1995 - National Policy on Tribal Development, 1999	ESS7: Indigenous peoples	Protection of rights of the vulnerable can be challenging during construction activities. To avoid any mismanagement by the contractor, stringent policies will be required from the project side and effective GRM need to be in place.
S6	The Ancient Monuments and Archaeological Sites and Remains Act (or AMASR Act), 1958	ESS 8 Cultural Heritage	No monuments or cultural heritage site of State / National Archaeological significance exists in and around proposed DH Site.
7	The Constitution of India (especially, Articles 15, 16 and 46)	ESS 10 Stakeholder engagement and information disclosure	Stakeholder engagement with all the stakeholders to be a continuous process to build transparency during the construction activities.

Table 23: Environmental Statutory clearance and approval pre-construction phase

National and State Statutory Clearance	Regulatory Bodies	Salient Points
Consent to Establish for Projects (Hospital along with STP, ETP, DG etc)	Assam Pollution Control Board.	- The unit shall install a Display Board as per the Boards notification No. PCBA/LGL-95/2021/Notification/01 Dated Guwahati, the 11th Nov, 2021. - Proper housekeeping shall be maintained - Burning of any waste within the premises is prohibited.

		• The project proponent shall develop a greenbelt/plantation area with native trees only at least 33% of the total plot area. • As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and the Air (Prevention and Control of Pollution) Act, 1981, as amended, any Officer empowered by the Board on its behalf shall have without interruption, the right at any reasonable time to enter the unit for inspection, collection of sample for analysis and may call for any information as deemed necessary. Denial of this right will cause withdrawal of the CTE
Ground Water Abstraction	Central Ground Water Authority (CGWA)	• Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their Installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate. • Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year. • Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to GWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-2. • Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells/dug wells shall be collected during April/May every year and analysed in NABL • The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon • In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

Fire NOC	FIRE and Emergency Services Assam	• Construction permission from the concerned authority • Approved Drawings / Site Plan/ Layout from concerned government authority • Installation of portable fire extinguisher as per IS 15683:2006 • Good Housekeeping should be maintained • Electrical wiring of the building should be either conduit or concealed type • Signage for emergency exit/entry shall be provided • Display of directional sign like entry and exit point shall be provided • Emergency lights shall be provided in the corridor/stairway
Consent to Establish for Batching Plant/RMC Plant/DG	PCBA, Assam	• The unit shall install a Display Board as per the Boards notification No. PCBA/LGL-95/2021/Notification/01 Dated Guwahati, the 11th Nov,2021. • The project proponent shall develop a greenbelt/plantation area with native trees only at least 33% of the total plot area. • The unit shall install permanent boundary line/ partition wall of minimum 10 ft height with tin/asbestos sheet or other non-porous partition material with installation of permanent boundary posts. • The Project Proponent must obtain NOC from CGWA within one month from the date of issue of CTO unless falling in exempted category as per MoJS Guidelines dated 24.09.2020 and amendments dated 29.03.2023 thereto • The Project Proponent must obtain NOC from CGWA within one month from the date of issue of CTO unless falling in exempted category as per MoJS Guidelines dated 24.09.2020 and amendments dated 29.03.2023 thereto
Consolidated Consent and Authorization /Consent to Operate	PCBA, Assam	• The project authority shall install a Display Board as per the Boards notification no. PCBA/LGL-95/2021/Notification/01 Dated Guwahati, the 11th Nov,2021. • The project proponent shall develop a greenbelt/plantation area with native trees covering at least 33% of the total plot area. • As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and the Air (Prevention and Control of Pollution) Act, 1981, as amended, any Officer empowered by the Board on its behalf shall have without interruption, the right at any reasonable time to enter the unit for inspection, collection of sample for analysis and may call for any information as deemed necessary. Denial of this right will cause withdrawal of the CTO. • The unit shall not discharge any untreated effluent outside its premises. • Proper housekeeping shall be maintained. The unit shall not burn any waste inside the factory premises.

		The unit shall install Screening machine, if any, with proper enclosure and dust extraction mechanism.
--	--	--

Chapter V. Environmental & Social Risks and Impacts

Construction related Environmental and Social risks and impacts with suggestive mitigation approach are discussed here. The risks, impacts and mitigation approach for design and preconstruction phase are discussed in Table 24. The risks, impacts and mitigation approach for construction phase are discussed in Table 25.

Table 24: Anticipated Impacts and Mitigation Approach – Design & Preconstruction Phase

Project Activity	Possible Impacts	Mitigation Approach
1. Design and layout of proposed DH 2. Obtaining Consents/ Permits/ Clearances/ No Objection Certificate (NOC), etc. for establishment of new DH, RMC/ Batching Plants, Labour Camps, Storage for Construction materials, tree felling, use of vehicles and equipment, connections of water supply, electricity 3. Shifting of existing health facility of Azara CHC	- No significant negative impacts are anticipated on the physical, ambient, ecological, or social environment during the design and pre-construction phase. The proposed DH is planned to be constructed in the premise of existing CHC. - The preliminary screening of the site reveals that the project does not anticipate any land acquisition/ resettlement. - The hospital building will be constructed on the existing CHC site, which currently comprises both Assam-type and RCC structures. These existing structures (as listed in Table-1) will be demolished to clear the site for new construction.	- The design of the proposed DH will adhere to applicable national and state design guidelines. - The proposed DH will be GRIHA compliant, human centric & based on IPHS guidelines. - The hospital design will focus on measures for universal access such as elevators, ramps, handrails and other fixtures etc. for comfort of the patients - Emergency exit such as second staircase/ ramp for evacuation etc. will be included in the hospital design - Stakeholder engagement to be carried out. Proper and visible display of boards and signages informing shifting of existing facility for uninterrupted public service
4. Tree cutting/shifting	- Total 12 numbers of trees need to be removed for clearing the site for infrastructure development - Disturbance to existing green cover	- Identification of any endangered flora from Forest Department - Permission for tree cutting/shifting from Forest Department is obtained. - Compensatory afforestation plan will be required. According to GRIHA mandate, compensatory plantation should be at least in the ratio of 1:3.
5. Debris Disposal	- Dumping of debris of demolition activities in an unplanned manner may lead to contamination of land and water bodies in the site as well as nearby the site and inconveniences to the community. - Public resistance for the project anticipating negative impacts of the unplanned dumping of debris	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.
6. Stakeholder Engagement	- Lack of awareness on shifting of the existing Azara CHC - Lack of awareness 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 neighbourhood will prevent them from availing the facilities.	- Stakeholder engagement to be carried out involving nearby community members and staff from existing Azara CHC. And proper and visible display of boards and signages informing shifting of existing facility for uninterrupted services to the public - Awareness on proposed DH and facilities to be provided among the community.

Project Activity	Possible Impacts	Mitigation Approach
	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 local community about the schedules of construction activities. - Stakeholder consultations at specific intervals represented by all sections of the community including women
5. Grievance Redressal Mechanism for community grievances	- 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.	Proper GRM Mechanism to be developed at site with a protocol to address the grievances of community.

Table 24: Anticipated Impacts and Mitigation Approach – Construction Phase

Project Activity	Possible Impacts	Mitigation Approach
A. Physical Environment		
Location and design	Disturbance to the adjacent lands and the people due to overall construction activities.	- Use of the approved construction design and drawing of building construction facility and other structures. - Implementation of mitigation measures such as setting up of the hospital boundary, hard barricading, on site mitigation measures for controlling environmental pollution etc. will minimize the impacts.
Interference with drainage patterns	Temporary flooding during heavy rain at the proposed site and nearby areas. No water bodies either natural or artificial exits in the site. The river Brahmaputra is flowing at a distance of 5.0 km in west direction from the site. The river stream Kalamoni is flowing across the site. However, no record of over flooding this river stream is found.	- Use of contour plan and design drawing prepared considering Highest Flood level (HFL) data of that area. - On site mitigation measures such as provision of septic tank/soak pit with the toilets so that the waste water will not be discharged into the drainage system - Proper drainage system for controlling runoff, spill control plan, etc. will minimize the impacts.
Site clearance	- Disturbance to top soil. - Disturbance to existing green cover - Soil erosion and surface runoff	- Conservation of the top soil - Compensatory afforestation - Construction to be avoided in heavy rain days - Provision and maintenance of drains and retention ponds.
Resource Efficiency Strategies (Energy, Water, Materials)	- High energy use - Excess potable water demand - High embodied materials impact - Construction waste generation	- Reduce energy consumption through design optimization, efficient systems, and renewable energy - Reduce potable water demand, treat and reuse wastewater, harvest rainwater. - Minimize embodied energy, use sustainable and local materials, and reduce construction waste. - Comply with Energy Conservation Building Code (ECBC) in HVAC, envelope, lighting controls. - Capture roof runoff and recharge groundwater or credit toward non-potable demand.

Project Activity	Possible Impacts	Mitigation Approach
B. Ambient Environment		
Surplus earth work / soil	Runoff to cause water pollution, solid waste/debris disposal.	• Keeping record of soil quantity excavated from the site and reused in filling the foundation. • Proper disposal of excessive soil from the project at approved designated areas. • Proper bunding at the soil storage area will prevent the soil from loosening at getting carried away with runoff. • Disposal of solid waste/debris in scientific manner
Topsoil removal	• Loss of topsoil • Siltation of stacked soil	• Preservation of top soil • Keeping record of soil quantity excavated from the site and reused in filling the foundation. • Construction of appropriate drainage system. • Removal of silt and trash choking the drainage from the construction land.
Construction works and machine operations	• Air pollution due to airborne dust in the area causing dusty conditions. • Smoke from the DG Set, operation of machinery • Smoke from the transportation of construction vehicles • Release of finer particulate matter from sand, cement etc. during transportation of construction vehicles. • Noise and vibrations from the construction activities. • Nuisance caused by noise to neighbouring areas. • Exposure to noise level from the civil work construction causing nuisance to properties • Noise, vibration, equipment wears and tear. • Injury and sickness of workers and locals. • Accidents including electrocution may occur due to lack of proper awareness among the workers. • Excessive Ground water extraction • Pollution/ contamination to water resources	• Sprinkling of water within the work area and stack the loose soil and contain it with covers to control air pollution. • Maintenance of construction equipment and machines. • Provide required PPE to workers. • Reporting and recording of incidents and accidents at project site. • Proper maintenance & active PUC Certification vehicles and machinery to be used at project site. • Proper Covering of the material during transportation • Avoid transportation during busy traffic hours and scheduling of time for transportation of construction materials in consultation with the authorities concerned. • The existing HCF will be segregated through hard barricading • Construction activities undertaken during the daytime as per scheduled timings for construction. • Avoid transportation during busy traffic hours • Following noise control regulations • Implementation of approved health and safety plan. • Provide required PPE to workers. Proper training to the workers and to ensure the use of PPE and safety gears/ harness etc • Reporting and recording of incidents and accidents at project site. • Prepare the Traffic Management Plan. • Installation of adequate cautionary signage. • Non potable water to be used for dust suppression, curing etc. • Water requirement during peak construction activities will be met through the local water supplier. • Measures to avoid excessive water usage to be adopted • Direct discharge of waste water into the water stream to be avoided • The hazardous material to be kept leak proof; spills to be collected and recycled

Project Activity	Possible Impacts	Mitigation Approach
Storage of Construction materials	Contamination of land, water, air	- Storage of fuel and other materials on paved surface with spill control and limited access; spills to be collected and recycled - Record of spill control during the project with details of type and quantities of chemical spilled
Storage of Construction waste	Contamination of land, water, air	- Construction waste to be stored in a segregated manner at a designated area only - Burning of Plastic and rubber to be prohibited
Environment Health and Safety		
Emergency preparedness and response	- Temporary flooding may happen during monsoons in the site. Proposed site also located in earthquake Zone V also. - Fire and explosion (due to fuel storage, welding, electrical faults) - Structural collapse or excavation failure - Extreme weather events (heavy rainfall, flooding, cyclones)	- An Emergency Response Team shall be formed, including trained personnel for firefighting, first aid, evacuation, and communication. - Emergency contact details (hospital, fire station, police, District Disaster Management Authority – DDMA) will be displayed prominently at the site. - Temporary structures shall comply with earthquake-resistant design practices. - Immediate evacuation to open safe areas after shaking stops. - No re-entry into structures until safety clearance is provided. - Inspection of scaffolding, cranes, excavations, and formwork before resumption. - Monitoring of weather forecasts during monsoon season. - Temporary stoppage of work during heavy rainfall or storm warnings. - Safe collection and disposal of contaminated materials as per Hazardous Waste Rules. - Mandatory induction training for all workers on emergency procedures. - Periodic mock drills for fire and earthquake scenarios (at least once every six months). - Specialized training for Emergency Response Team members. - Toolbox talks focusing on seasonal risks (monsoon, heat stress).
C. Ecological Environment		
Felling of Trees for site clearance	Loss of native flora as well as fauna. The proposed project is likely to require the removal of 12 no of trees along the site development activities.	- Proper marking of vegetation to be cleared, and strict control on clearing activities. - Site survey has been done by the Forest Department for identification of any rare species of trees, endangered flora & fauna. - Developing strategies for compensatory afforestation - Prior permission for tree cutting has already been obtained from the Forest Department. Compensatory plantation will be carried out as per the approved conditions, using indigenous species. The planted saplings will be maintained to ensure healthy growth and survival, and efforts will be made to minimize tree removal wherever feasible.

Project Activity	Possible Impacts	Mitigation Approach
Labour Camp	• Loss of vegetation and deforestation. • Effect on fauna (including avifauna). • Loss of native flora as well as fauna • Contamination of land, water, air	• Trees not to be cut/felled for construction of labour camp or any other related activities • Preventing workforce from using and disturbing the flora, fauna including tree felling for fuel; hunting of animals and fishing in water bodies to be prohibited.
D. Social Environment		
Involuntary resettlement or land acquisition	Proposed DH at Azara will be constructed at existing health facility campus.	The proposed DH is planned to be constructed in the land/premise of existing Azara PHC. In view of this the proposed Project does not anticipate any land acquisition/resettlement. A few households that exist at the northern side of the site has been using the proposed DH site (Azara PHC land) as their Right of Way since the establishment of Azara PHC more than 30 years ago. However, there is a need to find a separate way for their access as the construction site will be a hazardous place. On the request of the project, the District Administration has identified land for the separate road outside the boundary of the site for DH to the north and proposed for land acquisition which is under process. In the meantime, to give access to the community concerned, the land for the roads has been requisitioned for using it as road and handed over to the Dy. Superintendent of Azara PHC.
Interference with drainage patterns/ Irrigation channels/rivers	Flooding hazards, Contamination of water, loss of crop production	Construction of appropriate drainage system at the site as per approved design drawing and field verification considering HFL, existing natural drainage and slope. Waste management plan to be in place
Construction works at project site and material transportation	• Community disturbance and health and safety. • Community health and safety due to air pollution and increase in noise level. • Human and Animal interference in Construction area. • Potential conflict between expats, inter-state workers and local workers may take place. • Chances of finding archaeological /cultural artefacts. • Loss of agricultural productivity. • Road safety	• Proper storage of construction material at specified places so that no disturbances can be caused to public and worker movement. • avoid contamination of soil and water with proper storage. • Prior intimation to the community regarding the schedule, scope of construction as well as the possible unavoidable discomfort at site • Proper safety signage at appropriate locations; adequate hard barricading and green netting; and provision of security services round the clock will ensure community health and safety during construction phase. • Adopting Chance Find procedures under the project as stated in Chapter IX • Scheduling of fixed time for movement of vehicles carrying construction machineries and materials in consultation with the authorities concerned of existing CHC to ensure safe movement of the patients as well as passers-by.

Project Activity	Possible Impacts	Mitigation Approach
Disturbance to public utility services- Water supply, sanitation	- Public inconveniences to avail services/medical treatment from the existing health care facility - Disruption of supply of power, water or sanitation facilities	- Prior intimation to the community regarding the schedule, scope of construction as well as the possible unavoidable discomfort at site Ensuring restoration of utilities immediately after project activity - Alternative accessibility or provision of utilities during construction without any disruption and hindrances. - In case, any utility to be shifted (for example bore well etc.), Contractor to make arrangements hard barricading, safety signage and 24 x 7 security in the newly installed site to avoid any inconveniences to the facility. - Provision of Signage, boards at appropriate locations indicating direction to shifted utility or interim arrangements. Scheduling fixed time for movement of vehicles carrying construction machineries and materials to ensure safe movement of people.
Engagement of Contractors staff and Labours in the proposed project	- Potential conflict between ➤ local labour and expats or interstate Labours ➤ community and labours ➤ contractor staff and labour	- Signing of Code of Conduct by Contractor, Contractor's Staff and labourers engaged. - Regular trainings on Code of Conduct 24x7 security in and around project area. - Provision of basic amenities at Labour camps and site
	- Risks of GBV/SEA/SH to community members, particularly women and children by contractors' workers during construction period - Risks of workplace sexual harassment at project site (consultants and contractors' staff & labourers)	- Sensitization of all staff and labourers of project site on prevention of Gender Based Violence (GBV) and SEA/SH incidents and POSH Act. - Awareness on Local Complaints Committee for submission of complaints on GBV/SEA/SH. - Provision of separate toilets for women and men in both project site and labour camps. - Proper lighting facilities at site & labour camp
	Occupational Health and Safety (OHS)	- Regular Training and orientations on OHS - Installation of important signage like entry /no entry, exit, diversion, danger signs at appropriate locations Following labour management procedures and provision of basic amenities to labourers as guided by Labour Management Procedures under ASSIST Project. - Sensitization of workforce on good health and hygiene practices; use of PPE and safety gears/ harness etc, , occupational health and safety - Clearance of migratory labour under Interstate Migrant Workmen.
	Grievances from community as well as labours	Development of GRM system at site. Registering of grievances of contractor's staff, labourers, local community and redress the same following Grievance Redressal Mechanism under the Project.

Project Activity	Possible Impacts	Mitigation Approach
Stakeholder Engagement	Lack of prior intimation of the construction activities may lead to health hazards caused by probable air, water and noise pollution, accidents at site.	- Awareness among the community on the proposed DH and the facilities to be provided there. - Prior intimation to the community regarding the schedule, scope of construction as well as the possible unavoidable discomfort at site - Stakeholder consultations at specific intervals represented by all sections of the community including women - Provision of proper barricading, signage etc. at the proposed site for ensuring safety of local community.

Chapter VI. Stakeholder Engagement

Stakeholder engagement in the project aims to achieve inclusive and effective participation of all stakeholders especially the poor and vulnerable groups. Meaningful, relevant, and ongoing consultations with the important stakeholders coupled with proper and timely disclosure of information are critical success factors in maintaining public support and mitigating grievances. All relevant information, in a medium easily understood by the target groups, regarding the intent, design, schedule, impacts, and overall benefits of the project need to be disseminated to the stakeholders in time.

6.1. Key Stakeholders

Stakeholder mapping has been carried out as guided by Stakeholder Engagement Plan (SEP)¹⁰ of the Project and thereby mapping has been done for the proposed DH site at Azara.

Table 25: Identified key stakeholders for the proposed project at Azara

Sl.No.	Categories	Key Stakeholders
A	Directly affected personnel/ community of proposed DH site where Azara CHC is located	• All staff of the existing Azara CHC including Doctors, Nurses, ANM, and Non- Medical staff etc. • Patients availing services/treatment at Azara CHC • Contractor and Contractors' workers • Vendors of the market place in and around proposed DH site • Community customers who come to the market place regularly
B	Parties or communities of the locality of Azara and the District who can have potential impact on the project	• Community-Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) operating in the district • Social and cultural groups active in the Azara area • Print and electronic media outlets • Vendor associations and labour union federations • Community leaders and local elected representatives (PRI members) • Women's groups engaged in gender-related initiatives and Self-Help Groups (SHGs) • Line Departments: • Department of Forest, Wildlife, Ministry of Environment, • Department of Water Resources, • Archaeological Survey of India • Women and Child Development Department • Commissionerate of Labour • Police & Traffic Contril Department • Fire and Emergency Service • District Administration/ O/o Revenue Circle
C	Vulnerable Groups to be included for their inclusion in the implementation of the project to ensure equal representation.	• Poor people living below poverty line • Flood affected people • Elderly, persons with disabilities, female and minor patients • Scheduled tribes (ST), scheduled castes (SC), and communities living in remote and hilly locations

6.2. Stakeholder engagement approach and methodology

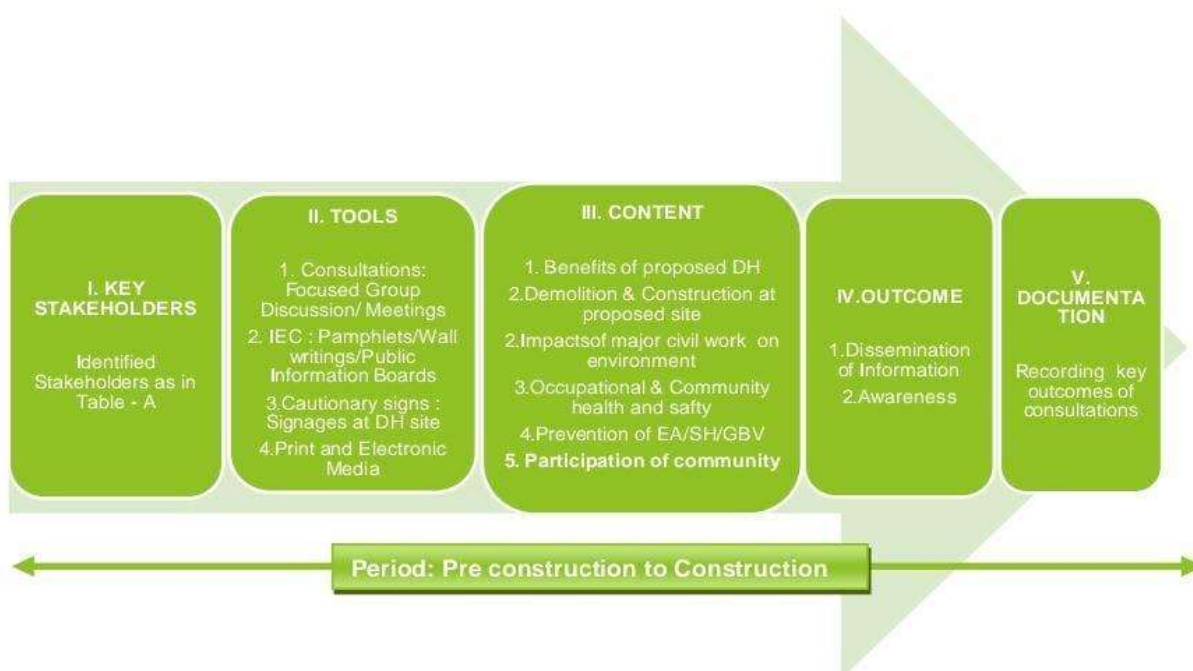


Figure 7: Approach and Methodology for Stakeholder Engagement

World Bank's ESS10 recognises 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.

The approach and methodology for stakeholder engagement is detailed with the Figure 7 below.

The stakeholder engagement process starts in the preconstruction phase with identification of the stakeholders. Table 17 gives a glimpse into the identified key stakeholders for the proposed project at Azara. To make the process more inclusive, several tools like conducting Consultations, using IEC tools of pamphlets, Public Information Boards, installing Cautionary signs at the site using Print and electronic media for dissemination of information and awareness generation on the project is planned to be adopted during the entire process of implementation of the proposed project at Azara. Recording of the key outcomes of the interaction forms an integral part which completes the process.

6.3. Stakeholder Engagement held at site –Discussion on some vital issues.

- Public awareness and consultation have been carried out with nearby residents and businessmen; Doctors, Nurses & other staff of the existing CHC Azara on probable environmental degradation with mitigation measures, occupational health & safety, precaution to be undertaken from the pre-construction phase.
- Several rounds of discussion with public residing adjacent to the existing hospital has been carried out consulting people on the issue of providing an alternate path-way for to and fro movement from their homes. They have been using an internal road of the hospital since long time for their to and fro movement. Now, that the proposed DH will be constructed in the entire area and at the same time to ensure right of way to the people and safety of the people during construction period, discussion has been initiated by officials concerned of District Administration, Kamrup Metropolitan district viz. Co-District Commissioner, Jalukbari and Circle Officer, Azara Revenue Circle to find out alternate road for the people. Team of officers and staff from District Administration made physical visits to the site to resolve the issue. On completion of site clearance, construction activities will be initiated considering and taking up all necessary safety precautions and measures at site. Following safety precaution to be undertaken during the construction –
 - Hard Barricading along with installing site safety signages for preventing construction related hazards and accidents; Engaging of Security services 24x7 for prevention of unauthorised site access and protecting pedestrians from potential construction hazard.
 - Proper lighting facilities in the entire construction site

Chapter VII. Environmental and Social Management Plan (C-ESMP)

The C-ESMP has been developed for implementation during the construction phase of the District Hospital. Key construction activities include site surveying, establishment of the labour camp, material and equipment storage in designated laydown areas, excavation, material sourcing and storage, building and substation construction, and traffic management.

Based on the baseline environmental data, the overall environmental condition in Azara is found to be favourable. No major adverse environmental impacts are anticipated during construction. Any minor impacts that may arise are expected to be localized and will be mitigated at the source. Additionally, the project is expected to generate significant positive social impacts upon completion, as it will enhance access to healthcare services for the local community within their immediate vicinity.

However, the C-ESMP is developed to avoid, reduce, and minimize any impact which can harm the environment as well as the community. The C-ESMP detailed below in **Table 7.1**, gives an account of the risks and impacts that have been identified and its mitigation measures to avoid or minimize the impacts. The C-ESMP also outlines the responsibilities and timelines for complying the required mitigation measures.

7.1 C-ESMP for proposed DH at Azara

Table 26: Contractor's Environment & Social Management Plan

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
Pre-Construction Phase				
Site Clearance	- Shifting of existing health facility of Azara CHC to an alternate site to avoid disruption of services - Public resistance for lack of information or anticipation of negative impacts	- The 30-bedded Azara CHC is planned to be shifted to the campus of Garal MPHCH at 2 km distance from Azara CHC. To make the community aware of the project and shifting of Azara CHC to Garal MPHCH site for the purpose, stakeholder engagement are to be carried out prior to shifting. - Further, proper and visible display of boards and signages are to be installed at the Azara CHC site informing community about shifting of Azara CHC. - The site selected for the proposed DH at Azara is the site of Azara CHC which comprises both Assam-type and RCC structures. Development of Plan to demolish the existing facility.	Azra CHC Authority, Contractor, Project Manager & EHS Officer	Pre-Construction
Regulatory Compliances	- Environmental pollution & degradation - Tree cutting/shifting - Use of Ground Water - Inconvenience to public	- Consent to establish under section 25 of Water (Prevention & control of Pollution) Act 1974 & section 21 of Air (Prevention & Control of Pollution) Act 1981 was accorded vide order of did 06/08/2024. - Permission for tree cutting /shifting obtained from Forest Department. - Permission for abstraction of Ground water from CGWA accorded vide order of did. 05/09/2024. - Permission (Planning Permit) for construction of Building obtained from GMDA vide order of dtd 11/11/2024. - Source approval of borrow areas, sand, aggregate, mining etc	Contractor, Project Manager & EHS Officer	During Construction
Biodiversity related	- Loss of trees and loss to biodiversity. - Disturbance to existing green cover Loss of vegetation and deforestation. - Effect on fauna (including avifauna). - Exploitation of Resources for establishment of Labour Camp	Deepor Beel, a naturally formed wetland and designated bird sanctuary, spans an area of approximately 4,014 hectares and is located around 2.0 km from the proposed construction site. And the Kalamoni River flows at a distance of about 2 km from the project site. However, the whole construction work will be under the barrage & no interventions are planned outside the barrage area & hence no direct impacts have been identified on natural habitat. To mitigate the anticipated risks related to Bio-diversity, measures proposed are as follows:	Contractor, Project Manager/EHS Staff	Pre-Construction phase to 1 year

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
	12 numbers of trees need to be removed for clearing the site for infrastructure development	- Labour camp will be opened at the existing Assam type house of hospital unit within the Barrage Area limiting felling of trees - Labour will be sensitized to ensure that they do not indulge in tree cutting or hunting. - Strict restriction to be imposed on the workers site to ensure that they will not harvest any species & cause any danger harm to the Bird or Animal (Elephant) in the Bird Sanctuary. - Work activities shall be undertaken only in day time. - No wood or wood materials will be allowed to use as fuel for cooking purposes I. LPG Cylinders will be provided for day—to- day cooking purposes in labour camp & office canteen. - The Project staff & workers will be appropriately made aware about the importance of Biodiversity & shall be advised not to indulge in illegal activities. - Felling of 12 Nos of Trees will be undertaken by forest department. Six Nos of Debdaru trees also known as Indian mast trees along the road side boundary of construction area are kept for conservation. Penalty on workforce from disturbing the flora, fauna including hunting of animals and fishing in water bodies. - GRIHA V 2019 to be complied for preservation and plantation of native vegetation - Compensatory afforestation in the ratio of 1:3 will be done on site during the course of construction and its survival will be monitored.		
Construction & Demolition activities and waste management	Dumping of debris of demolition activities in a unplanned manner may lead to contamination of land and water bodies in the site as well as nearby the site and inconveniences to the community.	- Prior to the commencement of works, debris disposal site is to be identified (possibly near to project site) in consultation with local body and implementing agency to dump debris in a scientific manner. <u>Dust & Air Quality Control</u> - Regular water sprinkling - Use of barricades and dust screens around the structure to be demolished - To avoid the spillage of debris during transportation covered vehicles will be used.	Contractor, Project Manager & EHS Officer	During demolition/as and when required

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
	- Public resistance for the project anticipating negative impacts of the unplanned dumping of debris - Probability of accidents during demolition activities. - Air, Water, Soil & Noise Pollution. - Disturbance to public residing nearby the site	- Only vehicles with PUC will be used for transportation of demolition wastes & debris. <u>Wastewater & Contamination Control</u> - No discharge of untreated wastewater into drains/water bodies - Use temporary storage tanks or bypass system - Sludge to be handled as per Hazardous waste management rules 2016 - Prevent runoff from demolition site <u>Noise Control</u> - Restrict demolition activities to designated hours - Use low-noise equipment near sensitive hospital areas <u>Health and Safety</u> - Every worker working in the site & involved in loading, unloading & carriage of debris or any other materials will be provided with PPE such as Helmets. Glasses, Gloves, dust-mask etc to prevent inhalation of dust particles. - Tool Box Talk training program on safety awareness to the work men will be conducted regularly. - Induction training will be done for newly joined work men. - Signage with safety awareness & precautionary will be provided at appropriate location. - Temporary barricade will be provided along the path way of the nearby locality. - Details about the C & D waste management plan attached at Annexure 7		
Labour Management	- Selection of proper site for Labour Camp - Provision of basic facilities and amenities for the labour camp - Statutory Clearances	- Labour camp will be established in the old Assam type house of Azara CHC. - Renovation & repairing work of the house will be done as per requirement. - All the work men will be provided with individual bed made of Ply Sheets. The camp floor will be PCC Floor. - Overhead water tank fitted with iron removal system will be provided in the labour camp.	Contractor, Project Manager & EHS Officer	Throughout pre as well as construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		- Sufficient nos. of toilets with running water facilities will be provided to minimise dependency on the natural resources. - LPG will be provided in the labour camp for cooking purposes. - Detailed Labour management Plan is enclosed as Annexure 5		
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 - Land demarcation issues.	- 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 signages at entry gate so that it is visible to community to drop grievances. - 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 (Annexure 12) - 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.		
Construction Phase				
Soil fertility and pollution	- Loss of topsoil - Soil erosion due to surface runoff	- Preservation of top soil - Excess fill from foundation excavation will be reused on site where earth filling is required. - Keeping record of soil quantity excavated from the site and reused in filling the foundation. - Construction of appropriate drainage system. - Removal of silt and trash choking the drainage from the construction land. - Excessive excavated soil will be stored properly at designated location. - Collection & disposal of solid wastes generating from construction site & labour camp will be collected & disposed through the local authority under the provision of Solid Waste Management Rules 2016. - Provision of GRIHA V. 2019 on soil management will be complied.	Contractor, Project Manager & EHS Officer	Pre-Construction phase to 1 year

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
Water pollution/ discharge in natural resources	• Temporary flooding at site and nearby areas • Wastewater disposal and construction water runoff • Contamination of existing water bodies • Sewage water from the Labour Camp	• The proposed intervention is not expected to impact water resources as the proposed intervention are neither crossing, altering drainage nor impacting ground water resources in any form. Use of resources will be optimized before start of work. Construction related impact & risks for water quality identified as follows & preventive measures will be taken accordingly. • Accidental release of fuel or chemicals & contamination from poor waste management practice affect surface & ground water although quantum of waste is expected too small. • Generation of Sanitary wastes from labour camp & staff camp finding way to water bodies i.e. outside Municipal drain. Pollution prevention & control measures to avoid surface water pollution shall include. • Septic tank with soak pit existing in the labour camp will be kept under strict observation. • The Spent oil/ Spent lubricating oil storage shall be in an isolated location within the premises of construction site. The storage area shall be under roofed areas with impermeable cement concrete surfaces. Separate drainage system with oil separator will be provided in and around the storage area. No discharge from storage area to any open surface or surface water channel or water bodies. • No construction debris or spillage of construction materials are dumped on to stream water way. • Compliance to GRIHA V 2019 IN Water Management. • Septic tank with soak pit will be provided with the toilet blocks at labour camp. • Compliance to GRIHA v. 2019 in water management.	Contractor, Project Manager & EHS Officer	All throughout construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
Ground water exploitation	- Excessive extraction of ground water for construction activities - Depletion in the ground water table	- Optimum use of resources will be ensured - Water requirement during peak construction will be met through outsourcing to minimized the load on ground water sources. - Record of resource utilization will be maintained properly. - Permission for abstraction of Ground Water already accorded by CGWA - Water consumption along with ground water level will be properly maintained. - Review the monitoring report & take the corrective measures as required. - Ensure the submission of monitoring report to the concern authority as per norms.	Contractor, Project Manager & EHS Officer	All throughout construction phase
Air Pollution	- Airborne dust due to drilling, excavation, etc. - Airborne cement, sand particles at batching plant - Fugitive emission during various construction activities	- Designing the Site lay-out to minimize fugitive dust generation potential, including access roads, entrance & exits, storage piles, vehicle staging areas. - Materials shall be removed from the site right after finishing the task to avoid wind exposure of construction debris. - Dust /wind breaking walls (Green net coverage) of appropriate height of 3.0 meter around the periphery of the construction site has been provided. - Tarpaulin or Green net on scaffolding around the area under-construction & the building will be provided. - All vehicles including carrying construction materials & debris of any kind shall be cleaned & wheel washed. - All areas for storing construction materials will be demarcated& barricaded if required particularly for loose materials that have a potential to dust emission. - The construction materials that have a potential of fugitive dust emission will be stored away from residential area & commercial places. - Areas where loading/unloading (Fugitive Dust) activities will be demarcated & located in such a way that dust dispersal is minimized. - Suppression of dust by sprinkling of non-potable water within the work area twice daily and stack the loose soil with fully coverage if required. - All the materials will be covered properly during transportation to avoid spillage during transportation.	Contractor, Project Manager & EHS Officer	All throughout construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		• Vehicles having up to date PUC only to be used for transportation. • Necessary PPE s will be provided to construction workers as per their requirement. • It will be ensured that the Labours and staff is wearing the PPE		
Noise Pollution	• Noise and vibrations from the construction activities. • Noise and vibrations from the batching plant	• The existing HCF will be segregated through hard barricading • Acoustic enclosures will be provided to the machinery, wherever required. • Construction activities for the project work will not be performed during the night. • Construction as per scheduled timings only. • Selection of construction techniques and machinery to minimize ground disturbance. • Regular maintenance of all vehicles, machinery and equipment will be conducted, and fitness certificate will be submitted to PCCMC & SPMU from time to time. • Necessary PPE's will be provided to construction workers mandatorily as per requirement and training will be provided for use of PPE and safety gears/ harness etc. • It will be ensured that the Labours and staff is wearing the PPE	Contractor, Project Manager/EHS Staff	All throughout construction phase
Community Health & Safety	• Risks to community health and safety due to air pollution and increase in noise level • Nuisance in the neighbouring areas.	• Periodic monitoring of ambient air quality, noise level has been conducted as guided by ESMF • Any accidents or incidents will be recorded and reported to PMU. • 24x7 security will be provided at high-risk area such as bore holes, excavation sites etc. • Implementation of effective traffic management plan will be ensured on site as well as during transportation of construction material from its source to site. Scheduling of fixed time for movement of vehicles carrying construction machineries and materials to ensure safe movement of the patients as well as passersby. Construction area to be properly hard	Contractor, Project Manager/EHS Staff	All throughout construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		barricaded and safety signages viz. "No entry for public"; "Work is going on, be careful"; "Area for reinforcement", "Construction Zone", etc and also important signage indicating diversion, danger signs at appropriate locations are to be installed during construction. • Compliance to GRIHA v. 2019 in preventing or addressing air and noise pollution		
Hazardous material handling and disposal	• Air, water and soil contamination • Injury and sickness of workers and locals. • Accidents including electrocution may occur due to lack of proper training and awareness among the workers.	• Leakage proof container will be used. • Storage of fuel and hazardous materials on paved surface with spill control and limited access. • Record of spill control during the project with details of type and quantities of chemical spilled. • Adequately storage and protected from animal or other live species. • Proper use personal protective handling and disposal of hazardous material. • Displayed safety data sheet so that workers working around the storage area with precaution. • Scheduled maintenance of construction equipment and machines. • Provide required PPE to workers. • It will be ensured that the Labours and staff is wearing the PPE • Reporting and recording of incidents and accidents at project site. • Instruction to drivers of construction vehicles to strictly follow road regulations. • Installation of adequate signage and barriers around charged components • Clearly visible warning signs -danger signs, detour, cross here, works in progress, people at work, etc. at designated sites.	Contractor, Project Manager/EHS Staff	All throughout construction phase
Construction material storage	• Contamination of land, water, air.	• Prohibition of storage of construction materials beside road, around water bodies, residential or CPR. • Construction materials will be covered with tarpaulin, if required. • Water sprinkling to minimize the dust. • Proper maintenance of construction machinery. • Prepare the Traffic Management Plan for the project works.	Contractor, Project Manager/EHS Staff	All throughout construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		• Instruction to the workers not to remove such articles (if found any) and immediately inform to the Supervisor of the EPC and further to Environmental Specialist of PMU. • Regular monitoring of material in -out data. • All the material will be covered properly during transportation to avoid spillage. • Hard barricading of material storage area. • Installation of proper cautionary signages to avoid accidents and prevent damage to stored materials. • Hard barricading of construction area to avoid any such type of accident and injury. • Orientation and training to the workforce to properly handle and store construction materials and maintain safety of themselves in handling these		
Construction waste	• Air, Water, Soil pollution • Inconvenience to neighbouring people	• Construction waste will be stored in a segregated manner at a designated area only. • Disposal will be according to the Solid Waste Management Rules 2016, E-waste Management Rules 2016, Hazardous and Other Wastes (Management , Handling and Transboundary movement) Rules 2016, Battery Waste Management (BWM) Rules 2022 as applicable. • Records on wastes generated and disposed shall be maintained on site • Due to constraint of the area , on site composting will not possible. Instead of onsite composting, all the wastes including food wastes will be disposed through the GMC authorised vendors. • The inorganic waste will be disposed off to the recyclers • Detailed Construction waste management plan is enclosed at Annexure 10	Contractor, Project Manager/EHS Staff	All throughout construction phase
Tree cutting	• Impact on flora and fauna	• A total of 12 trees were identified on site and marked for removal to facilitate construction of the proposed hospital and labour colony. Tree removal will be minimized through appropriate layout planning, alignment adjustments, and adaptation to site conditions. • Prior approval shall be obtained from the Forest Department and/or other competent authorities, as applicable, before undertaking any tree cutting activities.	Contractor, Project Manager/EHS Staff	All throughout construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		- For every tree removed, ten (10) indigenous saplings shall be planted and maintained for a minimum period of three (03) years to ensure successful survival and growth. - The tree inventory, along with the corresponding tree-felling permissions, is provided in Annexure 3.		
C&D waste management	Impact on soil and water quality.	- The generated C&D wastes will be stored at a designated area inside the existing premises. - The waste shall be covered with tarpaulin to avoid emission from the dumping and runoff from the dumping to prevent water contamination - will try to reuse C&D waste to the maximum extent within the site for other construction works. - The remaining C&D waste will be disposed as per the C&D waste rules 2016 and after consultation and approval of PMU; Prepare C&D waste management plan with clear scheduling on storage, transfer, recycling, disposal - Check for contamination and adopt appropriate cleaning, storage and transport - A site-specific C & D Waste management plan attached in Annexure 7	Contractor, Project Manager/EHS Staff	All throughout construction phase
Stakeholder Engagement	- Project indirectly or directly, positively or negatively impacts community. - Public inconveniences to avail medical treatment from the existing CHC at the site due shifting of the same to an alternate site - Hazards of flooding in the site and nearby areas due to construction activity - Community health and safety	- Prior intimation to the public about the time and the duration of particular construction works which causes inconveniences to the community residing nearby Installation of adequate and clearly visible warning signs such as danger, detour, cross here, works in progress, people at work, etc. will be posted at designated sites while scaffolding will be placed over road crossing points - GRM developed for submission of grievances of community - Maintaining road regulations as per Traffic Management Plan developed as a part of C-ESMP - Stakeholder engagement activities for the Stakeholders as identified (6.1. Key Stakeholders) under the project will be guided by the Stakeholder Engagement Plan of ASSIST Project in Link¹¹ below.	Contractor, Project Manager/EHS Staff	All throughout construction phase

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
	Loss of agricultural productivity.	- Stakeholder engagement at specific intervals with representation from all the sections of the community in and around the proposed site including women members of the community. Stakeholder consultation to include: ➤ 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, water pollution, community health and safety will be undertaken in the construction phase.		
Traffic Movement & and Road safety	- Inconveniences and disturbance to public due to movement of heavy vehicles for carting and mobilization of construction materials and manpower. - Road safety concern in and around proposed site.	- Scheduling fixed time for movement of vehicles carrying construction machineries and materials to ensure safe movement of people. - Safety signage's/messages for proper entry/exit/diversion etc. to be used all throughout construction phase. - Vehicles carrying construction materials must be covered properly - Regular Water sprinkling for in and around the construction site. - Detailed Traffic Management Plan in Annexure 11 - Wheel cleaning arrangement will be made for each & every materials carriage vehicle.	Contractor's Project Manager/EHS Staff	All throughout construction phase
Labour Management	- Risks of occupational health and safety - Lack of knowledge on operation of equipment's, machines, work procedures and processes - Conflict between migrant workforce and locals - Maintenance of health and hygiene - Grievances of workers	- Labour management plan of Azara enclosed as Annexure-5 details to be implemented at site - Labour Management Procedures under ASSIST Project as disclosed in the Project; website to be followed for Labour management providing amenities and facilities to labourers - Construction Health & Safety Policy of the company will be applicable to labour and staff of employed at the Construction site which is enclosed as Annexure – 6 - Grievances of the workers to be addressed following GRM at Annexure 12	Contractor's Project Manager/EHS Staff	All throughout construction phase
SEA/SH/GBV	Risks of SEA/SH of community members, particularly women and children by contractors' workers during construction period	- EHS Officer of PCCMC to be designated as the Nodal Officer for POSH at the construction site - Assessment of the GBV/SEA/SH risks at respective site - Develop GRM responsive to GBV/SEA/SH complaints	Contractor, EHS Staff	Periodically (2 a year)

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
	• Risks of workplace sexual harassment at project site (Consultants and contractors staff & labourers)	• Sensitization of all staff and labourers of project site on occurrence/ prevention of GBV/SEA/SH incidents and POSH Act. • Awareness to workers on: (a) CoC; (b) GRM responsive to GBV/SEA/SH complaints for workers; (c) Local Complaints Committee (LCC) notified under POSH Act by District Commissioner to receive complains on GBV/SEA/SH from establishments where Internal Committee has not been constituted; and (d) referral services. ○ To prevent SEA/SH at site, Contractors are to: ➤ provide a safe secure working environment for workers like provision of lighting around project sites and labour camps, including around latrines and access routes, separate and lockable toilets for female construction workers etc, ➤ 24X7 security services at site ➤ display of the following at the sites: - CoC - warnings which say “Respect the dignity of women”; “Project site is an area where GBV/SEA/SH is prohibited” alike at conspicuous positions in site premises - order constituting the Local Complaints Committee (LCC) - available referral services viz. District Social Welfare Officer; District Hub for Empowerment of Women; Women Helpline -181; Childline – 1098 (For Girls upto 18 years of old); One Stop Centre; Police – 100; IC/LCC ➤ organize regular trainings on: - CoC – all clauses - prevention of GBV/SEA/SH to all workers, including contractors, subcontractors, core suppliers, and relevant consultants and clients		

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		- sensitization on Local Committee (LCC) ○ ensuring all employees attend regular training programs on the prevention of GBV/SEA/SH in the workplace, including training for new workers/employees maintaining attendance sheets and documenting with photographs. ○ treat Sexual harassment as misconduct and initiate action for such misconduct. • ○ Facilitating complainants by providing referral services/ linkages with the following: - District Social Welfare Officer - District Hub for Empowerment of Women - Women Helpline -181 - Childline – 1098 (For Girls upto 18 years of old) - One Stop Centre - Police – 100 - IC/LCC		
Grievance Redressal Mechanism	• Major civil work of construction of DH at Azara may have direct or indirect, positive or negative impacts on Labourers as well as Public. • People may have grievances or enquiry for any information on the project. • So, provision of information or Redressal of grievances will ensure transparency and accountability under the project. • GRM sensitive to GBV/SEA/SH cases	❖ GRM at proposed DH Site (Manual): ● Submission of grievances by workers and community ○ Installation of Drop Boxes with proper signages at workers camp and entry gate so that it is visible to workers and community to drop grievances in person at site. ○ 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 register grievances at site ● Developing of proper formats to capture all the relevant details of complainant for registering grievances of Labours 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)	Contractor, EHS Staff	Periodically (2 a year)

Aspect/ Issue	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		- Sensitization of workers on the existing physical GRM mechanism at site. - Grievance Redressal Mechanism is detailed at Annexure 13. ❖ GRM Portal (Online) - 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 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. - GRM sensitive to SEA/SH complaints - GRM sensitive to SEA/SH complaints is a part of the Grievance Redressal Mechanism is detailed at Annexure 13.		

Table27: Construction Phase Environmental Monitoring Plan (EMP)

An Environmental Monitoring Plan (EMP) is a systematic, site-specific document ensuring project compliance with environmental regulations. The objective of this plan is to compare data against base line conditions, evaluating mitigation effectiveness, and tracking environmental performance during construction phase.

Monitoring field	Monitoring location	Monitoring parameters	Frequency	Responsibility
Ambient air quality	Construction Site & Batching plant location	SO ₂ , NO _x , PM 2.5 and PM10.	Once before start of construction. Quarterly (except monsoon) during construction	EPCC (M/S Tribeni Construction Ltd)
Surface water	Deepor Beel	Physical parameters:	Once before start of construction.	EPCC (M/S Tribeni Construction Ltd)

Monitoring field	Monitoring location	Monitoring parameters	Frequency	Responsibility
		Colour, Odor, Temp, pH, turbidity, Total Hardness (Mg & Ca), TSS, TDS, Chemical parameters: Total alkalinity, Chloride, Total Residual Chlorine, Sulphate, Nitrate, Fluoride, Na, K, Salinity, Total Nitrogen, Total Phosphorus, DO, BOD, COD, Ammoniacal Nitrogen, Total Kjeldahl Nitrogen, Free Ammonia, Phenol, Oil & Grease, Heavy metals (Copper, Nickel, Lead, Zinc, Manganese, Cadmium, Hexavalent Chromium, Total Chromium, Mercury, Cobalt, Arsenic, Cyanide, Iron) Biological Parameters: E.coli , Total Coliform, Faecal Coliform,	Quarterly (except monsoon) during construction	
Ambient Air Quality in terms of Noise Level.	Construction Site & Batching plant location	Leq, Lmax, Lmin.	Once before start of construction. Quarterly (except monsoon) during construction	EPCC (M/S Tribeni Construction Ltd)
Ground water quality	Construction site Bore well.	Physical parameters: Colour, Odor, Temp, pH, turbidity, Total Hardness (Mg & Ca), TSS, TDS, Chemical parameters: Total alkalinity, Chloride, Total Residual Chlorine, Sulphate, Nitrate, Fluoride, Na, K, Salinity, Total Nitrogen, Total Phosphorus, DO, BOD, COD, Ammoniacal Nitrogen, Total Kjeldahl Nitrogen, Free Ammonia, phenol, Oil & Grease, Heavy metals (Copper, Nickel, Lead, Zinc, Manganese, Cadmium, Hexavalent Chromium, Total Chromium, Mercury, Cobalt, Arsenic, Cyanide, Iron) Biological Parameters: E. coli , Total Coliform, Faecal Coliform,	Once before start of construction. Quarterly (except monsoon) during construction	EPCC (M/S Tribeni Construction Ltd)
Soil quality	Composite soil sample of Construction Site.	Physical parameters: Bulk density, Salinity, Porosity, Texture Class (Percentwise silt, clay & sand),	Once before start of construction.	EPCC (M/S Tribeni Construction Ltd)

Monitoring field	Monitoring location	Monitoring parameters	Frequency	Responsibility
		Chemical parameters: pH, Sodium, Potassium, Nitrogen, Magnesium, Phosphorous	Quarterly (except monsoon) during construction	

7.2 Plan of Stakeholder engagement activities under the Project at Azara:

Contractor has to undertake stakeholder engagement activities as detailed in the Table 19 below

Table 28: Plan of Stakeholder engagement activities under the Project at Azara

Category	Key Stakeholders	Stakeholder Engagement Tools	Content	Periodicity	Responsibility
Group A	All staff of the existing CHC Azara (Presently shifted to Garal (MPHC) including Doctors, Nurses & other staffs covering Para medial staff etc. Public residing nearby hospital unit.	• Consultations: Focused Group Discussion/ Meetings • IEC: Pamphlets/Wall writings/Public Information Boards • Installation of adequate and clearly visible	• Benefits of the Project • Demolition & Construction at proposed site • Impacts of major civil work on environment • Occupational Health and Safety	2(Twice) a year	Contractor with support from Azara CHC, Jt,DHS, PWD, PMU
	• Vendors of the market place in and around proposed DH site • Community customers who come to the market place regularly	Cautionary signage's such as danger, detour, cross here, works in progress, people at work, etc. will be posted at designated sites while scaffolding to be placed over road crossing points.	• Community Health and Safety • Prevention and Redressal of Sexual Exploitation & Abuse (SEA)/ Sexual Harassment (SH)/Gender based violence (GBV) • Participation of Community in implementation of project		

Category	Key Stakeholders	Stakeholder Engagement Tools	Content	Periodicity	Responsibility
Group B	- Community-based organizations (CBOs) and Non-Govt Organizations (NGOs) of the district - Social & cultural groups functioning at Azara - Media including print and electronic media. - Vendor associations and labour union federations - Community leaders and local public representatives (PRI Members) - Women groups working on gender-related activities and Self-Help Groups - Line Departments viz. Forest & Wildlife, Environment, Water Resources, Archaeological Survey of India, Women and Child Development Department, Labour, Police & Traffic Control, Fire and Emergency Service and District Administration/ O/o Revenue Circle	- Consultations: Focused Group Discussion/ Meetings - IEC: Pamphlets/Wall writings/Public Information Boards - Print and Electronic Media	- Benefits of the Project - Community Health and Safety - Participation of Community in implementation of project	Once a year	Contractor with support from Azara CHC, Jt,DHS, PMU
Group C	- Poor people living below poverty line - Flood affected people - Elderly, persons with disabilities, female and minor patients - ST, SC, and communities living in remote and hilly locations	- Consultations: Focused Group Discussion/ Meetings - IEC: Pamphlets/Wall writings/Public Information Boards - Print and Electronic Media	- Benefits of the Project - Community Health and Safety - Participation of Community in implementation of project	2(Twice) a year	Contractor with support from Azara CHC (Presently shifted to Garal PHC)

Chapter VIII. Analysis of Alternatives

8.1 Overview

The project design is enhanced as it addresses environment and social risks on one hand, and enhancement opportunities on the other. The purpose of the analysis of alternatives (AoA) is to assess the effectiveness, cost, and risks of alternatives that have potential to close or mitigate the capability gaps and subsequent process analyses.

The Impact criteria are mainly categorized into five groups as given below.

- a) Natural Resource Impacts
- b) Ecological impacts
- c) Socio-Economic Impacts
- d) Political Impacts
- e) Financial & Economic Impacts

8.2 Without Project Alternatives:

When a project consists of a development project on identifiable property, the “no project” alternative is the circumstance under which the project does not proceed. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, the “no project” consequence should be discussed. The No Project Alternative assumes no development on the Project site. The site would remain an undeveloped open space area and the local community will be deprived of the secondary healthcare facilities including 14 departments in their own vicinity.

8.3 Alternative Analysis during Detailed Design

Study of Alternative Alignment – Site Level

Generally, Bentonite solution is used for piling work which is not an environmentally friendly option. In this project, instead of Bentonite, polymer will be used at the time of piling work of the building construction. The pile bearing capacity is higher when the polymer is used as a support fluid. The negative impact of Bentonite on the environment is more significant than that of polymer. The polymer mixing and pumping equipment are less than Bentonite. The overall cost is lower when using the polymer.

Selection of Design and Construction Standard

As per Seismic Zone (V), the design and construction standards of the project has been maintained. No change in design and construction standards will be done. However, some changes in the design, architectural part and construction material will be anticipated based on achievement of GRIHA V.2019 three-star rating to the new construction. The changes will be environment friendly only to make the infrastructure sustainable.

8.4. Batching Plant.

The area is confined only for design & construction of 100 bedded District hospital Unit. No sufficient space or area available for installation of batching plant of EPC Contractor own. The Ready Mixed Concrete will be provided by the nearest Batching Plant (M/S Ultratech M30) Locating at a distance of 200 meter from the construction site. Ready Mixed Concrete as per requirement will be transported to the proposed construction site through Transit Mixer Equipment.

CHAPTER IX : CHANCE FIND PROCEDURE

The Environmental and Social Management Framework (ESMF) for the project in accordance with the World Bank Environmental and Social Framework (ESF), establishes relevance with all the Environmental and Social Standards (ESSs) that are applicable to the project, including **ESS-8: Cultural Heritage**.

ESS-8: Cultural Heritage recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.

In line with ESS-8, the ESMF recognizes that **chance finds of physical cultural heritage** may occur during excavation or construction, particularly in greenfield or previously developed sites. And it mandates that **all subprojects and contractors** implement a **Chance Finds Procedure (CFP)**. The Chance Finds Procedure shall be included in:

- ESIA / ESMP
- Contractor's ESMP (C-ESMP)
- Bidding and contract documents

1. OBJECTIVES

- To protect cultural heritage from the adverse impacts of project activities and support its preservation.
- To address cultural heritage as an integral aspect of sustainable development.
- To promote meaningful consultation with stakeholders regarding cultural heritage.
- To promote the equitable sharing of benefits from the use of cultural heritage.

2. SCOPE OF APPLICATION

- a) The applicability of ESS-8 is established during the environmental and social assessment described in ESS1.
- b) The term 'cultural heritage' encompasses tangible and intangible heritage, which may be recognized and valued at a local, regional, national or global level, as follows:
 - i) Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings and may be above or below land or under the water.
 - ii) Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artifacts and cultural spaces associated therewith— that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history
- c) The requirements of this ESS8 will apply to all projects that are likely to have risks or impacts on cultural heritage. This will include a project which:
 - i) Involves excavations, demolition, movement of earth, flooding or other changes in the physical environment.
 - ii) Is located within a legally protected area or a legally defined buffer zone.
 - iii) Is located in, or in the vicinity of, a recognized cultural heritage site; or
 - iv) Is specifically designed to support the conservation, management and use of cultural heritage.
 - v) The requirements of ESS8 apply to cultural heritage regardless of whether it has been legally protected or previously identified or disturbed.
- d) The requirements of ESS8 apply to intangible cultural heritage only if a physical component of a project will have a material impact on such cultural heritage or if a project intends to use such cultural heritage for commercial purposes.

3. STAKEHOLDER CONSULTATION AND IDENTIFICATION OF CULTURAL HERITAGE

The Project will carry out meaningful consultations with stakeholders in accordance with ESS10 in order to identify cultural heritage that may be affected by the potential project; consider the significance of the cultural heritage affected by the project; assess the potential risks and impacts; and explore avoidance and mitigation options.

In case project site contains cultural heritage or prevents access to previously accessible cultural heritage sites, based on consultations with users of the site, the project will allow continued access to the cultural site, or will provide an alternative access route, subject to overriding health, safety and security considerations.

4. PROTECTION OF CULTURAL HERITAGE AREAS, ARCHAEOLOGICAL SITES & MATERIALS, BUILT HERITAGE and NATURAL FEATURES WITH CULTURAL SIGNIFICANCE

- a) **Legally protected cultural heritage areas:** If the proposed project is located within a legally protected area or a legally defined buffer zone, the project will take necessary action to
- comply with local, national, regional or international cultural heritage regulations and the protected area management plans
 - consult the relevant stakeholders of the protected area
 - implement appropriate programs to promote and enhance conservation

aims of the protected area.

- b) **Archaeological sites and material:** If any archaeological sites and materials are discovered during the project life cycle, the project will map, investigate and document the location and characteristics of the same and provide the documentation to the national or subnational cultural heritage authorities .If discovered, the project in consultation with cultural heritage experts will determine whether archaeological material discovered during the project life cycle requires: (a) documentation only; (b) excavation and documentation: or (c) conservation in place, and will manage the archaeological material accordingly. The project will determine ownership and custodial responsibility for archaeological material in accordance with national and subnational law, and until such time as custody has been transferred, will arrange for identification, conservation, labelling, and secure storage and accessibility to enable future study and analysis.

- c) **Built heritage:** The project will identify appropriate mitigation measures to address the impacts on Built Heritage, which includes groups of buildings, structures and open spaces constituting past or contemporary human settlements that are recognized as cohesive and valuable from an architectural, aesthetic, spiritual or sociocultural perspective. The measures may include:
- Documentation
 - conservation or rehabilitation *in situ*; and
 - relocation and conservation or rehabilitation.

During any rehabilitation or restoration of cultural heritage structures, the project will maintain the authenticity of form, construction materials and techniques of the structure(s).

- d) **Natural features with cultural significance:** The project in consultation with project-affected parties will identify Natural features with cultural significance which include sacred hills, mountains, landscapes, streams, rivers, waterfalls, caves and rocks; sacred trees or plants, groves and forests; carvings or paintings on exposed rock faces or in caves; and paleontological deposits of early human, animal or fossilized remains. The significance of such heritage may be localized in small community groups or minority populations. Most natural features with cultural heritage significance are best protected by preservation *in situ*. If it is not possible to preserve the natural features in their existing location, the transfer of the cultural heritage to another location will be conducted in consultation with project-affected parties, in accordance with GIIP.

- e) **Movable cultural heritage** which includes historic or rare books and manuscripts; paintings, drawings, sculptures, statuettes and carvings; modern or historic religious items; historic costumes, jewellery and textiles; fragments of monuments or historic buildings; archaeological material; and natural history collections such as shells, flora, or minerals. The project in consultation with relevant cultural heritage authorities will identify movable cultural heritage objects that may be endangered by the project and make provisions for their protection throughout the project life cycle. The project will inform religious or secular authorities or other custodians with responsibility for overseeing and protecting the movable cultural heritage objects of the schedule for project activities and alert them regarding the potential vulnerability of such items. Proper measures to be undertaken to guard against theft and illegal trafficking of movable cultural heritage items affected by the project and will notify relevant authorities of any such activity.

5. THE CONTEXT: ASSIST PROJECT

The state of Assam contains a large number of sites and natural heritage with significant religious, cultural, archaeological and historical importance. Although the sites for upgradation of district hospitals are already known and most of them are existing public health care facilities, the project will also be investing renewable energy systems and water supply systems to make these facilities fully operational. The operations of these hospitals will involve increase in the generation of waste and wastewater streams which need to be treated and disposed in order not to have any indirect or downstream impacts on built or natural heritage.

The construction works in the project will generate demolition and construction wastes as well as exhausts and emissions that may pose risks to the nearby heritage structures. These will be managed by incorporating appropriate provisions in the construction contracts for prevention of such emissions and discharges and wastes management as well as awareness of contract workers.

6. CHANCE FINDS PROCEDURE

In accordance with the World Bank Environmental and Social Framework (ESF), ESS-8 on Cultural Heritage, and applicable national and state legislation, the following Chance Finds Procedure shall be followed during hospital construction or renovation works in Assam:

Step-1: Immediate Stop of Work

In the event of discovery of any archaeological, historical, religious, or cultural remains, artifacts, or structures, all construction activities in the vicinity of the find shall be immediately suspended.

Step-2: Protection of the Find

The Contractor shall secure and cordon off the area to prevent damage, disturbance, theft, or vandalism, and restrict access to authorized personnel only.

Step-3: Notification

The Contractor shall immediately inform the Project Engineer/PMU. The PMU shall notify the Directorate of Archaeology, Government of Assam, and where applicable, the Archaeological Survey of India (ASI) in accordance with the AMASR Act, 1958.

Step-4: Inspection and Guidance

No works shall recommence in the affected area until the competent authority has inspected the site and issued written clearance or instructions on the appropriate course of action.

Step-5: Management of Finds

Based on guidance from the competent authority and cultural heritage experts, the finds shall be managed through documentation, excavation and documentation, or conservation in situ, as required.

Step-6: Resumption of Work

Construction activities shall resume only after formal approval from the competent authority and implementation of all prescribed mitigation measures.

Step-7: Awareness and Training

The Contractor shall ensure that all site personnel are briefed and trained on the Chance Finds Procedure prior to and during the execution of works.

7. INSTITUTIONAL RESPONSIBILITIES FOR EXERCISING CHANCE FIND PROCEDURE

<u>Entity</u>	<u>Responsibility</u>
Contractor	Stop work, protect site, notify
PCCMC	Monitor implementation and supervise ESMF compliance
PWD	Support in undertaking regulatory compliance
PMU	Regulatory liaison, WB reporting
World Bank	Review and clearance

6. CAPACITY BUILDING

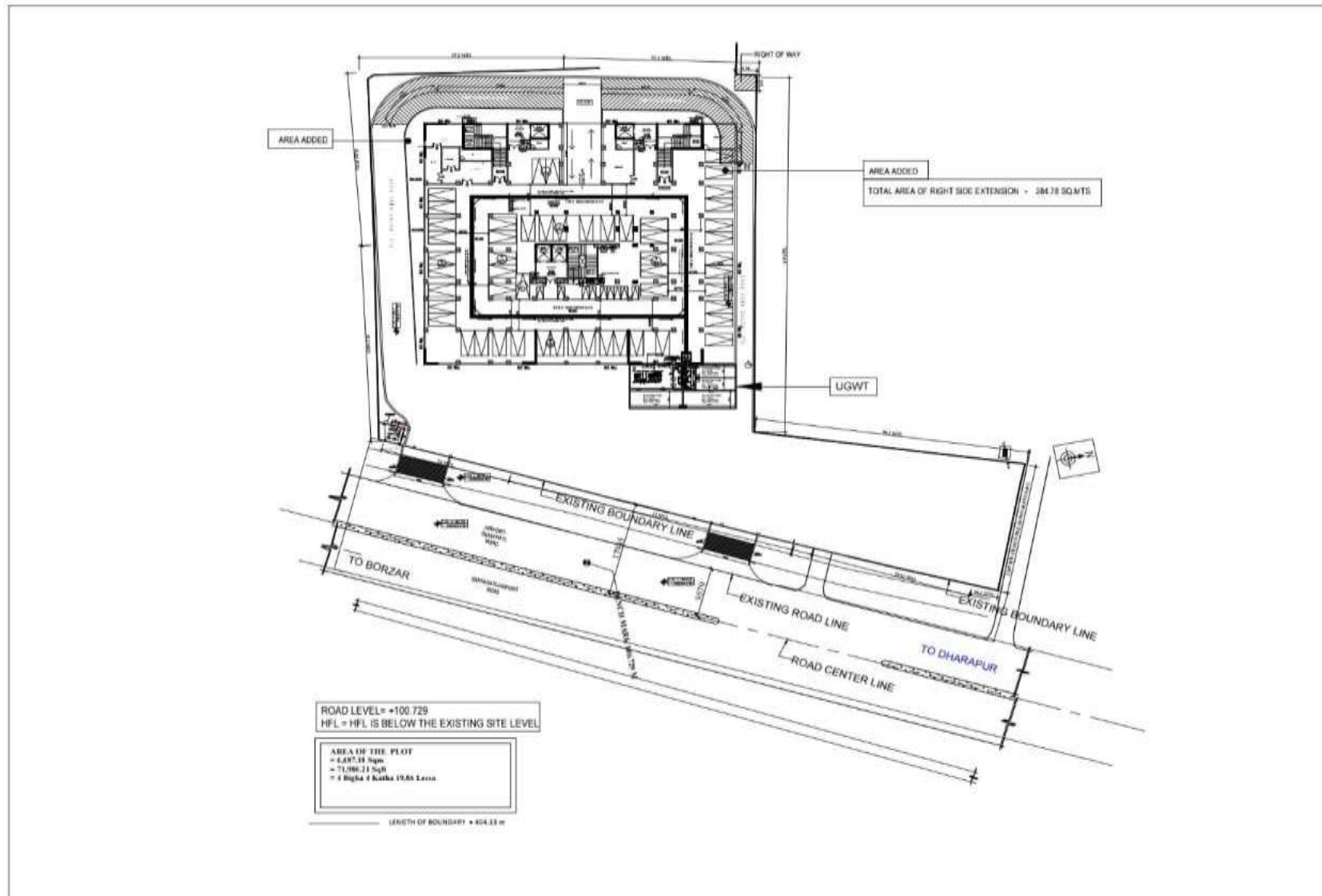
- Workers shall receive training on chance finds procedure. The training will cover:
 - Need of Chance Find Procedure (CEP) at site
 - Significance of the cultural heritage; assessment of potential risks and impacts; and explore avoidance with mitigation options.
 - CEP to adopt at Site
- Simplified instructions shall be displayed at construction sites

Source:

1. *Environment & Social Framework for IPF Operations, ESS8: Cultural Heritage, World Bank*
2. *The WORLD BANK Environmental and Social Framework*

ANNEXURES

ANNEXURE 1: SITE PLAN OF PROPOSED DH AT AZARA



ANNEXURE 2: PLANNED BUILDING DESIGN AND SUMMARY OF SPECIFICATION FOR CONSTRUCTION

The design of the proposed 100 bedded DH will be human centric and user friendly as well as GRIHA compliant. All the facilities in each of the floors to have universal access e.g. ramps, handrails and other fixtures etc. as recommended and fire safety e.g. second staircase/ ramp for evacuation etc. Project envisages achieving 3-star GRIHA rating for the DH. Proposed hospital building will have six floors with ground floor and a basement; total height of the infrastructure is considered as 33.15 meter & total ground area of the proposed site is estimated as 6687.2 Sqm. Planned building design and summary of specification for construction is given below.

A. GROUND FLOOR:	
Emergency care Unit - Emergency Entrance Lobby, Emergency Help Desk/Reception - Police Post - Triage Room with Yellow zone beds - 3 No., Paediatrics beds - 2 No., Isolation bed – 1 No. - Toilet, Nurse's station, CU & DU. - Plaster and Plaster Cutting room. - Trolley wash area/ Decontamination area. - Red zone beds with Nurse's Station- 3 No. - Examination/Treatment Room - Doctor's Room - CCMO Room with attached toilet and Medico-Legal Case - Duty Doctor Room - Pre & post-operative beds – 3 No. - Change rooms - Emergency OT Lobby, Patient Holding Area, Emergency TSSU, OT Pharmacy, Sterile store, Dirty Utility 1 No. Emergency Operation theatre Room	Outpatient Department - OPD & MCH Entrance Lobby (Double Height) - OPD & MCH Registration (3 counters) - Pharmacy with 3 counters and Pharmacy store - General Public Toilet, Lift Lobby and Staircase Radiology with 1 X-ray, ECG, Mobile X-ray, Dark room Printing, Dental Room, USG with colour Doppler, Reporting Room and Radiology Waiting Area Support Services (Dietary): Cold storage, dry store, washing area, toilet and cooking area. Room for storage of 4 categories of BMW Effluent Treatment Plant: Capacity - 20 KLD Sewage Treatment Plant: Capacity - 80 KLD

B. FIRST FLOOR	
Outpatient Department - Waiting Area with Lift Lobby, public toilets, staircase OPD consultation rooms: Counselling room, NCD. Adolescent clinic, Dermatology, ENT, PAC Room, Surgery, Speciality clinics, Physio therapy, Tele-consultation room, Wellness clinic, PFT/ECG Room, Ortho, Psychiatry, Wellness clinic, Family Medicine, Immunisation/Cold chain room and patient waiting hall. Laboratory with Sample collection Area, Clinical pathology Lab, Pathology lab, BSC Room, lab In-charge room with toilet. Medical Stores	Administrative Unit - Medical Superintendent room with attached toilet, PA to MS, nursing-in-charge room, Hospital manger room, Office Area with Supervisors cabinet, meeting hall. - Medical Records Department Ward Complex

C. SECOND FLOOR

District Early Intervention Centre:

- Examination room, Nourishing nutrition, Psych, lang, Laboratory, RCG, Play Area, Hearing assessment room, sound proof audiometry, Dental examination room, Vision assessment room, Early Interventional occupational therapy, Sensory Integration, Anthropometry.
- MCH Triage 2 beds, change rooms, Doctor's room with toilet, Delivery complex reception and lobby, MW Room, change rooms, MW LDR Complex-3 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, Isolation Room, CU room, Linen room, Toilet, Critical Equipment room, Nurse-in-charge, Therapeutic diet prep.
- **OPD Consultation room:** Gynae OPD (3 Nos.) and ultrasound Room

D. THIRD FLOOR

- Waiting area with public toilet, lift lobby and staircase.
- **Mother's & New born Ward:** 16 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 (06 beds), In born (06 beds), 04 beds ventilator NICU, Isolation-2 Nos., Nurses station, feeding room, Point of care, AHU Room.
- Dialysis Complex: change rooms with toilets, Dialysis ward with 4 beds and nurses' station, Isolation room, Wash Area, RO Room, toilets.
- Paying cain complex: 2Nos. rooms with attached toilet, almirah and attendant's sleeping couch, Doctor's Lounge, Nurse's Lounge, Pantry.

E. FOURTH FLOOR:

- Waiting area with public toilet, lift lobby and staircase.
- 8 beds Day care ward, 8 beds Nutrition Rehabilitation Centre, Treatment room, Nurse's station, CU & DU.
- **General ward complex:** 27 beds ward complex, Nurse's station, Treatment room, Nurse's station, CU & DU.
- Paying cain complex: 6-Nos. rooms with attached toilet, almirah and attendant's sleeping couch, Doctor's Lounge, Nurse's Lounge, Pantry.

F. FIFTH FLOOR:

- Waiting area with public toilet, lift lobby and staircase.
- **Burn unit:** 04 beds ward, 2beds Isolation, treatment room, Nurse's station, Duty doctor, CU & DU, Toilet complex
- **HDU ward:** HDU Waiting, counselling room, patient change, change room with toilet, paediatrics HDU beds 2- Nos., general HDU beds-4 Nos., 1 No. isolation bed, duty doctor with attached toilet.
- **Paying Cain complex:** 6-Nos. rooms with attached toilet, almirah and attendant's sleeping couch, Doctor's Lounge, Nurse's Lounge, Pantry.

G. SIXTH FLOOR:

- Waiting area with public toilet, lift lobby and staircase.
- **OT Complex:** Change rooms (Doctor's, Nurse's and staff change), Trolley exchange area, 2 No. pre operative and post operative ward, Nurse's station, Toilet, Doctor's room, Nurse's room, Airlock, Sterile corridor, patient holding area, scrub area, sterile store, Operation Theatre-2 Nos., TSSU, AHU rooms, Dirty Corridor.
- **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.
- **Central Sterile Supply Department**

H. BASEMENT

- Mortuary: Waiting area, Reception, Police Post, X-Ray Room, Body viewing Area, Body Storage.
- **Services:** UGT and Gas manifold
- **Laundry**
- **Basement Closed Parking: Four-wheeler stack parking - 96 Nos. Two-wheeler parking - 9 Nos.**
- Open Four-wheeler parking:-11 Nos.

AREA STATEMENT:

	Main District Hospital (B+G+6)	Gas Manifold (G)	ESS (G)
FLOOR HEIGHT	4.05	3.6	5.10
Ground Floor	1880	57	250
First Floor	1668		
Second Floor	1887		
Third Floor	1784		
Fourth Floor	1784		
Fifth Floor	1784		
Sixth Floor	1784		
Basement	2688		
Grand Total	15259	57	250
Note: Canopy & Boxings and in Area Calculation			

List of Facilities (Mortuary & Gas manifold Room):

- Waiting and reception.
- Body viewing area.
- Store
- Body cold storage area
- At source primary treatment of BMW effluent
- Change rooms, post-mortem room, Embalming room, Instrument room. X-ray room, Supervisor room, Toilets.

ANNEXURE 3: TREE CUTTING INVENTORY-MAJOR FLORA AND FAUNA

Azara in Guwahati, Assam, and its surrounding areas including Deepor Beel exhibit a rich biodiversity. The region supports a variety of flora and fauna including fish, amphibians, reptiles, birds and mammals. Deepor Beel a perennial freshwater lake in Assam covers an area of approximately 40.14 square kilometres situated southwest of Guwahati city in Kamrup Metropolitan District and 3.0 km from the project site.

Flora:

Forest type: Azara and its vicinity feature most deciduous forests.

State Tree: Hollong tree (*Dipterocarpus macrocarpas*) is a predominant species in these forests.

Associated Species: Other tree species includes Borpat, Jutuli, Sam, Dewa Sam, Nahar, Titachapa, Bhelu tree and Mekai tree.

Deepor Beel, a wetland supports a variety of aquatic Plants. The free-floating plants *Eichhornia*, *Azolla pinnata*, *Lemna major*, *Spiro Dela polytheize*, are exist throughout the year and they become plentiful during the summer.

The emergent vegetation includes *Trapa bispinosa*, *Utricularia* (Bladderwort), *flexuosa* plant, *Eleocharis*, *Hosta plantaginea*, *Nelumbo nucifera*, *Lotus*, *Nymphaea alba*, *Sagittaria sagittifolia*, *Euryale ferox*, *Ipomea reptans*, *Ottelia alismoides*, *Marsilea minuta*, *Limnophila aquatica*, *Monochoria leaquinolis*.

Table 1: The predominant floral species in Kamrup Metropolitan District

Botanical name	Family	Local Name
<i>Cyperus rotundus</i>	Cyperaceae	Keya bon
<i>Datura metel</i>	Solanaceae	Kola-dhatura
<i>Dolichos biflorus</i>	Fabaceae	Kulthi mah
<i>Hyptianthera strica</i>	Rubiaceae	Mirherai
<i>Jatropha curcus</i>	Euphorbiaceae	Bhotera
<i>Nelumbo nucifera</i>	Nymphaeaceae	Lotus/Podum
<i>Swertia chirayita</i>	Gentianaceae	Chiretta
<i>Bombax ceiba</i>	Bombaceae	Semalo
<i>Anthocephalus kadamba</i>	Rubiaceae	Kadam
<i>Terminalia arjuna</i>	Combrataceae	Arjun
<i>Lawsonia inermis</i>	Lythraceae	Jetuka
<i>Ageratum conyzoides</i>	Asteraceae	Sagun tuloshi
<i>Andrographis paniculata</i>	Acanthaceae	Kalpatita, Kalmegh
<i>Aloe barbadensis</i>	Liliaceae	Chalkuwari
<i>Mangifera indica</i>	Anacardiaceae	Aam
<i>Hemidesmus indica</i>	Asclepiadaceae	Anantamul/ Sarsaparilla
<i>Enydra fluctuans</i>	Asteraceae	Helochy
<i>Semecarpus anacardium</i>	Anacardiaceae	Velaguti
<i>Terminalia bellirica</i>	Combrataceae	Bhomora
<i>Costus speciosus</i>	Zinziberaceae	Jamla khuti
<i>Desmodium gangeticum</i>	Fabaceae	Shalaparni
<i>Leea macrophylla</i>	Vitaceae	Doolmudra
<i>Cardiospermum helicacabum</i>	Sapindaceae	Jaal koro
<i>Vitex negundo</i>	Verbenaceae	Posotia
<i>Portulaca oleracea</i>	Portulacaceae	Pusley
<i>Centella asiatica</i>	Apiaceae	Bor- manimuni
<i>Citrus aurantifolia</i>	Rutaceae	Kaji nenu
<i>Dychoriste perrotteti</i>	Acanthaceae	Buohoh
<i>Benincasa hispida</i>	Cucurbitaceae	Komora
<i>Colocasia esculanta</i>	Araceae	Kola kochu
<i>Crotolaria juncea</i>	Fabaceae	Shan
<i>Saraca asoca</i>	Caesalpinaceae	Ashok
<i>Musa paradisiaca</i>	Musaceae	Banana

Botanical name	Family	Local Name
<i>Pongamia pinnata</i>	Fabaceae	Karos
<i>Solanum Indicum</i>	Solanaceae	Gos alu
<i>Ipomoea Aquatica</i>	Convolvulaceae	Kalmou
<i>Cynodon Dactylon</i>	Poaceae	Dubori- bon
<i>Clitoria ternatea</i>	Fabaceae	Aparajita
<i>Argyrea speciosa</i>	Convolvulaceae	Bichtarak
<i>Putranjiva Roxburgii</i>	Euphorbiaceae	Putrajiv
<i>Cleome gynandra</i>	Capparaceae	Bhutmula, Gandhali bon
<i>Sterospermum Suaveolens</i>	Bignoniaceae	Patla
<i>Amaranthus tricolor</i>	Amaranthaceae	Morisha hak
<i>Amaranthus spinosus</i>	Amaranthaceae	Kutura hak
<i>Asparagus racemosus</i>	Liliaceae	Satamul
<i>Mesua ferrea</i>	Clusiaceae	Nahor
<i>Nerium indicum</i>	Apocynaceae	Karabi
<i>Symplocos paniculata</i>	Symplocaceae	Bhomloti
<i>Sida rhombifolia</i>	Malvaceae	Boriala
<i>Wedelia chinensis</i>	Asteraceae	Maha- bhringaraj

(Source: ETHNOBOTANICALY IMPORTANT MEDICINAL PLANTS OF KAMRUP DISTRICT, ASSAM, INDIA, USED IN FERTILITY TREATMENT; Deka J *, Kalita J. C. Department of Zoology, Gauhati University, Guwahati-781014, Assam, India)

Table 2: The Major Fauna in Kamrup Metropolitan District

Table 2: Scientific names and the species types of few important animals

COMMON NAME (IN ASSAMESE/ ENGLISH)	SCIENTIFIC NAME	SPECIES TYPE
<i>Dhekiapotiia bagh/Tiger</i>	<i>Panthera tigris</i>	<i>Mammal</i>
<i>Clouded leopard</i>	<i>Neofelis nebulosa</i>	<i>Mammal</i>
<i>Leopard cat</i>	<i>Prionailurus bengalensis</i>	<i>Mammal</i>
<i>Hati/ Elephant</i>	<i>Elephas maximus indicus</i>	<i>Mammal</i>
<i>Indian civet</i>	<i>Viverra zibetha</i>	<i>Mammal</i>
<i>Hoolock gibbon</i>	<i>Hoolock leuconedys</i>	<i>Mammal</i>
<i>Pig-tailed macaque</i>	<i>Macaca leonina</i>	<i>Mammal</i>
<i>Assam macaque</i>	<i>Macaca assamensis</i>	<i>Mammal</i>
<i>Barking deer/ Kakar</i>	<i>Muntiacus muntjak</i>	<i>Mammal</i>
<i>Sambar</i>	<i>Rusa unicolor</i>	<i>Mammal</i>
<i>Indian pangolin</i>	<i>Manis crassicaudata</i>	<i>Mammal</i>
<i>Himalayan hornbill</i>	<i>Buceros bicornis</i>	<i>Aves</i>
<i>Lesser racket-tailed drongo</i>	<i>Dicrurus remifer</i>	<i>Aves</i>
<i>Black hooded oriole</i>	<i>Oriolus xanthornus</i>	<i>Aves</i>
<i>Imperial pigeon</i>	<i>Ducula badia</i>	<i>Aves</i>
<i>Hill partridge</i>	<i>Arborophila torqueola</i>	<i>Aves</i>
<i>Jungle fowl</i>	<i>Gallus gallus</i>	<i>Aves</i>
<i>Hoopoe</i>	<i>Upupa epops</i>	<i>Aves</i>
<i>Yellow bittern</i>	<i>Ixobrychus sinensis</i>	<i>Aves</i>
<i>King cobra</i>	<i>Ophiophagus hannah</i>	<i>Reptilian</i>
<i>Monitor lizard</i>	<i>Varanus varius</i>	<i>Reptilian</i>

COMMON NAME (IN ASSAMESE/ ENGLISH)	SCIENTIFIC NAME	SPECIES TYPE
<i>Python</i>	<i>Python molurus</i>	<i>Reptilian</i>
<i>Brown tortoise</i>	<i>Manouria emys</i>	<i>Amphibian</i>
<i>Hill tortoise</i>	<i>Melanochelys tricarinata</i>	<i>Amphibian</i>

Tree cutting permission letter

	 CONSTRUCTIONS LIMITED CINNO-U45209AS2000PLC006108 Regd. Off.: TRIBENI COMMERCIAL COMPLEX 2nd Floor, G.S. Road, Ulubari, Guwahati -7 Phone : (361)-2462529 E-mail : tclguwahati@gmail.com
---	---

Date: 20.06.2024

To

The Project Director,
 Assam Health Infrastructure Development & Management Society
 Assam, 4th floor, Nayantara, Supermarket Complex,
 Six Mile, Khanapara, Guwahati, Assam

Name of Work: Design & Construction of 100 Bedded New District Hospital in Azara (Kamrup),
 Assam in EPC Mode.

Sub: Request letter for cutting the trees.

Respected Sir,

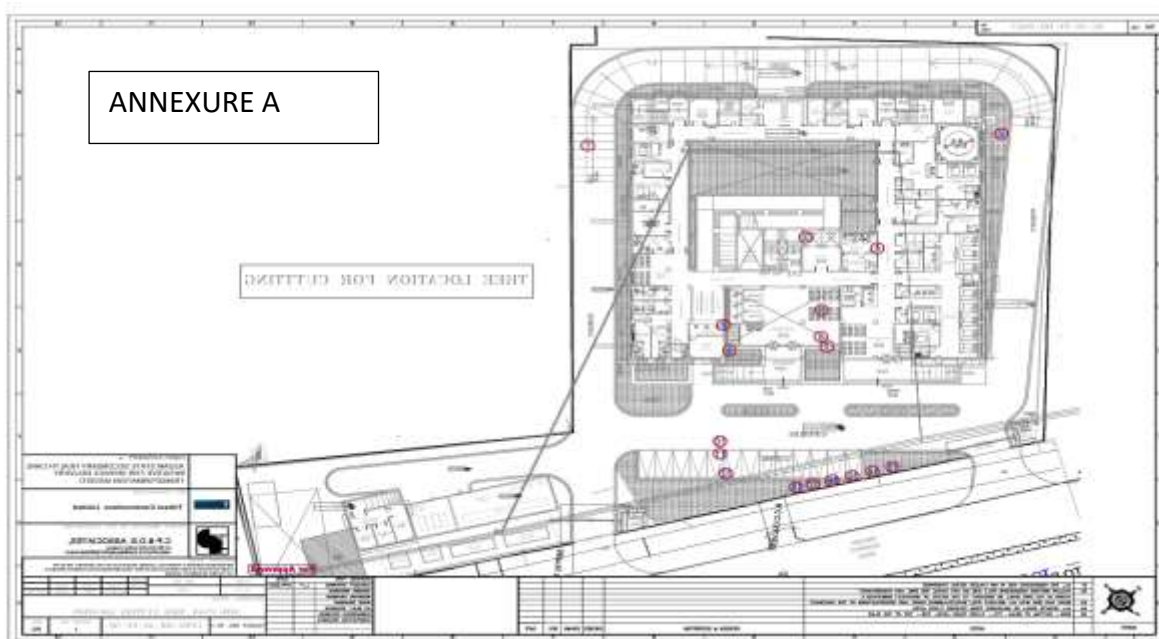
With reference to the above mentioned subject, we would like to request you kindly write to the concern person DFO of Forest Department of Azara (Kamrup), Guwahati for cutting of trees from the site which will be acting as obstruction for our building construction and please do the checking if any of them can be retained.

Thanking you,
 Yours faithfully

For Tribeni Constructions Limited



Authorized Signatory



ANNEXURE : B

CONSTRUCTION OF 150 BEDDED NEW HOSPITAL , KALIABOR, NAGON, ASSAM DETAILS OF TREES

Sr.No.	TREE NO.	TREE NAME	PARAMETER (MM)	REMARKS
1	1	DEBDARU TREE	1400	Within New Hospital Building request for Cutting
2	2	MANGO TREE	1790	Within New Hospital Building request for Cutting
3	3	MANGO TREE	1200	Within New Hospital Building request for Cutting
4	4	MANGO TREE	1410	Within New Hospital Building request for Cutting
5	5	JUNGLI TREE	1600	Within New Hospital Building request for Cutting
6	6	KRISHNA CHURA TREE	880	Within New Hospital Building request for Cutting
7	7	NEEM TREE	535	Within New Hospital Building request for Cutting
8	8	SIRIS TREE	940	Within New Hospital Building request for Cutting
9	9	SIRIS TREE	1720	Within New Hospital Building request for Cutting
10	10	SIRIS TREE	1260	Within New Hospital Building request for Cutting
11	11	SIRIS TREE	660	Within New Hospital Building request for Cutting
12	12	NEEM TREE	1790	Adjacent to Proposed Road request for cutting
13	13	MANGO TREE	1980	At Proposed Mortuary request for cutting
14	14	MANGO TREE	1480	At Proposed Mortuary request for cutting
15	15	KRISHNA CHURA TREE	1400	At proposed DG Set request for cutting
16	16	KRISHNA CHURA TREE	940	At proposed DG Set request for cutting
17	17	MANGO TREE	1790	Proposed 6 mtr.width Road request for cutting
18	18	TREE	1290	Proposed 6 mtr.width Road request for cutting
19	19	KORONJA OR PONGAM T	1730	Proposed 6 mtr.width Road
20	20	TREE	880	Proposed 6 mtr.width Road
21	21	TREE	1200	Proposed 6 mtr.width Road
22	22	TREE	940	Proposed 6 mtr.width Road
23	23	JAMUN TREE	2300	Adjacent to Parking
24	24	EUCALYPTUS TREE	1980	Adjacent to Parking

GOVERNMENT OF ASSAM
OFFICE OF THE DIVISIONAL FOREST OFFICER, KAMRUP EAST DIVISION,
BASISTHA, GUWAHATI-29.

E-mail: dfo.t.kamrupeast@gmail.com

Letter No. B/KE/RST/2118-20

Date: 2/08/2024

To,

The Commissioner & Secretary to the Govt. of Assam,
MERD cum Project Director, AHIDMS,
Sixmile, Guwahati-22.

Sub: Regarding permission for tree cutting.

Ref: 1. This Office Letter No. B/KE/RST/1673-75, dtd. 10/07/2024.
2. Your letter No. AHIDMS/WB/ASSIST/109/CONST/2024/AZARA/42, dtd. 01/02/2024.

Sir,

With reference to the subject cited above and in consequent to the letter under reference, I would like to inform you that the operation cost of 12 Nos. of trees at Azara CHC is as below:-

1. Rs. 1,20,518.00 (Rupees one lakh twenty thousand five hundred eighteen) only as the cost for cutting, dragging, transportation, stacking etc. (including 18% GST should be paid in favour of the Divisional Forest Officer, Kamrup East Division. 18AAAGO0261J1ZD).
2. Rs. 1,180.00 (Rupees one thousand one hundred eighty) only for depot maintenance (including 18 % GST should be paid in favour of the Divisional Forest officer, Kamrup East Division, 18AAAGO0261J1ZD).
3. Another demand for Rs. 3,35,400.00 (Rupees three lakh thirty five thousand four hundred) only for Compensatory Afforestation cost for raising road side single plantation.

In view of the above, I request you to kindly sanction and release the total estimated amount of Rs.4,57,098.00 (Rupees four lakh fifty seven thousand ninety eight) only for carrying out all the activities being the operation cost, depot maintenance charge and Compensatory Afforestation cost for raising road side single plantation may kindly be deposited in the below mentioned A/c No.:

Name of the Bank: IDBI Bank Ltd., Chandmari Branch
IFSC: IBKL0001207
Account No. 1207104000051475

However, if you wish to carry out the operation of the trees from your end, then only the amounts mentioned in Sl. No. 2 amounting to Rs. 1,180.00 (Rupees one thousand one hundred eighty) only and Sl. No.3. amounting to Rs. 3,35,400.00 (Rupees three thirty five thousand four hundred) only needs to be paid to the **IDBI Bank account mentioned above.**

**ANNEXURE 4: PARTICIPATION LIST OF PUBLIC CONSULTATION WITH
STAKEHOLDERS**

Date - 25.01.2025

অসম স্বাস্থ্য আন্তঃগাঁথনি উন্নয়ন আৰু ব্যৱস্থাপনা সমিতি(AHIDMS), অসম চৰকাৰ।

১০০ বিচনাযুক্ত নতুন জিলা চিকিৎসালয় in AZARA অসম।

M/s Tribeni Construction Limited

Attendance sheet of 1st Community Construction for stakeholder engagement

(List of Participants)

অংশীদাৰ এংগেজমেণ্টৰ বাবে ১ম সম্প্ৰদায়ৰ পৰামৰ্শৰ উপস্থিতি পত্ৰিকা
(অংশগ্ৰহণকাৰীৰ তালিকা)

Sl. NO.	Name নাম	Village গাঁও	Sex লিংগ (M/F)	Age বয়স	Occupation বৃত্তি	Signature চহী
1.	Haren Das	Deony Para	M	71	X Sunrise Hokla	হৰেন দাস
2.	Ratul Medhi	Deony Para	M	53	Business	ৰতুল মেধি
3.	Serdaly Das	Deony Para	F	48	Asha	Serdaly Das
4.	Nayan Barmann	Deony Para	M	42	Sunrise man	Nayan
5.	জীতেন্দ্ৰ দাস	Habara Para	M	70	Habara Para Business	জীতেন্দ্ৰ দাস
6.	Premod ch. Das	Azara Deony Para	M	63	Business	Premod ch. Das
7.	Banjit Goswami	Bhoralpara	M	41	Business	Banjit Goswami
8.	Manoj Kerkoty	Bhoralpara	M	38	Business	Manoj
9.	Shiraj ka. Kalita	Hirapara	M	36	Business	Shiraj
10.	Somyit Kalita	Dumipara	M	27	Business	Shalita
11.	Prasanta Choudhary	Sarapan	M	50	Business	Prasanta
12.	Bhram Das	Habara Para	M	40	Business	Bhram

Date - 25.01.2023

13.	Bhupen Das	Azara	M	53	Business	- <i>Bhupen</i>
14.	Shyamal Borah	Azara	M	56	Business	<i>Shyamal</i>
15.	Nabojyoti Thakuria	Azara	M	42	Business	Naba
16.	Bidyut Das	Azara	M	21	Business	BDAS
17.	Pranab Kalita	Azara	M	32	Business	- Pranab
18.	Diganta Das	Azara	M	35	Business	<i>Diganta</i>

ANNEXURE-5: LABOUR MANAGEMENT PLAN FOR AZARA DISTRICT HOSPITAL SITE

1. PROJECT DESCRIPTION

The proposed project involves construction of a 100-bedded New District Hospital (DH) , Azara which is designed to be human-centric, user-friendly, and compliant with GRIHA standards, aiming for a 3-star rating. The site development includes dismantling existing structures and relocating utilities, with all necessary permissions obtained from relevant government departments. The building design features a G+6 structure, housing the Main District Hospital Mortuary, Gas Manifold, and BMW and ESS Blocks. The project encompasses a development area of 6687.15sqm within a total Building area of 15,259.0 Sqm including a boundary wall of 390.0 meters.

Given the scale of civil works expected under the project, skilled, semi-skilled and unskilled workers will be hired by the contractors on a need basis/intermittently. The volume and diversified nature of the of construction works at the site demands for a large number of workers of different job roles. This necessitates developing and implementing **a site-specific Labour Management Plan** based on the **Labour Management Procedures (LMP) of the Project**.

2. KEY POTENTIAL LABOR RISKS

- a) Selection of proper site for Labour Camp
- b) Provision of basic facilities and amenities for the labour camp
- c) Risks of occupational health and safety
- d) Lack of knowledge on operation of equipment's, machines, work procedures and processes at sites including both DH site and Batching Plant site
- e) Lack of knowledge on maintenance of health and hygiene
- f) Potential conflict between local labour and expats or interstate Labours
- g) Community and labours
- h) Contractor staff and labour
- i) Risks of GBV/SEA/SH to community members, particularly women and children by contractors' workers during construction period
- j) Risks of workplace sexual harassment at project site (consultants and contractors' staff & labourers)
- k) Grievances from labours

3. OBJECTIVES OF LABOUR MANGEMENT PLAN

- a) To ensure fair and lawful employment practices by providing equal opportunity, fair wages, and decent working conditions in compliance with applicable labour laws and standards.
- b) To maintain safe and healthy working conditions by identifying and mitigating occupational health and safety risks to prevent accidents, injuries, and work-related illnesses of the workers.
- c) To prevent child labour, forced labour and discrimination by ensuring strict adherence to applicable labour laws and standards.
- d) To manage labour-related GBV/SEA/SH risks by minimising these risks and promoting a respectful, harassment free work environment through Codes of Conduct and awareness measures.
- e) To establish an effective worker grievance redress mechanism by providing accessible, and transparent channels for workers to raise concerns and obtain timely resolution.

4. LEGAL FRAMEWORK

The Contractor and its Subcontractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of Government and Government Instrumentality and any other labour law (including rules), regulations, byelaws that may be passed or notification that may be issued under any labour law in future either by the Government and Government Instrumentality.

- a) Employees Compensation Act 1923: The Act provides for compensation in case of injury, disease or death arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952 (since amended): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - i. Pension or family pension on retirement or death, as the case may be.
 - ii. Deposit linked insurance on the death in harness of the worker.
 - iii. Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1961: The Act provides maternity leave, leave for illness arising out of pregnancy, delivery, premature birth of child or miscarriage and payment of maternity benefit to the women concerned as per laid down guidelines.
- e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee
- f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.
- i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of ₹ 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments.
- k) Industrial Disputes Act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

- m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
- o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First – Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948: the Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.
- q) Weekly Holidays Act -1942
- r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.
- s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.
- t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.
- u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.
- v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

5. POLICY AND PROCEDURE FOR CONTRACT WORKERS FOR CIVIL WORK

The key procedure at the construction site includes as follows:

- Equal pay/wage for men and women labours.
- No child labour and/or forced labour at construction site for all works
- All labourers to be provided with photo ID cards for accessing the construction site.
- Personal Protection Equipment (PPE) – safety helmet and shoes, secured harness when working at heights, electrical gloves, eye protection for welding etc., for all workers without which entry to the construction site shall not be allowed.
- Steps necessary to prevent SEA/SH and any discrimination based on religious, political and/or sexual orientation.
- Facilities to be provided at the labor camp:
 - Hygienic living conditions and safe drinking water
 - Segregated toilets for male and female workers
 - Use of fireproof wiring and good quality electricals
 - Cooking gas for labours
 - Monthly health checkup for all labours/family.
 - Awareness campaign for social distancing and general health and hygiene
 - Posters and signages at/around the site, with images and text in local languages relating to personal safety, health and hygiene
 - Security measures to be provided at the camps
 - Emergency response plan including availability of assembly points and mock drills.
 - The measures proposed in a site-specific Action Plan for managing construction related workplace occupational health and safety

6. ANTICIPATED RISKS AND IMPACTS IN IN TERMS OF LABOUR MANAGEMENT AND CORRESPONDING MITIGATION MEASURES, RESPONSIBILITY WITH THE TIMELINE

Sl.No.	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
1	Identification of site for accommodation of Labours	- The location to be identified for establishment of labour camps to be encroachment free, of suitable size with ease of access and no significant environmental features – - Labour camp will be opened at the existing Assam type house of hospital unit within the Barrage Area limiting felling of trees - Labour will be sensitized to ensure that they do not indulge in tree cutting or hunting. - Strict restriction to be imposed on the workers site to ensure that they will not harvest any species & cause any danger harm to the Bird or Animal (Elephant) in the Bird Sanctuary. - No wood or wood materials will be allowed to use as fuel for cooking purposes. LPG Cylinders will be provided for day—to-day cooking purposes in labour camp & office canteen. - Separate entry/exit gates for the labour camp provided and is away from the construction site. - Few trees of local species exist on the site to be well conserved - Basic amenities to be provided in the labour camps.	EPC Contractor	Pre Construction to Construction phase
2	Maintenance of health and hygiene	- Basic Labour Camp Amenities to be provided to the Labours Accommodations: - Individual Sleeping space along with bedding provision. - Provisions for good lighting and free air circulation facilities. - It will be ensured that an adequate quantity of water is available with sufficient pressure at all times. - Will display appropriate sign boards with assembly point clearly marked. - Potable Drinking Water: Supply of safe drinking water.RO facilities for removal of Bacteria and Iron removal Filter will be installed. The drinking water will be tested quarterly through a NABL accredited laboratory. - Toilets and Bathrooms: Will provide sufficient no of Toilets and Bathing space with continuous water flowing facilities. No female workers will be deployed, so there will be no provision for separate toilets for male and female workers.	EHS Officers of EPC Contractor and PCCMC	Throughout the project period

Sl.No.	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
		- Toilets block will be at a distance of 50 meter from living area and will be in good usable conditions at all times by regularly cleaning through the personal from Housekeeping. - An effective drainage system and septic tank will be provided. The septic tank will never be allowed to overflow through regular physical verification. - Adequate solid & liquid waste disposal and management provisions/ system to be implemented in labour camp by providing adequate number of bins and collection/drainage system to avoid littering of wastes. - First aid facilities will be provided and accessible at all times b. Monthly health check-ups for workers and their families and for the purpose EPC Contractor to tie-up with a nearby Health Facility/Hospital. c. Training to workers: - Daily Tool Box Training before start of works covering topics of the safety compliances. - Training on OHS to workers prior to commencement of work, consistent with the national/state laws and World Bank Health and Safety (EHS) Guidelines - Orientation on good health and hygiene practices, use of PPE to ensure that the labours and staff is wearing the PPE and safety gears/ harness etc. and , occupational health and safety - Good labour practices - No tobacco, smoking policy, and penalty. d. Labour Management Procedures under ASSIST Project as in the Link below to be followed at site		
2	Risks of occupational health and safety	a) Adequate PPEs for the labours and periodic stock replenishment to maintain availability. b) Safe work practices, usage of engineering controls e.g., exhaust ventilation, isolation of hazardous work areas and administrative	Project Manager and EHS Officer/Staff of PCCMC and EPC Contractor	During Construction period

Sl.No.	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
	The key OHS risks during construction works include injuries due to accidents arising out of poor work conditions and unsafe practices e.g., working at heights, fall into deep excavations, injuries due to heavy machinery impacts, transportation of materials and slip, trips and falls due to spills and poor housekeeping in workplaces etc. In addition, exposure to hazardous chemicals and gases e.g., diesel exhausts, silica dust, and paints, corrosives and solvents etc. may also happen.	controls (e.g., access control, barricading the dangerous areas and work permit systems etc.) are key measures required to be implemented at the sites. c) Regular periodical monitoring of compliances at site and labour camps d) Occupational Health & Safety Policy of our company will be applicable to labour and staff of employed at the Construction site which is enclosed as Annexure – 9 of the C-ESMP		
3	Lack of knowledge on operation of equipment's, machines, work procedures and processes at sites including both DH site and Batching Plant site	a. Periodical training of labours on operational procedures b. Safe work practices c. Daily inspection and reporting	Project Manager and EHS Officer/Staff of PCCMC and EPC Contractor	All throughout construction phase
4	Conflict between migrant workforce and locals	a) Signing of Code of Conducts (CoCs) by workers b) Orientation of the workers on the good conducts, conditions laid down in the CoCs and penalties for misconduct c) Provision of basic amenities at labour camps d) Declaring the construction site and labour camp as "No Smoking" and "No alcohol" zones e) Monitoring the construction site and labour camp on a daily basis by EHS Officer/Staff of Contractor. f) Stakeholder consultations on a periodical basis with representatives of the community residing in and around the DH site.	Project Manager and EHS Officer/Staff of PCCMC and EPC Contractor	All throughout construction phase
5	Statutory Clearances	Clearance of migratory labour under Inter-state Migrant Workmen.	Project Manager and EHS Officer/Staff of EPC Contractor	Pre-construction

Sl.No.	Risks and Impacts	Mitigation Actions/Measures	Responsibility	Timeline
6	GRM for workers	a) Submission of grievances by workers by following ways: • Direct reporting. EHS Officer of PMC to register the grievance will all details in registers with specific formats. • Submitting grievances in Drop Boxes installed at sites. Proper signages of Drop Boxes in local language at workers camp and at entry gate to be displayed so that it is visible to workers. • Calling in the <u>Toll-Free Number of the project i.e. 1800 569 2952</u> b) Grievance Redressal Protocol to address the grievances physically received at site is attached at Annexure 10 of the C-ESMP. c) Sensitization of workers on the existing physical GRM mechanism at site.	Project Manager and EHS Officer/Staff of PCCMC	Throughout the project period
7	Risks of SEA/SH a) Risks of SEA/SH to community members, particularly women and children by contractors' workers during construction period; b) Risks of workplace SH at all establishments by co-workers under the project; and	a) Contractors will be required to ensure all workers (including those of sub-contractors) sign a code of conduct (CoC) to mitigate the risks of SEA/SH, b) Awareness training on SEA/SH for workers. There are some risks associated with community health such as exposure of communities and beneficiaries to communicable diseases, and SEA/SH, however, these will be addressed through appropriate mitigation measures. c) GRM sensitive to SEA/SH complaints is detailed at Annexure 10 of the C-ESMP	Project Manager and EHS Officer/Staff of PCCMC and EPC Contractor	Throughout the project period

7. RECORD MAINTENANCE AT SITE FOR LABOUR MANAGEMENT

It is mandatory on the part of the principal employer to seek registration under Contract Labour (regulation & abolition) Act 1970. The Act makes it obligatory on the part of every contractor not to undertake any work through contract labour without obtaining the valid license. The following registers and records are maintained:

- (a) Muster roll (Gender wise)
- (b) Register of wages (Equal wages as per Act 1976)
- (c) Register of deductions
- (d) Register of over time
- (e) Register of fines
- (f) Register of advances

The Labour Management Plan and provisions for Contracted Labour are summarized below:

8. LABOUR SCREENING COMPONENTS

Component	Details
Labor License	LL No.: CLL/2024/021715325763429H1 . Valid up to: 06/05/2027
Labour screening	Aadhar No. Photo Blood group Emergency contact numbers Family Details Details of spouse Two References/ Known Persons
ID Cards to Laborers	ID Cards with details
Labour Insurance (ECA1923 and other insurances)	Number of Labour:150 Policy No:200100412610000007 with validity up to 02/06/2027.
Labour Camps- Facilities to be provided	Temporary residential accommodation suitable to workers with proper ventilation and lighting Cooking arrangements Potable water Sanitation facilities (Separate toilets for women) Provision of soak pits/ disposal in sewers Dustbins-Separate dustbins for different types of waste. Fire safety arrangements, First Aid kits, Safety and Security arrangements Good House Keeping Regular Cleaning of Laboure camps Clearing of Laboure Campsite at the closure of the Contract
Migrant Labour Screening	Aadhar-No, Blood group, State of domicile Emergency contact numbers Details of Family Members on site Details of spouse Two References/ Known Persons ID cards. Registration details of migrant labor
Labour Grievances	GRM Registers/ Dropbox/Phone; Grievance Redressal committee
Labour safety	Fire Safety, Adequate PPEs, etc. and timely replenishment
Display Emergency contact numbers	Emergency contact details of doctor, police station, fire station and Project Manager for emergency purposes will be displayed in office as well as site and vehicles.

Display of Project details at campsite	Project details are displayed in office and at workers accommodation
Protection of Women workforce cell.	As protection of Women from Domestic Violence Act, 2005, for sexual harassment at workplace; sexual harassment includes unwelcome sexually determined behaviour (whether directly or by implication) as a) Physical contact and advances, b) A demand or request for sexual Favors, c) Sexually coloured remarks, d) Showing pornography. Any other unwelcome physical, verbal or non verbal conduct of sexual nature. Formation Internal Complaints Committee at client and contractors' organization, if female staffs are present. • Sensitization on Gender based Violence, SEA/SH for all personnel at site. • Signing of Code of Conduct by all personnel at site (Contractors personnel and laborers')
Health Camps (Medical camps and HIV/AIDS awareness campaigns, should conduct every alternate month)	Organization of Medical camps and HIV/AIDS awareness campaigns for means of controlling the spread of such diseases at all camps and sites. Link up with SACS (State Aids Control Society) for awareness generation camps and IEC materials, and supply of condoms at concessional rate (or free) to the male workers may help to a large extent in this respect. Required to conduct Water, Sanitation and Hygiene (Wash awareness camps).

9. REPORTING FORMAT FOR WORKFORCE MANAGEMENT

a) Reporting of EPC Contractor Details

Sr. No.	Project Details	Date of reporting:
1	Name and address of the Contractor	M/S Tribeni Constructions Limited, Tribeni commercial complex 2 nd floor, G.S. Road, Ulubari, Guwahati- 7
2	Contract Date and details.	Project: Design & Construction of 100 Bedded New District Hospital in Azara (Kamrup) Assam in EPC Mode under Assam State Secondary Healthcare Initiative for Service Delivery Transformation (ASSIST) Project. Appointed Date: 01.04.2024 Project Duration: 24 Months Land Area: 6687.18 sq.mtr
3	Status and completion of the project	

b) Site Details

Sr. No.	Category of workforce	Work force in the Previous Month (No.)	Work force added in the reporting month (No.)	Work force left in the reporting month (No.)	Total Workforce in the reporting Month (No.)
1	Unskilled Laborers	21			13(As on reporting date)
2	Skilled Laborers	27			12(As on reporting date)
	Sub Total	48			25 (As on reporting date)
	Grand Total	48			25(As on reporting date)

c) Categorization of Workforce (As on reporting date)

S. No.	Category of workforce	Male		Female		Employment Status		Residential Status	Accommodation Status		
		<18 yrs.	>18 yrs.	<18 yrs.	>18 yrs.	Regular	Temporary	Migrant ⁷	Local	Staying in Labour camp/Quarters	Others
1	Unskilled laborers		13				13		13	13	
2	Skilled Laborers		12				12	4	8	12	
	Total		25				25	41	21	25	

d) Details of non- working migrated people, living in the labor camp/ Staff Quarters as part of work force

No of children (0-6 yrs.)			No of children (>6 yrs.)			No of adults			Grand total
Male	Female	Total	Male	Female	Total	Male	Female	Total	
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

e) Submission Details

Signature & Date		
Name	Himangshu Kumar Sarma.	Mr. Abhisek Agarwal
Designation	Manager (HSE)	Project Manager.
Remarks by engineer in Charge/ Project manager		

F. Registration format of Grievances received from Labours at sites under ASSIST project

DH Site	District	Name of Complainant	Gender	Phone Number	Date of registering Complaint	Complaint Submitted by		Nature & Type of Complaint (Related to: Sexual Exploitation and Abuse (SEA) & Sexual Harassment (SH)/ Non-receipt of facility at Labour Camp/ PPE related/ non-receipt of dues/ Workplace Discrimination/ Excessive Workload/any other) <u>Protocol of GRM Mechanism as provided by PMU, ASSIST to be followed for further actions</u>	Complaint Description To include Date, time and place of occurrence/ What happened/Name of those involved etc.	Redressal			
						Actual Complainant	Representative of Complainant In this case, please attach a copy of the representational authority signed by the complainant(s)			Redressed			Not Redressed
										Yes/No	Nos. of Days for redressal Timeframe: First action to be taken by EPC Contractor in 24 hours.	If redressed, complainant satisfied or dissatisfied Complainant to be communicated about the action / measure/ redressal	Reason

g) Accident Reporting Format

No.	Details of Accident/incidence	Responses
1	Date & Time	
	Location	
	Type of incident (major accidents/minor injuries/ fatalities)	
	No. of Affected Persons	
	Category of affected person (Staff/Labour/Visitor/Passerby/Other)	
	Details of Treatment provided	
	Were the treatment expenses born by the employer? (Full/partial/no liability)	
	Number of rest days prescribed by the treating doctor	
	Whether the rest days were paid? (full payment/partial payment/no payment)	
	Did the affected person resume duty/work post treatment? (Yes/Not able to perform duties/relieved from duties by the employer)	
	Has the accident reported in Incidence Register at site?	
	Corrective and Preventive Actions (CAPA) Taken	
2	Date & Time	
	Location	
	Type of incident (major accidents/minor injuries/fatalities)	
	No. of Affected Persons	
	Category of affected person (Staff/Labour/Visitor/Passerby/Other)	
	Details of Treatment provided	
	Were the treatment expenses born by the employer? (Full/partial/no liability)	
	Number of rest days prescribed by the treating doctor	
	Whether the rest days were paid? (full payment/partial payment/no payment)	
	Did the affected person resume duty/work post treatment? (Yes/Not able to perform duties/relieved from duties by the employer)	
	Has the accident reported in Incidence Register at site?	
	Corrective and Preventive Actions (CAPA) Taken	
3	Date & Time	
	Location	
	Type of incident (major accidents/minor injuries/fatalities)	
	No. of Affected Persons	
	Category of affected person (Staff/Labour/Visitor/Passerby/Other)	
	Details of Treatment provided	
	Were the treatment expenses born by the employer? (Full/partial/no liability)	
	Number of rest days prescribed by the treating doctor	
	Whether the rest days were paid? (full payment/partial payment/no payment)	
	Did the affected person resume duty/work post treatment? (Yes/Not able to perform duties/relieved from duties by the employer)	
	Has the accident reported in Incidence Register at site?	
	Corrective and Preventive Actions (CAPA) Taken	

a) Monthly Progress Reporting (MPR)

Contractor to report prepare Monthly Progress Reports (MPR) with the support of **Project Management Consultancy (PMC)** under the Project positioned at the **site and** submit to PMU for onward submission to World Bank

Sl. No.	Parameter related to workers to be reported in the Monthly Progress Report									
1	Health and safety incidents, accidents, injuries that require treatment and all fatalities <i>(If Yes, specify in terms of nos, date, time, location and type of incidents - major accidents/minor injuries/fatalities)</i> Number of First Aid Injuries (No.) Number of Near Miss reported (No.)									
2	Health and Safety Supervision	Average number of workers (no.) Number of work hours (no.) % of workers with Full personal protection equipment (PPE) (%) % of workers with Partial personal protection equipment (PPE) (%) Worker violations observed (%)								
3	Worker Accommodation/ Campsite	Number of expats labours housed in accommodation (migrated from foreign country) (No.) Total number of Labours (No.) Number of Local Labours (No.) Number of Inter State Migrant Workers (No.) Date of last inspection (dd/mm/yy) Highlights of inspection <table border="1"> <tr><td>Sanitation maintained (Y/N)</td></tr> <tr><td>Waste disposal and management maintained (Y/N)</td></tr> <tr><td>Bedding and sleeping space provided (Y/N)</td></tr> <tr><td>Cooking space and fuel provided (Y/N)</td></tr> <tr><td>Supply of safe drinking water (Y/N)</td></tr> <tr><td>Bathing space with water provision (Y/N)</td></tr> <tr><td>Actions taken for improvement (Y/N), If Yes, Specify area of improvement</td></tr> <tr><td>Adoption of vector control measures (Y/N), If Yes, Specify areas/location</td></tr> </table>	Sanitation maintained (Y/N)	Waste disposal and management maintained (Y/N)	Bedding and sleeping space provided (Y/N)	Cooking space and fuel provided (Y/N)	Supply of safe drinking water (Y/N)	Bathing space with water provision (Y/N)	Actions taken for improvement (Y/N), If Yes, Specify area of improvement	Adoption of vector control measures (Y/N), If Yes, Specify areas/location
Sanitation maintained (Y/N)										
Waste disposal and management maintained (Y/N)										
Bedding and sleeping space provided (Y/N)										
Cooking space and fuel provided (Y/N)										
Supply of safe drinking water (Y/N)										
Bathing space with water provision (Y/N)										
Actions taken for improvement (Y/N), If Yes, Specify area of improvement										
Adoption of vector control measures (Y/N), If Yes, Specify areas/location										
4	Health Services provided to workers	Tie-up with Hospital (Y/N) Information & Training on Health Services provided (Y/N), If Yes, specify topics/areas Monthly Health Checkup done (Y/N) If Y Mention dates in remarks Location of clinic								

Sl. No.	Parameter related to workers to be reported in the Monthly Progress Report		
		Number of workers diagnosed and treated for non-safety diseases or illness (Y/N) If yes, specify in terms of nos.	
5	Gender Issues	For local workers	Number of female workers (No.)
			Percentage of work force (%)
			Number of Gender issues raised (No.)
			Number of Gender issues resolved (No.)
		Inter State Migrant Workers	Number of female workers (No.)
			Percentage of work force (%)
			Number of Gender issues raised (No.)
			Number of Gender issues resolved (No.)
6	Training	Number of new workers (No.)	
		Number of workers receiving Induction training (No.)	
		Number of Toolbox talks (No.)	
		Number of workers receiving Occupational Health and safety training (No.)	
		Number of workers receiving Environmental & Social Training (No.)	
		Number of sensitization programme/ training on Communicable diseases (including STDs) (No.)	
		Number of Gender sensitization training (No.)	
		Number of Flag person training (No.)	
		Number of workers (under Contractor) receiving Code of Conduct training (No.)	
		Other (Plz Specify) Training Name and (No.) of workers participated	
7	Grievances	Worker's Grievances (No.)	
		Worker's Unresolved Past Grievances (No.)	
		Grievances resolved (No.)	

Annexure 6: Construction Health and Safety Management Plan

“Construction of 100 Bedded New District Hospital in Azara, Kamrup Metropolitan District, Assam in EPC Mode, Assam Health Infrastructure Development & Management Society (AHIDMS)”

SUBMITTED BY -: TRIBENI CONSTRUCTIONS LTD.

CONSTRUCTION SAFETY MANAGEMENT PLAN

CONSTRUCTION SAFETY PLAN

INTRODUCTION:

The construction safety plan is a part of measure to improve the existing safety measures in site. The basic safety plan requirement to be implemented during construction work to ensure construction work executed on site within the optimum safety level.

1. METHODOLOGY:

- Identifying & analyse the construction works.
- Process Steps.
- Operation & Control.
- Approaches for mitigation identified & work place risks.
- The process for reporting safety events.
- The construction safety plan will be communicated & made available to all stake holders, person involved in the construction works & visitors.

2. HEALTH & SAFETY RESPONSIBILITIES:

Project Manager/Head of Construction Site:

- Co-ordinate planning meeting for project safety.
- Ensure that safety & Health issue are addressed with maximum priority.
- Conduct weekly safety meeting.
- Implement safety programme & policy.
- Monitor safety performance on the site through observation. Inspection, corrective action & documentation.

3. COMPANY INFORMATION:

- **Name: Tribeni Construction Ltd.**
- Address: 2nd FLOOR, ULUBARI, GS Rd, GUWAHATI. DIST: KAMRUP, ASSAM-781007
- SITE ADDRESS: DESIGN & CONSTRUCTION OF 100 BEDDED NEW DISTRICT HOSPITAL, AZARA.
- Site specific safety plan approved by:

4. SITE INFORMATION:

- SITE NAME: DESIGN & CONSTRUCTION OF 100 BEDDED NEW DISTRICT HOSPITAL.
- PROJECT ADDRESS: Mikir Para Chakardoi, Azara, Assam-781017.
- PROJECT MANAGER: Abhisek Agrawal.
- SITE ENGINEER: Sadik Alam.
- SITE SAFETY OFFICER: Himangshu Kumar Sarma.
- SITE SUPERVISOR: Biswajit Baishya.

5. EMERGENCY SERVICES CONTACT INFORMATION:

- Name of Nearest Medical Emergency Facility: Garal CHC, Garal.

Contact No: - Emergency – 108

Accident - 9101585380

- Name of local Police Station: Azara Police Station, Azara.
Contact No.: - (112/100)
- Nearest Fire Service Station:

6. CONSTRUCTION SITE SAFETY RULES & REGULATIONS:

India legal framework mandates stringent construction safety rules & regulation for construction site. Adherence to codes such as Building & Other Construction works (Regulations of employment & conditions of service) Act 1986 & the occupation Safety, Health & Working Condition Code 2020 is paramount.

6.1. CONSTRUCTION SITE SAFETY RULE:

- Personal Protective Equipment (PPE); PPE is the first line of defence against work place hazard. Every worker must wear appropriate gear including hard hat, safety glass, gloves, & steel toed boots to shield themselves from potential hazard.
- Fall Protection: Falls are one of the leading causes of construction site fatalities. Implementing fall protection measures such as guardrails, safety nets & harness system is crucial when working at height.
- Hazard Communication: Clear communication of hazard is vital to keep everyone informed & vigilant. Signage, safety briefings & hazard identification protocols ensure that workers are aware of potential dangers & take necessary precautions.
- Equipment Safety: Proper maintenance & usage of construction equipment are essential to prevent accidents. Regular inspection, operator training & adherence to safety protocol minimise the risk of machinery related incidents.
- Emergency Preparedness: Being prepared for emergencies can save lives. Every construction site should have accessible First Aid Kits; well-marked emergency exits & evacuation plans in place. Regular drills & training ensure that workers know how to respond effectively in crisis situations.
- Electrical Safety; Electricity possesses significant risks on construction site. Ensure proper grounding using insulated tools & following lockout & tagout procedures when working on electrical system are essential construction safety practices
- House Keeping: A clean & organised work environment is safer for everyone. Regular housekeeping routines, including debris removal, equipment storage & spill clean-up help prevent slips, trips & falls.
- Excavation Safety: Excavation works carries risk of cave-in & collapses. Adequate shoring, sloping or trench box system should be employed to protect workers from excavation hazard.
- Heat stress prevention: Working outdoors in hot weather can lead to heat related illness. Providing shaded areas, adequate hydration & schedule breaks help workers to prevent heat stress & dehydration.
- Safety Training: Proper training is fundamental to ensuring construction site safety. All workers should receive comprehensive training over hazard specific their tasks, emergency procedure & best practices for accident prevention.
- Safety Training: Proper training is fundamental to ensure construction site safety. All workers should receive comprehensive training covering hazard.

6.2. IMPLEMENTATION OF SAFETY POLICY:

I. Employees Training

- Induction Training: Newly recruited employees are introduced with all the working personal of the company. They will make aware about the work culture of the company
- Class Room Training: One day class room training among workers & staffs will be arranged according to the progress of construction works.
- Training Output: On yearly basis training effectiveness survey will be carried out to determine the result or output of the training.

II. Personal Protective Equipment: PPE plays an important role at site works. It varies from work to work. HSE officers/Supervisors are responsible for verification of the following—

- Use of PPE.
- Types of PPE
- Quality of PPE.
- Maintenance of PPE.
- Replacement & disposal of PPE.

III. Work Permit System:

Work permit system make the company management aware about the type of work going on at site. So, every work will have permit system in our construction site.

- Work at height permit.
- Electrical Work Permit.
- Excavation Work Permit.
- Stock Transfer Permit.

IV. Scaffold Tagging:

- Scaffold being erected, modified or dismantled must be tagged as suitable for use. Tagging shall be done with standard tag holder. Scaffolding Tag should be certified by Scaffolding inspector having valid certificate.
- Green Scaffold Tag: Shall be fixed when scaffold is complete & safe for use with duly signed & date by the competent person.
- Red Scaffold: To be fixed if Scaffold in some way is defective & cannot be used or is still under erection.
- Yellow Scaffold: To be fixed if scaffold is under construction/maintenance.

6.3. CONSTRUCTION SAFETY MANAGEMENT POLICY:

6.3.1. PILING & DEEP FOUNDATION:

- The basic step in safety in piling is that one must know the element of machinery & equipment, how they can cause accidents & what steps should be taken by the operator to avoid accidents. Machines & equipment differ widely depending upon the process & mode of piling, specifications & allied factors.
- Pilling Rigs: The legs of the tripod of pilling frame should be properly spiked in the ground. This will prevent accidents due to slipping of the tripod legs when rested on a paved ground or sleepers. The shear legs & bases become thin & fatigued with its uses. They should be replaced frequently. The failure of pulley due to shearing of bolt or pin is quite common. Therefore, frequent check-up of the pulley is essential.
- Following safety precautions are to be taken—
 - a) Check for loose strands & wear, deformation, corrosion & breakage of wire.
 - b) Check against slippage of rope from the sleeve during work.
 - c) Check if there are any adhesions like mud, earth etc on the rope. If so, cleaned with wire brush or compressed air.
 - d) Check if the grease applied on the rope is adequate

6.3.2. EXCAVATION:

- Excavation is among the most hazardous construction operations. Excavations are needed for foundation of structures, installation & repair of utility lines, replacement of water & sewer lines.
- An excavation may be defined as any manmade cut, trench or depression in the earth surface formed by earth materials.

➤ SCOPE OF WORK FOR EXCAVATION

- Setting out corner benchmarks.
- Surveying ground level & top level.
- Excavation to approved depth.
- Dressing loose soils & ensuring compliance with cutoff levels.
- Constructing dewatering wells & interconnecting trenches.
- Marking building boundaries & constructing protective bunds & drains.

➤ WORKING PROCEDURE FOR EXCAVATION:

- Clearing & Site Preparation:
- Initial activities involve clearing the construction site of unwanted vegetations, bushes & debris.
- Setting Out: Ground trenching involving the marking of excavation lines & counter lines, proceeds actual excavation works. Corner benchmarks usually numbering between 2 to 4 are established on permanent structure to guide level measurement.
- Depth fixing & Excavation; Utilizing reference drawings & bench marks the excavation depth is determined & executed either manually or through machinery based on availability

➤ SOIL MANAGEMENT:

- Excavated soil is either removed from the site or strategically stocked nearby maintaining a minimum distance of 1.0 meter from the excavation pits to prevent soil erosion.

➤ SAFETY PRECAUTIONS DURING EXCAVATIONS;

Maximum safety requirements stipulated by the officials of EPC Contractor during excavation works. Before starting the excavation works necessary training to the workers with briefing the safety procedure to be done.

- Access & Egress will be provided rapidly. All trenches 120 cm or more in depth.
- Measures will be taken to prevent dislodgement of loose or unstable earth, rock.
- Necessary measure will be taken to prevent person from approaching excavation work by placing warning signals, barricades etc near the site of excavation.
- Excavated materials will be dumped within 1.5 meter to 2.0 meter of the edge.
- illumination level of at least 30 lux will be provided for excavation working at night.
- Work permit for excavation will be regularly maintained & updated with maintaining record.
- Methodology of excavation work will be submitted to PCCMC
- Hard barricading will be provided around excavation.
- All underground utilities (electrical conduit system, water pipelines etc) will be located & protected before the start of excavation.
- No materials will be kept near the trench.
- Proper slop of the trench wall will be provided.
- Excavated materials will be dumped sufficiently away from the edge of the excavated pits. The area to be earmarked.

- Proper barricading of trenches with warning signals will be provided.
- Before start of work trench side in the construction work will be thoroughly inspected
- Ladder access at suitable intervals with proper support in the trench will be provided & it will be extended above the ground level.
- Temporary electrical connections will be provided in the trench area.
- Vehicles will be prevented from approaches the edge of trench by providing suitable stop blocks.

7. WORK AT HEIGHT:

Majority of the accidents at construction sites are related to fall of person working at a higher elevation. Persons working on a Platform to work at height may fall & gets serious injury.

➤ Scaffold:

The most common way of providing a Platform to work at height is Scaffold. Potential hazard associated with the scaffold & the important measures to be taken to prevent the hazard are—

- The guard rail will be fitted to the working platform & should be secured to prevent their outward movement.
- To bear the load of workmen & materials, the platform should be made strong enough.
- No person will be allowed to work under the scaffold & if at all it is necessary to carry out work, then safety net will be provided to arrest the fall of materials & tools
- Scaffold should be erected by experienced & skilled person only.
- Scaffold should not be allowed to overload with excessive manpower & materials.
- Movement of Cranes, vehicle & heavy equipment near the scaffold structures are strictly prohibited.
- Dismantling of Scaffold shall be carried out by only experienced workers as per procedure & sequence of operations.
- Working platform shall be kept free from unnecessary materials at all times.
- The platform shall be made of sufficient width (about 1 m) enough to accommodate the persons & materials required for specific job.
- The person having physical fitness & medical fit shall only be allowed to work at height.

➤ LADDER:

Access to different elevations, scaffold platform is provided by ladders & also the same is used as a working platform for some kind of work. Main hazards associated with the use of ladder are—

- Slip of Ladder: This is the most common form of hazard associated with the ladder.
- Fall of a Person: A person may fall while climbing on the ladder due to the loss of balance while carrying materials.
- Ladder Collapse: The ladder may give away under the load of the persons resulting in serious injuries
- Electrocution: The metallic ladder may come in contact with the electrical lines & the person working on it may get electrocution.

➤ Following measures will be taken to prevent the above hazard—

- Every ladder to be used should be of good working conditions, made of sound materials & of adequate strength.
- Ladder should be securely tied near its upper end & its lower end to the permanent structures when used for access to the Platform.
- Ladder leading to landings or walkways should be extended at least 1 meter above the top landing
- Ladder should be placed approximately at an angle of 75 degree to the horizontal when it is used for access as well as working platform
- Two ladders should not be joined to carry out work at height

- Ladders should be checked thoroughly for any defects before start of work at a regular interval
- Use of metallic ladders or wooden ladders with metallic parts should be prohibited in the areas where live electric lines are available.

8. ERECTION OF STRUCTURES:

The most accidents that occur during erection work of structures are due to fall of workers from the structures, fall of materials from the structures on person working below & collapse of the structures or part of the structures.

- Important safety measures to be taken to prevent the above hazard are—
 - Safe access to be provided to the structures under erection.
 - Properly inclined ladders secured at the top & bottom should be used for vertical movements.
 - A suitable working platform with guard rail should be provided.
 - If work is to be carried out for a short time & where working platform is not feasible, then the work men should have safety belts secured to a permanent member of the structure to prevent fall.
 - Working under the structure should be prevented. If it is necessary to carry out works then safety net to be used to arrest the fall of materials & tools.
 - Structures /Platform should not have uncovered/unbarricaded.
- Unguarded Opening:
To prevent fall of person or materials through opening in the floor of a building, should be provided with suitable fencing/railing of 1.0-meter height on all exposed sides. Where barricaded cannot be installed, safety net will be installed.

9. USE OF MATERIAL HANDLING EQUIPMENT:

Various types of hazards may occur due to the uses of large nos. of material handling equipment during the construction at sites. Following measures will be taken to prevent the hazard associated with the materials handling---

- All the materials handling equipment will be used on duly inspected & tested by the competent person & availability of certificate for testing.
- Regular inspection & maintenance of material handling equipment should be carried out as per schedule.
- Cranes should be operated by only authorised, well trained & experienced person.
- The load to be lifted should not exceed the Safe Working Load (SWL)
- The load to be lifted should be secured tightly to prevent falling during lifting.
- Machine handling operations should be carried out under supervision of concern officials. No persons other than operator should be allowed to the close proximity of machines during operation/running.

10. TEMPORARY ELECTRICAL WORKS:

Before commencement of any construction works, adequate measures should be taken to prevent any worker from coming into physical contact with any electrical equipment or apparatus, machines or live electrical circuit which may result in injuries or property damage or both during the course of his employment at a building or other construction work.

- Following safety measures are to be taken during temporary electrical work—
 - Frayed & /or bare wires should not be used for temporary electrical connections during construction. All temporary wiring should be installed & supervised by competent electrician.
 - Adequate protection should be provided for all electrical wiring laid on floor which may be crossed over by construction machinery or by the work man.
 - As far as possible, no wiring which may come in contact with water should be left on ground or floor.

- Suitable warning signage should remain displayed at conspicuous places to alert the workers of potential dangers & to protect them from the risk of electrical accidents.

10.1. USE OF PORTABLE ELECTRICAL EQUIPMENT:

During construction activities many portable electrical equipment like grinder, drill machines are used. Main hazard associated with the portable electrical equipment are electrocution.

- Following measures are to be taken for safe use of portable electric equipment-
 - All portable appliances which are powered by single phase AC supply should be provided with three core double insulated cable & three pin plug.
 - All connection to portable equipment or machines from the panel distribution board/extension board should be taken using three core double insulated PVC Flexible copper wire in one length.
 - The condition of equipment should be checked before its use.
 - Special care should be taken during monsoon to avoid accidents.

11. WELDING & GAS CUTTING:

Cutting & welding operations (Commonly referred to as Hot work) are widely performed during construction activities. Potential health hazard & property loss result from the fumes, gases, spark, hot metal & radiant energy produced during hot work. Welding & cutting operations present a variety of hazard, not only to those carrying out the operation but in many instances to others in the vicinity.

An effective control programme to be implemented to reduce this hazard associated with Hot work. Cutting & welding job would be controlled by permit to work system.

- IMPORTANT SAFETY MEASURES TO BE TAKEN DURING GAS CUTTING:
 - The Gas Cylinders should be kept well away from any fire or hot place. The rubber hose pipe, joints, gas torches, connecting valve should be checked for leakage of gases.
 - Only authorised & trained person should be allowed for gas cutting.
 - Personal Protective Equipment like Goggles, hand gloves, safety shoes etc must be used by the Gas Cutter during working.
 - Gas cutting on drums, barrels, Tank or other containers should be taken up only after ascertaining that they have been emptied, cleaned thoroughly & made free of flammable materials.
 - Written permit clearance would be obtained before starting any Gas Cutting
- IMPORTANT SAFETY MEASURES TO BE TAKEN DURING ARC WELDING:
 - The electric earthing of welding machine should be checked by an authorised & trained electrician before starts the work.
 - The welding cable should be in good condition without any insulation clamp with tight connections. The cable should not be laid on wet surface
 - Welding permit must be obtained from authorised agency before starting the work.
 - During carrying out welding, welder should use permanent protective equipment like welding screen, hand glove etc.
 - If welding work is to be carried out at a height, then necessary arrangement should be in place, to prevent spark dropping down below.
 - For welding in confined areas like inside of tanks, pipes etc, proper ventilation is necessary along with other precautions required for safe working in confined space.

[REMARK]-

The above management plan is a site specific prepared on the basis of the probable hazard may be occurred during the construction works. However, this is not limited to the safety measures as mentioned in the management plan. Further modifications and updating will be done considering the working conditions to be prevailed in due course.

Annexure 7: Construction & Demolition Waste Management Plan

“Construction of 100 Bedded New District Hospital in Azara (Kamrup), Assam in EPC Mode, Assam Health Infrastructure Development & Management Society (AHIDMS)”

CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN

SUBMITTED BY -: TRIBENI CONSTRUCTIONS LTD.

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLAN

1. NAME OF THE PROPOSED PROJECT: Construction of 100 Bedded New District Hospital in Azara (Kamrup), Assam in EPC Mode, Assam Health Infrastructure Development & Management Society (AHIDMS)

The proposed project is under the secondary health infrastructural development scheme of GOA with financing assistance from World Bank.

2. INTRODUCTION: C&D Waste is generated from construction, renovation, repair & demolition of houses, building structures, roads, bridges etc. Earlier C&D Wastes was covered under the provision of Municipal Solid Wastes (Management& Handling) Rules 2016. In suppression of the MSW(M&H) Rules 2000, the MOEF &CC, GOI has issued notification in respect of the Construction and Demolition Waste Management Rules 2016.

3. DEMOLITION OF 30 BEDDED HOSPITAL

The location of the proposed 100 bedded new district hospital is at the existing site of 30 bedded PHC, Azara. For construction of the New Hospital Building, it is necessary to demolish the old hospital building firstly. Accordingly, the EPC has engaged Mr SAHNUR Ali as sub-contractor to carry out the Demolition of old hospital building. As per agreement, demolition work was started on 23/07/2024. In the First phase Three NOS of RCC Building & Five NOS of old Assam Type houses with covering an area 1314 SQM were starting with demolition works.

4. METHODOLOGY OF DEMOLITION:

Site demolition will start after shifting & clearing the earlier hospital. unit to Garal CHC & Rani CHC. Trees & underbrush to be cleaned & removed. Mature trees that did not interfere with demolition to be left on site. The whole process or methods of demolition involves the careful dismantlement of a structure to preserve the components for re-use, recycling or re-process

Dismantlement generally more labour intensive than demolition. Mechanical equipment & tools will be used for demolition of the building. These include Hydraulic excavator equipment with specialized attachment that can break the concrete & structure effectively. As the building was extensively used for hospital with indoor & outdoor patient it is required to be cleaned of environmental pollutants & liabilities before demolition.

5.SAFETY PRECAUTIONS:

Following safety precautions will be taken during demolitions at Work Place--

- a). Conducting details Site Survey. Site survey to be carried out by the EPC team accompanied by the Site Engineer of PMC.
- b). Intimation to the public through physical consultation about the demolition works & safety precaution during demolition.
- c). Workers involved in the demolition works to be thoroughly trained up about the procedure to be followed, uses of PPE Kit etc.
- d). Weather conditions are greatly important for demolition works.
- e). The Project Team & contractor for demolition to be alert for falling thing like debris, structure etc in surrounding area outside the Project Site.
- f). It is to be ensured that all workers are familiar with the regulations under Occupational Health & Safety Act 2000.
- g) For Safe & Secure passage during demolition Temporary Barricade to be provided along the two sides of the Pathway which are utilising by the locality residing near the Project Site.

. Details about the composition of Demolition Wastes are—

Sl. No.	WASTE MATERIALS
1	Concrete
2	LANDSCAPING MATERIALS (Soil, Sand & Gravel)
3	TIMBER
4	METAL FRAME & STRUCTURAL STEEL
5	BRICKS & MASONRY
6	DOORS & WINDOWS FRAME
7	TIN SHEET
8	IRON PIPES & ROD
9	STRUCTURAL STEEL

6. Inventorization of C&D Waste

SL NO	MATERIAL DETAILS	Quantity generated	REUSE/RECYCLE/DISPOSED OFF	PLAN FOR DISPOSAL	RESPONSIBILITY
01	Concrete		Partial Re-use	Concrete generating due to demolition will be re-used /recycled after breaking in to rubble. The broken concrete will be stored in the designated collection centre located at VIP owned by the Contractor/Vendor entrusted with demolition work. The crushed concrete will be used for structured road, path ways etc.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
02	Landscaping Materials. (Soil, Sand &Gravel)		Partial Re-use	Maximum quantities of these materials will be used for filling up low lying area in the Project Site. Some quantities of these materials will be used to fill up nearby village road, Play Ground, School Campus. low lying area of nearby residences etc.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
03	Timber		Partial Re-use/ Recycle	Timber suitable for reuse will be used in repairing works of Labour camp, Office accommodation etc. Remaining quantities of reclaimed Timbers will be sold by the contractor/vendor for reprocessing of Timber through manual scanning in Saw Mill. Timbers which are found unsuitable for reuse are utilizing by some house hold of nearby designated collection centre of Demolition Wastes locating at VIP as domestic energy sources for cooking.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
04	Metal Frame/Structural Steel		Re-use/Re cycle	The Metal Frame & Steel Structure will be stored in the designated collection centre from where these materials which are	Project Manager, TRIBENI

SL NO	MATERIAL DETAILS	Quantity generated	REUSE/RECYCLE/DISPOSED OFF	PLAN FOR DISPOSAL	RESPONSIBILITY
				found suitable are reused for repairing works of labour camp & some quantities are directly sold to the customer as per demand. Some quantities of these materials which are not suitable for direct use, will be collected by the scrap vendors which are channelized with Steel Industries for reprocessing.	CONSTRUCTIONS LTD.
05	Bricks & Masonry.		Reuse	Bricks will be reused in the site for repairing works of labour camp, future utilization and donation by the vendor for welfare of Public in some community development projects etc. Remaining quantities of clay Brick Wastes directly sold by vendor. Other quantities of Clay Bricks & masonry will be collected by licensed waste carrier which are channelized with crushing units where they are broken into smaller pieces, further broken through secondary crusher to make aggregates for roads & Pathways.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
06	Door & Window Frame		Reuse	These materials are sorted out & cleaned to make free from dust, soil. other ingredients & stored in the collection centre. From collection centre these materials to be back to the Project Site for reuse in repairing works of labour camp.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
07	Tin Sheet		Partial Re use/Re cycle	Maximum quantities of Tin Sheet to reuse for onsite boundary coverage. Scrap Tin-sheet not suitable for reuse are collected by scrap vendor from collection centre.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
08	Iron Pipes & Rod		Partial Re-use	Iron pipes to be reused in the construction site. Scrap Iron rod to be collected by scrap vendor for re-processing in Iron & Steel Industries.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
09	Structural Steel		Re-use/re cycle	Maximum quantities to be directly reused at the Project Site for repairing works of Labour Camp. Remaining quantities not suitable for re-use and will be handed over to scrap vendor for re-processing/re-cycling in steel Industries.	Project Manager, TRIBENI CONSTRUCTIONS LTD.
10	Hazardous material			Disposed as per HWM Rules 2016	Project Manager, TRIBENI CONSTRUCTIONS LTD.

7. Proposed Environmental Mitigation measures during Demolition

A) Measures proposed for controlling Air Pollution:

- i. The whole area of the site to be covered by Tin-sheet of Height 10 Feet & above.

- ii. Sprinkler Jet Water spraying system has been arranged to suppress dust particles.
- iii. Sand & Other fine aggregates to be stored in demarked area within the periphery of the site.
- iv. Only Vehicle with PUC has to be utilised for transportation of construction debris.
- v. All vehicles carrying construction materials & construction debris to be fully covered and protected so as to ensure dust from construction materials & debris does not become air-borne during transportation.
- vi. All construction debris of any kind to be stored in the site with proper demarcation for different entities & no public road or pavement will be allowed for dump.
- vii. Only manual grinding will be used for grinding & cutting of Building Materials.
- viii. No loose soil or sand or construction & demolition waste or any other materials that causes dust shall be left uncovered.
- ix. Every worker working on the site & involved in loading, unloading & carriage of debris or any other materials to be provided with dust -mask to prevent inhalation of dust particles.
- x. Ambient Air Quality Monitoring has been carried out during demolition to ascertain the ambient air quality in terms of Gaseous Pollutants & Particulate Matter (Suspended, Residual). The ambient air quality in terms of Parameters SO₂, NO_x (Gaseous Pollutants), Pm 2.5 & Pm 10 (Particulate Matters) to be within the permissible Limit of Ambient Air Quality Standard as prescribed in the Environment (Protection) Rules 1986 as amended up to date.
- xi. First Aid Medical Kit will be provided in case of any emergency of workers involved in the demolition or construction of building & carry of construction materials & debris relating to dust emission.
- xii. Dust Mitigation measures to be installed at the construction site.

B) Measures proposed for controlling noise pollution:

- i. Low Noise emitting equipment to be used for demolition.
- ii. Hydraulic Breakers & low noise emitting cutter machine to be used for demolition activities
- iii. The whole area of demolition site to be covered with sound barriers made of tinplate which can reduce noise level by 30 db.
- iv. Demolition work to be carried out only in day time i.e. 10.00 AM to 6.00 PM.
- v. Awareness has been done among the workers engaged in demolition activities about the noise emitting source & Mitigation Measures to be done.
- vi. Public awareness & consultation has been done with nearby residences, Business activities etc. about the demolition works, probable environmental degradation & their remedial measures etc., Details about the demolition Plan, Safety Measures, mitigation for environmental pollution to be displayed at the construction & demolition site.
- vii. Noise level monitoring to be carried out to determine the noise level at the source of demolition & the boundary of Near -by residence.

C) Measures proposed for traffic management:

- i. The site is located adjacent to NH-37. The driver of the vehicles moving through this route will be notified of an impending traffic control zone by displaying a Board 100 m ahead from the construction site.
- ii. To avoid congestion of work places alternative parking areas are used.
- iii. Active traffic Control Measure Plan has been followed for to and from movement of vehicles particularly the vehicle carries constructive & demolition materials.
- iv. On Site parking will be provided to ensure no impact on surrounding roads.
- v. All the vehicle entering & leaving the site have been controlled through monitoring & recording movement of Each & every vehicle. Vehicles to be used for removing the demolition materials will be allowed to travel via designated route only.

D) WHEEL CLEANING & WASHING

The vehicle such as dumpers, front loaders, etc which will be utilising for shifting of demolition wastes to the offsite designated centre at VIP, have deep treads on all of their tyres making them incredibly susceptible to picking up mud, dust, debris & rubble to travel across the site on vehicles Tyres. Not only debris travel across different point of the site, but it can overflow on to public road, causes a lot of distress to the surrounding area.

To reduce the environmental impacts created by demolition activities by reducing the amount of dust, debris transferred to public road & building surface a portable wheel washer system (Sprinkler Jet Water spraying) has been provided at the main entrance point (Gate-1). This has been implemented as a mandatory provision & no vehicle has been allowed to travel across the demolition site or from the site without wheel cleaning & washing.

Annexure 8: Photographs of Environmental Monitoring



ANNEXURE 9: EMERGENCY RESPONSE PLAN

“Construction of 100 Bedded New District Hospital in Azara (Kamrup), Assam in EPC Mode, Assam Health Infrastructure Development & Management Society (AHIDMS)”

SUBMITTED BY -: TRIBENI CONSTRUCTIONS LTD.

EMERGENCY RESPONSE PLAN

Emergency Preparedness and Response Plan



PROCEDURE FOR EMERGENCY PREPAREDNESS AND RESPONSE PLAN

Project: Construction of 100 Bedded New District Hospital at Azara, Kamrup (Metro). Assam.

Client: ASSIST under AHIDMS

Contract No: IN-AHIDMS-368373-CW- Azara

OBJECTIVE:

This plan presents the actual scenarios of emergency that are potential to cause loss to man and project and hence a preparedness is necessary to avoid any major losses. This plan is to be used by all members of the Tribeni construction LTD Team supervisors and subcontractors who have a duty of care to protect and assist all members of the workforce in the event of any emergency. This will be followed at both the project Site, as well as personnel accommodations, where applicable.

IDENTIFIED EMERGENCIES

Below are the identified potential emergencies arising at project sites

- Explosions / Fire
- Plant Failures
- Chemical / Fuel Spillage
- Vehicle Accidents
- Bomb Threat
- Heavy Wind
- Natural hazards – Earthquake and Flooding
- Food Poisoning
- Snake Bite
- Scorpion Bites
- Wild Animal Sighted
- Strikes/ Violence / Communal Disturbance

PROCEDURE:

RESPONSIBILITY

Project Managers

Will Support this procedure in the following manner:

- Provision of adequate resources in terms of personnel, time and finance for implementation of the requirements for providing an emergency response service on site.
- Active participation in the scheduling and enactment of drills and exercises.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- Shall monitor the arrangements through the Site HSE in-charge to satisfy himself that the services are satisfactory and adequate for the needs of the project.
- After an emergency and before activities continue, the Project Manager shall direct all Managers and line Supervisors to check damage, loss, and facilities and take measures to rectify any unsafe conditions.

Site HSE In-charge

Is responsible for ensuring that provisions are in place for emergency response, including:

- Assembly Points
- Arrangement, through site management for the resources for conducting head counts.
- Identification and Mobilization of Emergency Response Teams
- Training of Emergency Response Teams. And keep records
- Setting up drills and exercises in co-ordination with the local emergency services. And keep records
- Advise on procurement of fire and medical equipment.
- Assigning wardens for each office, accommodation, and construction zone.

In the event of any emergency, the site HSE in charge will take the following actions with full assistance from other members of the project team.

- Evaluate the scale of the incident and decide whether additional resources are required to adequately deal with it.
- Liaison with site supervisors for withdrawing any permits
- Give direction to the Site Emergency Response Teams
- Liaise with site supervision for the mobilization of any plant and equipment necessary for dealing with the emergency
- Make safe the area by setting barriers or other means of preventing unauthorized access
- Prepare a full report.

Project Engineers

- attend the site of an incident, assess the situation and issue direction to the concerned parties and supervision of the emergency response team.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- ensure that messages have been communicated to the outside local authorities and concerned parties and supervision of the emergency response team.
- account for all personnel and assign search/rescue teams in the event of a missing person; and
- Shall ensure that any mutual aid agreements are followed and assistance is sought in time.

Informing the Accommodation Camp in-charge and site HS In-charge of the emergency at the earliest opportunity.

Firefighting Teams

- All the members of the fire team shall report to the fire team leader and shall work per his direction. Firefighting procedures should place an emphasis on personnel protection over saving equipment.
- Participate in training held by the HSE supervisors given at regular intervals.
- An electrician/instrument technician will also be included as a member of the fire squad with responsibility for the isolation of electrical power if necessary.

Search Party

Search parties will be established ad hoc under the direction of the Project Manager. Responsibilities include:

- As soon as the evacuation is announced on the speakers, check all areas to confirm that all the people have left the premises
- If they find a victim, inform the leader of the rescue team.

Rescue Team/First Aid Team,

- Rescue teams shall be fully trained in different rescue techniques and procedures e.g. removing a victim from electrical sources, different types of handling techniques, first aid etc.
- The team shall be responsible for recovering a casualty and getting them for further Medical Care without aggravating injuries.
- The team will be identified with separate stickers on the helmets.

All Personnel

All personnel should familiarize themselves with the locations of ALL emergency exits from their work area and the location of their nearest Assembly Point.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



DEFINITIONS

Emergency

- An unexpected operational incident which results in fire and/or explosion
- Forces of Nature such as severe windstorm or flooring.
- Any incident which could affect community relations such as accidental release of toxic into the atmosphere, soil or local sewers.
- Any insect bite that are poisonous in nature.

Emergency Team:

A structured organisation of staff that organises and supervises the response and safe movement of staff in an emergency

Evacuation:

Evacuation is the movement of people from immediate danger to safety in a quick and safe manner

Evacuation Route

The designated route to the final place of safety. To be maintained clear at all times

Safe Assembly Area

A place of safety outside the facilities where people evacuating the working area re expected to assemble under the Emergency Response Plan. This area is established to check that persons are accounted for, to brief persons evacuated on future action, and to prevent re-entry.

WORK FLOW

Emergency Scenario

The types of incidents and the level of seriousness, which would constitute an emergency scenario are focused on in this plan and shall be dealt with by Tribeni construction LTD would typically include:

Related to people:	- Fatal and Medical Emergencies (serious personal injuries/health calamity or fatalities) - Traffic accidents
Related to security:	- Strikes with violence
Related to environment:	- Environmental Impact - Extreme weather / natural disasters / Floods

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



Related to properties:	- Fire or explosion emergencies - Material Damage: For leak, fire and/or explosion in neighbouring areas, damages in construction site, buildings, equipment and materials. - gas explosion. - Power outage or loss
------------------------	---

Evacuation Procedures

The objective of evacuating personal from work areas is to ensure that in case of an incident, the effects of the incident do not affect them. Therefore, when there is no risk of more dangerous developments or the incident can be controlled, the site evacuation will not be necessary. In the event of a fire, major plant failure, explosion, bomb threat or the need to evacuate the Site, offices, or accommodations, the actions listed below should be followed.

- On the continuous announcement on the speakers, STOP all activities and vacate the building or area without delay, by the nearest exit.
- Plant operators to initiate appropriate Emergency Operating Procedures, and where possible, confirm plant is in safe state (like Stop all machinery, included electric engines and combustion, cranes, generators, etc., Put out blowtorches and close gas cylinders, disconnect electric panels swching off all power supply) prior to vacating buildings.
- Move quickly, but do not run.
- Do not return to a work area to collect belongings
- Keep right in corridors and stairs. The accesses and pathways should be free from any obstructions.
- Do not overtake others along the route If there are any running vehicles, when the alarm was raised will be immediately parked, engines stopped and the keys ready to use as required, leaving the roads just for emergency traffic
- Assemble in the designated Assembly Point
- At Assembly Point report to the responsible warden.
- Do not enter the building or work area under any circumstances until the all clear is given.

All new staff, as part of their induction, shall be given instructions on the evacuation procedures for the site. All visitors and contractors are to be advised of how to evacuate the site and the location of Assembly Point when they are admitted to the site.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



All evacuation routes will be displayed around work area.

INSTRUCTIONS

Planning

The basic and essential features of any emergency response procedures are to analyze and plan for the potential risks. This includes:

- Establish and maintain effective communications.
- Assessment of the risk by analyzing the size and nature of the foreseen hazards and the probability of their occurrence. The events can be;
 - ✓ Fire hazards cause serious burns to personnel or resulting in collapse of structures.
 - ✓ Gas leakage's causing toxic and fire hazards
 - ✓ Electrical or electric shocks
 - ✓ Medical Emergency
 - ✓ Strike / violence
- Liaison with local emergency services and authorities.
- Procedures
 - ✓ Raising the alarm
 - ✓ Communication both from within and outside the facility.
- Appointment of key personnel and specifying their duties and responsibility.
 - ✓ Project Manager
 - ✓ HSE In-charge
 - ✓ Project Engineers
 - ✓ Fire-fighting party
 - ✓ Search Party
 - ✓ Rescue and first aid team
 - ✓ Other members of the workforce
- Training and rehearsal
- Review and update

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



Emergency communication

Communication is a critical factor in handling an emergency. M/s. TCL will ensure that effective communications are the natural outcome when complying with the contents of this Emergency Response Plan. In case of emergency communication will generally be in English and other relevant languages and will be achieved by means of mobile or fixed telephony. Project Manager /HSE site In-charge will lead this communication. To control the situation by the earliest possible action, any employees must be able to act and raise an emergency alarm. The speakers provided at different locations shall be used to communicate the emergency.

The Safe assembly points will be clearly indicated in the accommodation areas and Site offices with fire instructions and plot plans

On Hearing an alarm at an office or accommodation:

- ✓ All personnel shall vacate the building or working area. Before leaving, the individuals concerned shall leave area as safe as possible e.g. switching off welding machines, gas cylinders, running machines gas burners, any electrical light or appliances in their rooms, as applicable.
- ✓ All personnel shall assemble at the designated assembly point. Wardens shall provide guidance and assistance for mustering at the correct assembly point.
- ✓ While responding to a fire alarm in residences, kitchen staff shall ensure that all burners and other fire hazards have been turned off as applicable. Similarly, other personnel in residence shall ensure that they leave everything in their rooms in safe condition.
- ✓ All the members of respective teams shall report to their leaders.
- ✓ The leaders shall take direction from the Project Manager.

On Hearing an alarm at out in the Site:

- ✓ All personnel shall stop work. Before leaving, the individuals concerned shall leave area as safe as possible e.g. switching off welding machines, gas cylinders, running machines gas burners, any electrical light or appliances, as applicable.
- ✓ All personnel shall assemble at the designated assembly point. Wardens shall provide guidance and assistance for mustering at the correct assembly point.
- ✓ All the members of respective teams shall report to their leaders.

Mott MacDonald Restricted



Assembly Points

Designated Assembly Areas will be marked on site layout maps, and be displayed on Notice boards throughout the Site next.

Incident Completion

- All clear signals shall be sounded by the Project Manager following a thorough examination of the area.
- The Project Management & Site HSE In-charge shall visit all locations to ensure that the duties assigned as follow-up to the emergency are understood and adhered to.

Training and Mock Drills

- To ensure that all personnel are competent to comply in an effective and safe manner with the responsibilities outlined in this procedure, it is necessary that they receive the adequate training.
- Exercise in site shall be conducted at least every 6 months and the observation shall be recorded. The report should be forwarded to the client also, if needed and any remedial action required shall be identified.
- Practical drills will be organized in different levels according to what scenario would be tested – for example: personnel response, office emergency, the response to an emergency in the construction area, rescue at height, etc
- The emergency procedure shall be updated from time to time depending on the observations made.
- Training shall be conducted on regular basis for the teams involved in the emergency procedure.
- Training and information via notices in relevant languages to be provided for all persons working on site and at camp accommodations.

Emergency Preparedness and Response Plan



Explosions/Fire

Firefighting equipment available on site in marked areas on the map (smoking area, modules, flammables storage area, welding stations, etc.)

In the event of an explosion at the site:

- Initiate evacuation of site.
- Locate the source of the incident
- Communicate the threat to other persons, if there is any, in order to evacuate the area
- Call the nearest plant operator/Firefighting team member/rescue team member
- If the fire is small try extinguish it using a fire extinguisher.
- Attention! Never try extinguishing a fire if not adequately trained to, or with an inadequate fire extinguisher or to take any other measure which puts the individual at risk.
- If the fire cannot be controlled, all the personnel must leave the facilities
- All staff to assemble in Assembly Area
- Account for all personnel, visitors, contractors
- Report the incident

Plant failures

In the event of a major plant failure:

- Initiate evacuation of site
- Account for personnel assembled in Assembly Area
- Determine the need for Rescue Team to perform a rescue.
- If fire, follow the Fire Prevention Procedure.
- Report the incident

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



Chemical / Fuel Spillage

The most common environmental emergency in construction site is the oil and chemical spill, which is a potential cause for ground contamination. Spills of hazardous materials may include, among others:

Fuel; Solvents; Lubricants; Resins and paints; Batteries; Waterproofing compounds; Adhesives; Clean-up materials (such as rags) contaminated with the items listed above; Drums, containers and tins with remains of hazardous substances, or Fluids inside PV panels or other components (e.g. inverter) that could get damaged.

The ERP must be prepared to cover any potential risks of accidents or spills and will be made known and available to all workers within the site. Key personnel will know and understand their responsibilities as well as coordinate their response actions with their subordinates.

This outline plan serves as a guideline to organize a prompt and effective response to oil spills affecting or likely to affect the area of the site and to ensure preparedness, response and reporting following an oil and chemical pollution incident. For this purpose the following specific actions are listed:

- Preparedness;
- Response; and
- Reporting.

PREPAREDNESS: Each individual will be introduced to their prospective Supervisor and Environment Coordinator within their introduction and training. Emergency services shall be notified as necessary by the Supervisor or Environment Coordinator. A variety of equipment and personal protective equipment may be needed to support a chemical or oil spill incident response. A list of equipment is detailed below:

- Sand;
- Sand bags;
- Buckets and shovels;
- Storage containers; and

Emergency Preparedness and Response Plan



- Spill kit.

Sand stocks will be dry and buckets and shovels readily available at appropriate locations (i.e. areas where hazardous materials are stored, transferred, handled, etc.). Mechanical loading shovels, excavators and dump trucks may also be available for sand distribution and clean up. Storage containers for contaminated materials and earth will be banded, located in the waste storage area, and labelled and treated as hazardous waste. All equipment will be stored in a safe location on site in close proximity to the storage and waste areas. This material is to be used to contain and clean up pollution/spills, care will be taken to dispose of any absorbent materials properly. The Supervisor will keep stocks well maintained and replenished.

RESPONSE: In the event of a chemical or oil spill the following measures will be employed:

- Notify Supervisor;
- Only attempt containment and clean-up operations of spilled substances when it can be performed safely;
- If spilled material is flammable, eliminate sources of ignition near spill area;
- Evacuate personnel and neighbours if they are at risk; and
- Secure the area and establish perimeter control at a safe distance from the spill.

OIL SPILL RESPONSE OPTIONS: Remedial action to collect and remove all materials contaminated by the oil spillage or leakage event is to be taken immediately. The following actions are required:

- Any oil remaining on the ground is to be collected using oil spill kit. The spill is to be contained by the use of absorbent granules or pads and then the area of the spill is to be slowly reduced by enclosing the absorbent. The absorbent pads will be used to absorb the oil. Once all of the oil on the ground surface has been collected, the absorbent agents themselves are to be appropriately stored and disposed of as hazardous waste;
- All contaminated materials are to be handled as hazardous waste. The contaminated material shall be collected and appropriately stored. A licensed hazardous waste vendor will collect this;

Emergency Preparedness and Response Plan



- Contaminated materials will be stored in plastic barrels with tightly closing lids. These barrels are to be stored in a concrete lined bund if available. In absence of such a bund at the site as a short-term storage alternative, a double plastic lined bund will be used. Barrels will be placed on plastic or wooden pallets in the temporary double plastic lined bund and not directly on the plastic; and
- Conventional metal barrels will not be used, however if there are no alternatives the materials may be stored in them providing, they are covered with plastic sheet tightly fastened to prevent Aeolian distribution and again are stored in an appropriately bunded location to prevent leakage will the barrels suffer corrosion.

All contaminated materials that cannot be collected and disposed are to be cleaned in-situ. This cleaning is to be undertaken by an approved service provider.

CHEMICAL SPILL RESPONSE OPTIONS: The following actions are to be taken in case of a chemical spill:

- Only attempt containment and clean-up operations of spilt substances when it can be performed safely;
- If spilled material is flammable, eliminate sources of ignition near spill area;
- Liquid spills – If the spill is liquid its path will be blocked or diverted and then soaked up using an absorbent material such as sand;
- Gaseous spills/leaks – A gaseous leak must be stopped at the source as soon as possible and will then disperse in the air;
- No spills will be rinsed away;
- Contaminated soils and clean-up materials from spills will be handled properly using personal protective equipment, stored in a suitable container that is then labelled and stored in the appropriate location for subsequent disposal;
- Any stockpiles of remnant contaminated materials will be covered;
- Contaminated materials will be stored in plastic barrels with tightly closing lids. These barrels are to be stored in a concrete lined bund if available. In absence of such a bund at the site as a short-term storage alternative, a double plastic lined bund will be used;

Emergency Preparedness and Response Plan



- Barrels will be placed on plastic or wooden pallets in the temporary double plastic lined bund and not directly on the plastic; and
- Conventional metal barrels will not be used, however if there are no alternatives the materials may be stored in them providing, they are covered with plastic sheet tightly fastened to prevent Aeolian distribution and again are stored in an appropriately bunded location to prevent leakage will the barrels suffer corrosion.

All contaminated materials that cannot be collected and disposed are to be cleaned in-situ. This cleaning is to be undertaken by an approved service provider.

Vehicle Accident

In the event of a vehicle accident on Site, the actions listed below should be followed

- Try to prevent other accidents from happening by warning other vehicles of the vehicle accident by placing accident hazard warnings in the area.
- Administer first aid to injured person
- As soon as possible, record details of the accident
- Report accident to Project Manager as soon as possible.

In the event of a vehicle accident off Site, the actions listed below should be followed

- Try to prevent other accidents from happening by warning other vehicles of the vehicle accident by placing accident hazard warnings in the area.
- Administer first aid to injured person
- Report the incident to local authorities as appropriate

Bomb Threat.

- Treat all bomb threats seriously.
- Investigation may reveal a hoax, but until certain there is no risk, act with extreme caution.
- Telephone threat.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- ✓ Keep calm. It is not possible to think clearly when panicking.
- ✓ If possible, attract attention of another person, and have that person contact the police.
- ✓ Delay the caller. The more the caller talks, the more chance there is of obtaining useful information.
- ✓ Try to elicit as much information as possible
- ✓ Note: Any characteristics of the caller, e.g. sex, accent, speech (fast, soft, well-spoken, etc), background noises (music, street noises, aircraft, etc.)
- ✓ If caller hesitates for more than a few seconds, ask another question.
- When caller hangs up:
 - ✓ Do not hang up, kept the line open
 - ✓ Evacuate premises if there is only a short time until stated explosion time.
- Suspicious object found:
 - ✓ Leave the object alone. Do not interfere with it in anyway.
 - ✓ Do not touch, jar, or move the object.
 - ✓ Do not cover it with water or put water on it.

Heavy Wind

In the event of heavy winds / adverse conditions, HSE Incharge will review the jobs planned for the day in consultation with Project Manager / Team, at the site:

- Special attention required for:
 - People that are in exposed positions – for example loadings materials, or next to hazardous locations.
 - Machinery and materials that are being used and could be affected by the adverse weather conditions.
 - -Parked equipment or stored material not utilized at the time but that could be also affected (during the day or outside of the working hours)
- If heavy winds are in the forecast, batten down or anchor all materials to minimize flying hazards
- If unexpected winds pick up in the area, secure all adjacent material

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- Handling of material with large surface areas (multiple modules, crane activities, etc.) should be stopped until the heavy winds pass.
- When in a vehicle, motorists to drive with caution, with the latter reminding drivers to keep their car lights on and leave a safe distance between other cars. Drivers should slow their speed, drive with caution, keep vehicle lights on, and leave an extra distance between other vehicles. If visibility drops severely, pull over to the left side of the road, avoid stopping under trees, billboards, and laydown areas or other spots with high potential of flying debris.
- Subcontractor management should provide masks and protective eyewear.
 - ✓ If masks are not readily available, wrap a bandanna or some other piece of cloth around your nose and mouth. Moisten it a bit if you have enough water. Apply a small amount of petroleum jelly to the inside of your nostrils to prevent drying of your mucous membranes.
 - ✓ Airtight goggles are preferred over standard safety glasses.
- Adults with asthma or allergies to stay indoors. Workers with asthma should go indoors to seek additional protection.

Natural Hazards

While unlikely, consideration of certain natural hazards is important.

Earthquake

- When an earthquake starts:
 - Stay calm
 - If in an office or accommodations, take cover under a desk or brace yourself in a doorway (hold onto the door to prevent personal injury from the door slamming)
 - Alternatively, crouch behind a solid structure, e.g. wall
 - If under furniture which moves, move with it.
 - Stay away from glass door and windows, tall shelves, light fittings, or objects that might topple,
 - Do not leave the building or try to leave the immediate area.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- If outdoors, take cover in a doorway or other safe place away from falling debris and electrical hazards.
- After an earthquake:
 - Stay calm, stay together. Account for everyone in the work area and immediate vicinity.
 - Area wardens take control and co-ordinate actions in areas of responsibility and:
 - ✓ Assess all persons for injury.
 - ✓ Check for hazards, fire gas or chemical leaks.
 - ✓ Move people away from windows and outside walls.
 - ✓ Leave doors to room open, pull curtains across broken windows.
 - ✓ Turn off and unplug all unnecessary electrical equipment
 - Do not evacuate unless the building has sustained major structural damage.
 - Put signs up identifying dangerous areas.
 - Conserve water.
 - Do not use the toilets. Make other arrangements that do not involve relying on the sewerage system
 - If communications system has failed, try to pass notes to rescue personnel.
 - Listen carefully to any announcements over loudhailers
 - If an evacuation is necessary
 - ✓ Proceed carefully, expect to find exit routes blocked or damaged
 - ✓ When outside, stay well away from buildings and power lines
 - ✓ Stay together in your work or floor group to assist with record keeping.
 - ✓ If it is safe to do, go to your designated Assembly Point.
- Remember, that there are usually aftershocks following a major earthquake sometimes quite significant. They can go on for weeks or even months. Be prepared for them to happen.

Flooding

DO's

- Turn off power and gas connection.

Emergency Preparedness and Response Plan



- Drain out excess water.
- Move to a higher ground

Don'ts

- Do not drink tap water
- Do not drive into flooded areas
- Do not enter deep, unknown waters.

Before the occurrence of Floods

- Ignore rumors, stay calm, don't panic; follow government notifications.
- Keep your mobile phones charged for emergency communication.
- Listen to radio, watch TV, read newspapers for weather updates.
- Keep cattle/animals untied to ensure their safety (guide local villagers)
- Prepare an emergency kit with essential items for safety and survival.
- Keep your documents and valuables in waterproof bags.
- Know the safe routes to nearest shelter/raised pucca house.
- Evacuate immediately to safe places when directed by government officials.
- Store enough ready-to-eat food and water for at least a week.
- Be aware of flash flood areas such as canals, streams, drainage channels.
- In the event of flooding the precautions listed below should be followed:

During Floods

- Don't enter floodwaters. In case you need to wear suitable footwear.
- Stay away from sewerage lines, gutters, drains, culverts, etc.
- Stay away from electric poles and fallen power lines to avoid electrocution.
- Mark any open drains or manholes with visible signs (red flags or barricades).
- Do not walk or drive in the flood waters. Remember, two feet of moving flood water can wash away big cars as well.
- Eat freshly cooked or dry food. Keep your food covered.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- Drink boiled/chlorinated water.
- Use disinfectants to keep your surroundings clean.
- Do not try to cross pollen rivers in vehicles or by foot
- Stay indoors, move up to higher building levels if flood levels rise.
- If working in valley with a stream, move up to higher ground, especially during period of heavy, sudden rain.
- Initial only operations that are needed in emergency not entire plant.
- Maintain communication where possible Listen to the instruction of the responsible warden

After floods

- Raise furniture, appliances on beds and tables.
- Put sandbags in the toilet bowl and cover all drain holes to prevent sewage backflow.
- Turn off power and gas connection.
- Take the emergency kit, first aid box, valuables, and important documents with you.
- Do not enter deep, unknown waters; use a stick to check water depth.
- Come back home only when officials ask you to do so.
- Make a staff/worker's communications plan.
- Clean and disinfect everything that got wet.

Food Poisoning

Food poisoning can be caused by several different bacteria, such as salmonella or botulism. Although certain types of food poisoning can be fatal, most cases run their course in a couple of days.

Symptoms of food poisoning are similar to those of the flu, except for fever, which is more likely to occur with the flu, and should be treated the same. They usually begin from two hours to two days after eating the tainted food and include:

- Headache
- Nausea
- Diarrhea and/or vomiting
- Stomach cramps or pain

Emergency Preparedness and Response Plan



- More serious symptoms can include blurred vision, fatigue and a dry mouth.

Procedure to be followed in case of a Food Poisoning

- Sip water or diluted juice as soon as vomiting has decreased.
- If symptoms continue for more than 24 hours, or if you are unable to tolerate any fluids, contact your primary care doctor or visit the emergency department.
- Seek emergency care if you become dehydrated.
- Most adults can handle one day without nutrition, but continued vomiting to the point of dehydration requires medical attention.
- Finally, be aware that adults can handle dehydration better than small children and that high fever also can indicate a more serious illness.

Snake Bite

There could be medical emergencies if the snake is poisonous. Snake bites could be deadly if not treated quickly. The right anti-venom can save a person's life. Getting to an emergency room as quickly as possible is very important. If properly treated, many snake bites will not have serious effects.

First Aid required for Snake Bite:

- Keep the person calm, reassuring them that bites can be effectively treated in an emergency room. Restrict movement, and keep the affected area below heart level to reduce the flow of venom.
- Remove any rings or constricting items because the affected area may create a loose splint to help restrict movement of the area.
- If the area of the bite begins to change color, the snake was probably poisonous.
- Monitor the person's vital signs – temperature, pulse, rate of breathing, and blood pressure – if possible. If there are signs of shock (such as paleness), lay the person flat, raise the feet about a foot, and cover the person with a blanket.
- Get medical help right away.

DO NOT:

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



- Do not allow the person to become over-exerted. If necessary, carry the person to safety.
- Do not apply a tourniquet.
- Do not apply cold compresses to a snake bite.
- Do not cut into a snake bite with a knife or razor.
- Do not try to suck out the venom by mouth.
- Do not give the person stimulants or pain medications unless a doctor tells you to do so.
- Do not give the person anything by mouth.
- Do not raise the site of the bite above the level of the person's heart

Prevention:

- Avoid areas where snakes may be hiding, such as under rocks and logs.
- Even though most snakes are not poisonous, avoid picking up or playing with any snake unless you have been properly trained.
- Do not provoke a snake. That is why serious snake bites occur.
- Tap ahead of you with a walking stick before entering an area where you can't see your feet.
- Snakes will try to avoid you if given enough warning.
- When going in an area known to have snakes, wear long pants and boots if possible.

Scorpions Bite or Stings

- Scorpions use their sting to capture prey and to defend themselves. They hunt at night and will not sting unless provoked or they feel threatened. One thing that all scorpions have in common is that the sting possesses venom, which usually is neurotoxic in nature.
- Scorpions don't bite – they only sting. Many people use the word "bite" to describe a sting.

First Aid required for Scorpion Bite or sting

- One must confirm that it is the scorpion sting that is caused the area of the injection of venom by the scorpion should be marked around. Marking this will help for the proper first aid and later in hospital treatment.

Emergency Preparedness and Response Plan



- Reassuring the patient or victim.
- Move the victim to an open space.
- Uncovering the clothes of victim.
- The sting site or the affected area must be immediately kept with the cold application.
- If the sting area is on hand or leg immerse them into water.
- If the victim is stung by scorpion in head, neck, chest and back keep those areas covered with moist towel or moist cloth. If there is any possibility getting ice cubes or cool water better go for it.
- Keep the other parts of body moistened by washing or bathing
- Give adequate amount of cool water or water if he/ she can M/s. TCL allow it.
- After the first aid, some victims may need the help of a doctor.
- Commonly acute stage of sting will exist for 24 hours from the time of sting, so observe the victim carefully.
- Note – Trying to suck out blood from the injured area and cutting the injured point are useless and wasting time and effort only.

What to do? if a person has been bitten by a venomous spider or stung by a scorpion:

- Call to first aider.
- Continuously apply ice to the sting area.
- Wash the wound thoroughly.
- Apply an antibiotic ointment, if the person has no known allergies or sensitivities to the medication, to prevent infection.
- Bandage the wound.
- Apply an ice or cold pack to the site to reduce pain and Swelling.
- Encourage the person to seek medical attention. Children and older adults may need antivenin to block the effects of the scorpion venom.
- If you transport the person to a medical facility, keep the bitten area elevated and as still as possible.
- All but the mildest of symptoms require hospital admission for 24 hours of observation, especially for children.
- Consult a doctor about treatment with available medications if anti-venom is not available



Wild Animal Sighted Emergency

- Display awareness posters and signage at prominent locations about the presence of wild animals and emergency actions.
- Conduct periodic toolbox talks and training for workers on wild animal behavior, do's and don'ts, and emergency response.
- Restrict night-time movement near forest boundaries unless absolutely necessary.
- Provide boundary fencing/barricading where required
- Ensure proper lighting around the camp and work areas.
- Avoid food waste accumulation which may attract animals
- Maintain clean surroundings and proper waste management.
- Coordinate regularly with the Forest Department and local authorities for updates and guidance.
- Maintain an updated emergency contact list of Forest Department, local police, and site emergency coordinators.
- Train workers not to panic or attempt to handle animals

Emergency Response Procedure (If a Wild Animal Is Sighted)

Step 1: Immediate Alert

Emergency Preparedness and Response Plan



- Stop all work activities immediately.
- Inform the Site Emergency Coordinator and Camp In-charge.
- Use alarm, whistle, or public address system to alert all personnel.

Step 2: Safe Evacuation and Shelter

- Workers should move calmly to designated safe shelters or secure buildings.
- Do not run, shout, or provoke the animal.
- Ensure headcount of all workers at assembly points.

Step 3: Area Isolation

- Barricade and isolate the affected area.
- Stop movement of vehicles and personnel in and around the sighting zone.
- Maintain a safe distance from the animal at all times.

Step 4: Communication

- Immediately inform the Forest Department and local authorities.
- Share exact location, type of animal sighted, and movement direction.
- Follow instructions given by Forest Department officials strictly.

Actions Strictly Prohibited

- Do not attempt to chase, capture, or photograph the animal.
- Do not use loud noise, fire, or lights to scare the animal unless instructed by authorities.
- Do not approach injured or resting animals.

Medical Emergency (If Injury Occurs)

- Provide first aid only when it is safe to do so.
- Shift injured persons to the nearest medical facility.
- Inform site management and authorities immediately.
- Record and report the incident as per site emergency reporting procedures.

Post-Incident Actions

- Resume work only after clearance from the Forest Department and Site Management.
- Conduct an incident review to identify gaps and corrective actions.
- Update the Emergency Response Plan if required.
- Reinforce awareness training for all workers.

Emergency Preparedness and Response Plan



Strike/Violence / communal disturbance

In case of local strikes / violence / agitation, project manager and HSE In-charge will gather information and follow the below:

- Try to remain calm. Your actions may help calm a potentially violent situation, or they may escalate the problem
- Don't be in a hurry.
- Project Manager will be single designated speaker.
- Secure all personnel in the project by calling them to the safe assembly area.
- Once head count is done, move them slowly towards the accommodations
- If movement is not possible, stay in the site offices till safe.
- Reach out to local authorities like police and obtain their help.
- Try to have the other person and yourself sit down. Sitting is a less aggressive position.
- Have limited eye contact.
- Take notes.
- Avoid yelling or arguing.
- Do not joke or be sarcastic
- Give message to Security / police to control situations.

Pandemic / Disease Outbreak Preparedness

The most common health-related emergency at construction sites is the outbreak of communicable diseases (such as viral infections), which can spread rapidly among workers and affect site operations. Such outbreaks may lead to serious health risks, absenteeism, and disruption of work activities.

Disease outbreaks may include, among others: Fever; Cough and respiratory infections; Viral infections (such as coronavirus); Skin infections; Waterborne diseases; Food contamination-related illness; and any communicable disease spreading through close contact, contaminated surfaces, or poor hygiene.

Emergency Preparedness and Response Plan



The ERP must be prepared to cover any potential risks of disease outbreak and shall be made known and available to all workers on site. Key personnel will understand their responsibilities and coordinate response actions effectively.

This outline plan serves as a guideline to organize a prompt and effective response to any disease outbreak affecting or likely to affect the site and to ensure preparedness, response, and reporting.

For this purpose, the following actions are listed:

- Preparedness
- Response
- Reporting

PREPAREDNESS:

Each worker shall be made aware of health risks and introduced to the Site Supervisor and Health/Safety Officer during induction and training. Medical facilities and emergency contacts shall be identified in advance.

The following arrangements shall be ensured:

- Temperature screening at site entry points;
- Availability of handwashing facilities with soap and water;
- Provision of hand sanitizers at key locations;
- Use of masks and required PPE;
- Regular cleaning and disinfection of toilets, dining areas, and common touchpoints;
- Awareness programs and display of posters in local language;
- Tie-up with nearby hospitals and availability of isolation facilities;
- Periodic health check-ups and monitoring of workers;
- Maintaining proper ventilation in working and living areas;
- Availability of first aid and medical support.
- Follow the latest guidelines and advisories issued by the World Health Organization and Government health authorities;
- Circulate health alerts, newsletters, and updates to workers for awareness.

The Supervisor shall ensure all resources are maintained and replenished regularly.

RESPONSE:

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



In the event of a suspected or confirmed disease outbreak, the following measures shall be taken:

- Immediately inform the Supervisor and Health/Safety Officer;
- Isolate the suspected person from others;
- Arrange medical check-up and transfer to hospital if required;
- Identify and monitor close contacts;
- Restrict movement and avoid crowding at site;
- Ensure use of masks and hygiene practices;
- Disinfect affected work areas and common facilities;
- Provide awareness to workers to avoid panic and ensure cooperation;
- Stop work partially or fully if required based on severity.
- Follow instructions from health authorities strictly.

DISEASE OUTBREAK RESPONSE OPTIONS:

The following specific actions are required:

- Any infected or suspected individual shall be isolated immediately and provided medical attention;
- Close contacts shall be traced and monitored;
- Work areas, tools, and equipment shall be sanitized thoroughly;
- Common areas like dining halls, toilets, and rest areas shall be disinfected frequently;
- Workers shall be advised to maintain personal hygiene, including regular handwashing and use of masks;
- Avoid sharing of food, utensils, and personal items;
- Ensure social distancing at site and accommodation areas;
- If required, temporary suspension of work activities shall be implemented;
- Strictly follow updates, advisories, and newsletters issued by World Health Organization and local health departments.

REPORTING:

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



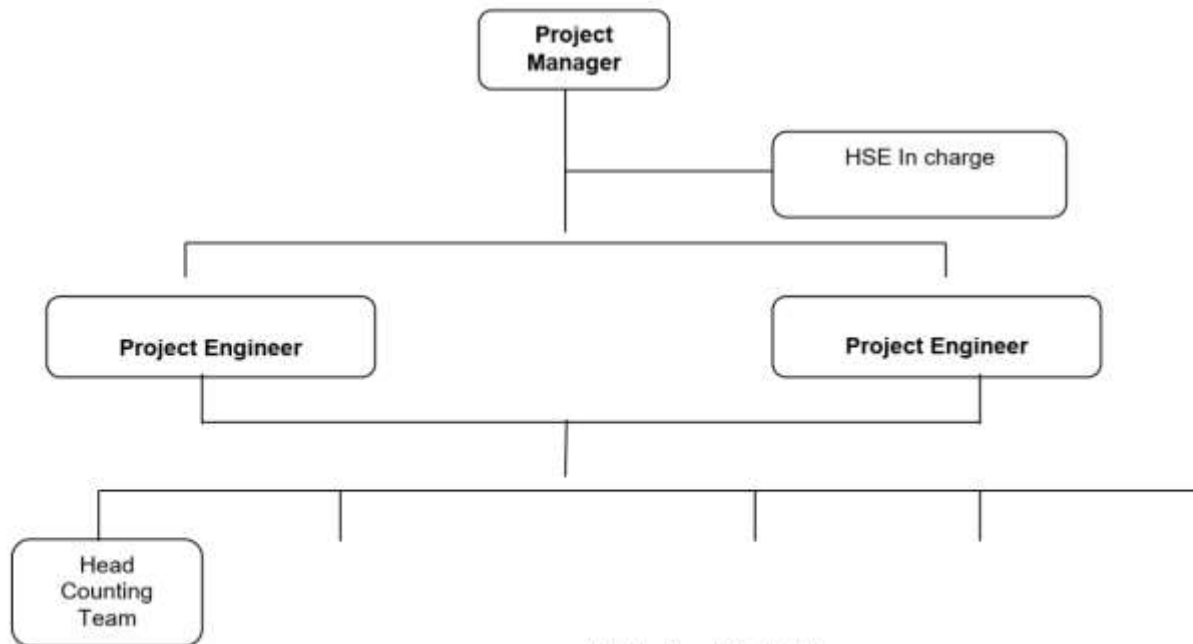
- All incidents of disease outbreak shall be reported immediately to management;
- Maintain records of affected persons and actions taken;
- Inform local health authorities if required;
- Conduct incident investigation and implement corrective measures;
- Review and update the Emergency Response Plan based on lessons learned.

Emergency Preparedness and Response Plan



1. EMERGENCY RESPONSE ORGANIZATION STRUCTURE

EMERGENCY RESPONSE COMMITTEE FOR DAY SHIFT

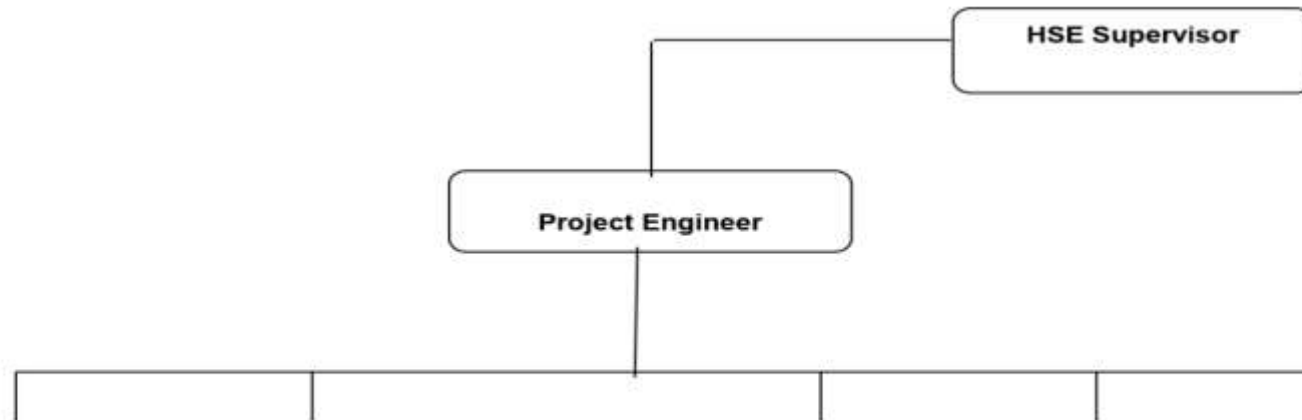


Mott MacDonald Restricted

Emergency Preparedness and Response Plan



EMERGENCY RESPONSE COMMITTEE FOR NIGHT SHIFT



Mott MacDonald Restricted

Emergency Preparedness and Response Plan



Head Counting
Team

Fire Fighting
Team

Rescue Team

Traffic Control
Team

First Aid Team

Mott MacDonald Restricted

Emergency Preparedness and Response Plan



FIRST AID

Injured people will be classified into three categories:

- Those that do not need additional medical assistance
- Those that need medical assistance and can be taken to the hospital by site personnel.
- Those that need medical assistance and who should be assisted for doctors and/or should be transferred to a hospital.
- Various personnel on site will be trained in first aid, including security forces and site First Aider. First aiders will be assigned on site on full time basis.
- All work-related injuries/illness will be immediately reported to the HSE In-charge who records the treatment provided on the Accident/Incident Report.
- In cases beyond that of first aid, the first aider will assess the need to refer the injured person to a professional medical care center for additional treatment.
- Should it be necessary, an injured person will be transported to an approved medical centre, accompanied by a responsible company representative, e.g. first aider, HSE In-charge, Project Manager.
- All work-related injuries and illnesses will be investigated, with the level of investigation determined by the potential severity of the injury/illness. Refer to the HSE Plan for the Incidence and Near Misses reporting procedure.
- Injured people will not be moved under any circumstances, except in obvious cases of immediate high-risk – for example a fire that threatens the person or when safety personnel authorize the movement on the injured.
- The first aider will reassure and keep warm the injured person; then will inquire about what happened to him/her.
- If there is not any risk of worsening the situation, the first aider will examine the injured person and will decide what kind of attention is needed and if necessary, how the injured would be transferred to the site medical center on site or the nearest hospital (this task will be carried out by the first aid team on site).
- In case of being obvious that injured need the intervention of a doctor and / or to be transferred to a hospital, the medical team of the Site will be immediately contacted.

Mott MacDonald Restricted

Emergency Preparedness and Response Plan

First Aid Facility

- The standard of the first aid facilities will be determined by risk assessment for the potential severity of injuries/illnesses likely to occur.
- The facilities include one first aid kit.
- The First Aider is responsible to ensure that the first aid room is maintained and kept in a clean and hygienic condition, appropriate first aid kit is available, maintained in good condition, supplies and medication in sufficient quantities, stored correctly and within the manufacturer's recommended expiry date.
- It is noted that site will be provided with 1 First aid Facilities. In case further assistance is needed, casualty will be shifted to Nearest Hospital.

MEDICAL FACILITIES & NEAREST HOSPITAL

Site first aid stations should include first aid kits, and other equipment as recommended by the physician/paramedic and authorities. Any cases beyond first aid will be taken to nearest hospital. The Site Admin is responsible to ensure that appropriate medical emergency transportation is always available.

Emergency Details:

1	FIRE Brigade (ফায়ার ব্রিগেড)	102/7002469266 (Jalukbari Fire Brigade)
2	Police Station (থানা)	112/100 (Azara Police Station)
3	Hospital (চিকিৎসালয়)	108/104/9101585380
4	Ambulance (এম্বুলেন্স)	104/108
5	Women Help Line (মহিলা হেল্প লাইন)	181/03612313004
6	Child-line (শিশু হেল্প লাইন)	1098
7	Animals Help (জীব-জন্তুর সহায় লাইন)	1800 345 3570
8	Grievance Register(অভিযোগ পঞ্জীয়ন)	1800 569 2952

Emergency equipment inspection

TEST TYPE	INSPECTION	FREQUENCY
-----------	------------	-----------

Mott MacDonald Restricted

Emergency Preparedness and Response Plan

1.- Emergency Telephone System	Check that the assigned emergency team's phone numbers matches with the general list of the company.	Monthly
2.- Emergency speakers	Choose a different part of the modules	Fortnight
3.- Lighting in Modules	Test emergency lighting for about ten minutes, checking that it remains lit and shows no sign of failure, such as flickering or dimming.	Monthly
4.- Exit lights in Modules / Assembly point		
5.- First aid kits	- Verify that first aid kit is in its assigned location. - Check to see if it has been used without any notification. (All first aid kit use should be reported) - Ensure that there are no items that are beyond their expiration date. - Restock any items that have been used or damaged. - No over-the-counter pain relievers or medicine should be stored in the first aid kit.	Monthly
6.- Emergency eyewash and shower equipment (ONLY IF APPLICABLE)	Look for leaks or pipe damage and proper placement of protective covers. Ensure that the unit is free of any obstructions.	Weekly
	Ensure that the water flow is continuous, evaluate that the unit can maintain flow for 15 minutes, and is not injurious to the user's eye or face. Valve actuator must activate water flow in one second or less.	Monthly
7. Fire extinguishers	Checking the accessibility, apparent good condition, lock, seals, inscriptions, hose, etc. - Checking the charge status (weight and pressure) fire extinguisher and drive gas bottle (if any). - Checking the mechanical parts status (nozzle, valves, hose, etc.).	Quarterly

Mott MacDonald Restricted

Emergency Preparedness and Response Plan

A. EMERGENCY CONTACT NUMBERS

Description	Company	Name	Mob
Project Manager	M/S Tribeni Construction Ltd.	Abhisek Agarwal	7002379233
Sr Planning Manager.	M/S Tribeni Construction Ltd	Upendra Deka	8404034091
Sr Site Engineer.	M/S Tribeni Construction Ltd	Monopriya Bhatta charjee.	6001469604
EHS Officer	M/S Tribeni Construction Ltd	Himangshu Kumar Sarma.	6001264584
Project Manager	MM	Paritosh Deb Nath,	8486019330
EHS Officer	MM	Dilip Dubey	8586861265
Site Engineer.	MM	Sai Ram Kollati.	9032366469

B. FIRST AIDER LIST

Sl. no	Name	Designation	Mobile no
1.	Dr Dharendra Kumar Das	Dy. Superintendent of Azara CHC	9859747052
2.	Himangshu Kumar Sarma	HSE Officer	6001264584

C. FIRE WARDEN

Sl.no.	Name	Designation	Mobile no
1.	Jayanta Kakati	Safety Supervisor	7086334195
2.	Abdul Khlek	Safety Supervisor	6002369391
3.	Biswajeet Baishya	Site Supervisor	8876495634
4.	Ravi Mishra	Site Supervisor	9864931835

Mott MacDonald Restricted

SCHEDULE FOR EMERGENCY RESPONSE TRAINING

LP1	LABOUR ROOM 1	SR 1	STAFF ROOM 1
LP 2	LABOUR ROOM 2	SR 2	STAFF ROOM 2
LP 3	LABOUR ROOM 3	SR 3	STAFF ROOM 3
LP 4	LABOUR ROOM 4	SR 4	STAFF ROOM 4
LP 5	LABOUR ROOM 5	SR 5	STAFF ROOM 5
LP 6	LABOUR ROOM 6	SR 6	STAFF ROOM 6
LP 7	LABOUR ROOM 7	SR 7	STAFF ROOM 7
LP 8	LABOUR ROOM 8		
LT 1	LABOUR TOILET 1		TRANSFORMER
LT 2	LABOUR TOILET 2		DIESEL GENERATOR SET
LT 3	LABOUR TOILET 2		FIRE POINT
LT 4	LABOUR TOILET 4		FIRST AID KIT
LT 5	LABOUR TOILET 5		GRIEVANCE BOX
LK 1	LABOUR KITCHEN 1		
LK 2	LABOUR KITCHEN 2		



EMERGENCY ESCAPE ROUTE

Mott MacDonald Restricted

Emergency Preparedness and Response Plan

FORMATS/RECORDS/CHECKLISTS:

1	Hazard Identification and Risk Assessment (HIRA)	TCL/HSE/HIRA/01
2	Mock Drill Report	TCL/HSE/MD/01
3	Accident/Incident report format	TCL0/HSE/IAI/01

ANNEXURE 10: CONSTRUCTION AND OTHER WASTE MANAGEMENT PLAN

“Construction of 100 Bedded New District Hospital in Azara, Kamrup district, Assam in EPC Mode, Assam Health Infrastructure Development & Management Society (AHIDMS)”



Tribeni Constructions Ltd

1. **INTRODUCTION**

Construction Waste Management (CWM) has become a major environmental concern in most of the Indian cities as the construction waste generated in India accounts for 35% to 40% of the Global C&D Wastes annually. In Assam particularly in Guwahati city it accounts for 10% to 15% of total amount. As the construction sector is the major emitter of Greenhouse gases, if not properly treat, may pose significant negative effect on the environment, ultimately leads to severe Air Pollution with increased concentration of Particulate matter & aerosols. Therefore, there is a need for incorporation of reduce, reuse, recycle & recovery of construction wastes as much as possible as per the Environmental Management Guidelines incorporated in the Construction & Demolition Wastes Management Rules 2016.

As required by the Green Building regulations a minimum of 50% of total wastes will be diverted from land fill to the recycling facilities.

2. **OBJECTIVES OF CWMP**

The objective of CWMP is as follows.

- To minimise the generation of construction waste on site.
- Out of the generation of total construction wastes maximum possible amount to be recycled.
- All possible steps will be taken to make CWMP economically viable.
- All regulatory requirement to be obtained for proper & effective management of Construction Wastes.

The CWMP will provide an overview of onsite implementation strategies in respect of the Waste generation due to construction activities. All the regulatory regulations as per requirement are to be met by the EPC Contractor.

3. **BENEFITS OF CWMP:**

An effective construction waste management strategy can bring the following benefits—

- a) **Cost Reduction:**
Cost reduction can be achieved by recycling, reusing & salvaging construction wastes. To achieve this the project proponent will adopt the waste management strategies by utilizing onsite re use & salvage methods & there by reducing the need for new materials & thus creating a cleaner & safer project site.
- b) **Environmental Benefits:**
By minimizing the waste generation, adopting 3R principles – Reduce, Re-use & Recycling of the construction wastes with proper management of Wastes may result in Environmental benefit not only in the Project site but also in the surrounding area.
- c) **Help the economy:**
Recycling & reuse of construction wastes can also help the economy of the construction activities.

4. **WASTE MANAGEMENT STRATEGIES:**

The Construction Waste Management strategies will be implemented & executed as follows—

4.1. **PLANNING & EXECUTION**

- a) On site designated area will be earmarked for temporary storage of construction wastes & the area will be reserved for a row of waste skips /container. Containers/Bins will be specially labelled for respective materials.
- b) The lifting of waste materials from the construction site will be on due approval of the Project Management Authority & also on compliance of all requirements as per provision of different Waste Management Rules & Regulations framed under the Environmental Protection Act 1986 as amended up to date.

- c) c)Recyclable wastes will be sent to registered recycling unit through PCBA authorised waste collector/vendors.
- d) Hazardous wastes to be generated in the construction site will be stored in a closed room made of concrete of size 3x4 m in isolated location inside the premises.

4.2. WASTE COLLECTION & SEGREGATION AREA

The wastes to be generated in the construction site will be segregated at source of generation. On site waste bins system will be adopted to collect & keep the waste materials. Separate portable bins for recyclable & nonrecyclable waste materials are to be provided.

Additional bins will also be provided where further separation between different recyclable materials will be needed.

5. DIFFERENT TYPES OF CONSTRUCTION WASTES: PROBABLE GENERATION:

Inert Wastes:

Inert wastes include Brick, concrete, soil, pebbles& asphalt. These are non-reactive at atmospheric temperature & pressure with less environmental effect.

Non-Hazardous Wastes or general wastes:

This form of construction wastes include wood, cardboard, Plastics, Glass & Metal.

Hazardous Wastes:

Hazardous Wastes which may include Used Oil/ Burnt Lubricating oil, Waste Oil/ Spent Oil, Lead base paints, Asbestos etc. These wastes will be kept separately in closed room & will be disposed to authorised waste collector for recycling in nearest registered/authorised recycling facilities.

5.1. WASTES MANAGEMENT SIGNAGE:

Waste management signage will be placed in the construction site as follows—

- A) Language: English, Assamese.
- B) Sizes of Signage will 3"x2"

SL NO.	CONSTRUCTION WASTES	SIGNAGE
i)	Cardboard/Scrap Paper	
ii)	Concrete wastes	
iii)	Hazardous Wastes	
iv)	Metal wastes	
v)	Plastic Wastes	
vi)	Wood wastes	
vii)	General Wastes	

5.2. WASTE MANAGEMENT PROCEDURE:

- All subcontractor will be provided with a copy of this waste management plan & will provide a description how the plan will be implemented for their new works.
- Waste prevention, reuse & recycling activities with performance will be discussed at the beginning session of all weekly meeting.
- The sub-contractor will be responsible for ensuring that the construction materials are delivered to the construction site with packing that is reusable where ever possible. The project official will be responsible for removing reusable packing materials from site & taking it back to the supplier—such as Glazing Frames,

Brick/Block pallets. Where packaging materials are not reusable it shall be sent to nearest recycling/reprocessing unit through authorised waste collector.

- The following chart identifies the waste materials that will be generated in this site, the reuse, recycling & disposal methods for each material & any handling procedure to be adopted as per the provision of various Waste Management Rules.

6. WASTE MANAGEMENT –HANDLING

Probable generation of different types of wastes with their management are as follows—

MATERIALS	WASTE MANAGEMENT	HANDLING PROCEDURE
i) Excavated Soils	Reclaim on site for backfill.	Site stockpile ensuring wind/water erosion is prevented.
	Grand fill for future development.	
	Land Fill	
ii) Materials. (All metals, Aluminium framing, hot rolled steel, Cast Iron rebar, cold rolled galvanized steel sheet, metal pipe etc.)	- Reuse or salvage by contractor. - Recycle by salvage contractor.	Deposit all metals in Dumpster.
iii) Clean Wood (induce board, PT Wood, Form-ply etc)	- Scrap reused for frame work, backing/blocking etc. - Remaining are recycled.	Separate" clean wood "in clean wood dump ster.
iv) Impacted Wood. (Veneer at creosote treated)	- Reuse or salvage on site. - Reuse by general public. - Landfill.	Normal Trade Waste.
v) Spent Glass	Recycling Plant.	Glass Bins.
vi) Spent Paint	Return to Paint Depot.	Special Containers for recycling.
vii) Packaging Materials	- Card Board Boxes will be sent to Waste/Spent Paper recycling unit through authorised waste collector. - Plastic Packaging Materials (Plastics Wastes) will be sent to registered recycling facility or its permitted end use in the designated manner as per provision of Plastic Wastes Management Rules 2016.	- Cardboard recycle Bin. - Plastic wastes recycle bin.
viii) Scrap Electrical Equipment(E-Waste)	Electrical or Electronic equipment will be sent to registered recycler as per provision of E-Waste (Management) Rules 2022.	Reuse of electrical equipment by the supplier through by back system.
ix) Mixed office Paper (Scrap Paper)	Reduce, Reuse & Recycle.	Scrap paper collection bin.

7. SOLID WASTE MANAGEMENT:

- Day to day generation of Solid Wastes from Labour camp, Kitchen, office accommodation are segregated at source of generation in to three main streams—
- Wet Wastes/ Bio-degradable (Organic Wastes) ---Food wastes of all kinds, cooked & uncooked including egg shell etc. These wastes are regularly collected by the nearest piggy Farm as Pig Feed.

- Dry Waste (Nonbiodegradable/In organic Wastes)—Paper, Cardboard, Cartons, containers & packaging materials of all kinds particularly utilize for house hold excluding those containing hazardous materials, compound packing, tetra pack etc. These types of wastes are regularly collecting by the under the house-to-house collection scheme implementing by the Azara TC.
- Domestic Hazardous Wastes – Diapers, napkins, empty containers of cleaning agent, mosquito repellents etc.
- Two bin system has been adopted for collection & temporary storage of segregated dry & wet wastes separately.

The Plan may be modified or updated according to the development of construction works.

ANNEXURE 11: TRAFFIC MANAGEMENT PLAN

“Construction of 100 Bedded New District Hospital in Azara (Kamrup), Assam in EPC Mode, Assam Health Infrastructure Development & Management Society (AHIDMS)”

TRAFFIC MANAGEMENT PLAN

SUBMITTED BY -: TRIBENI CONSTRUCTIONS LTD.

TRAFFIC MANAGEMENT PLAN

1.INTRODUCTION:

Traffic management on a construction site is essential to ensure the safety of workers, visitors & members of the public. In construction site most of the accidents are occur due to lack of proper planning for transportation of vehicles at the construction site. Limiting of vehicle with proper traffic management, timely maintenance of the vehicles to be used in construction site reducing the accidents in construction site.

2. OBJECTIVE OF A TRAFFIC MANAGEMENT PLAN:

The objective of TMP is to make ensure that, everyone on site is aware about what to expect when travelling through& around the construction zone. The EPC Contractor have a legal duty to ensure that the health & safety of their employees, sub-contractors & members of the public are not put at risk as a result of the construction work. Employees also have a duty to look after their own health & safety and that of any one who might be affected by their work. This TMP has been produced to help people involved in work place transport reducing the chances of happening accidents.

3. PRINCIPLES IN TRAFFIC:

Traffic safety in the construction site will be affectively managed by abiding the following principles: -

- Eliminate conflict between pedestrian & vehicular /machineries traffic flow.
- Specific traffic management plan.
- Update TMP to ensure it relevant to site activity changes.
- Vehicles/ Machineries to be well maintained.

Machines: All vehicles & machines to be well maintained.

Vehicle & machines will be used in accordance with its operating manual.

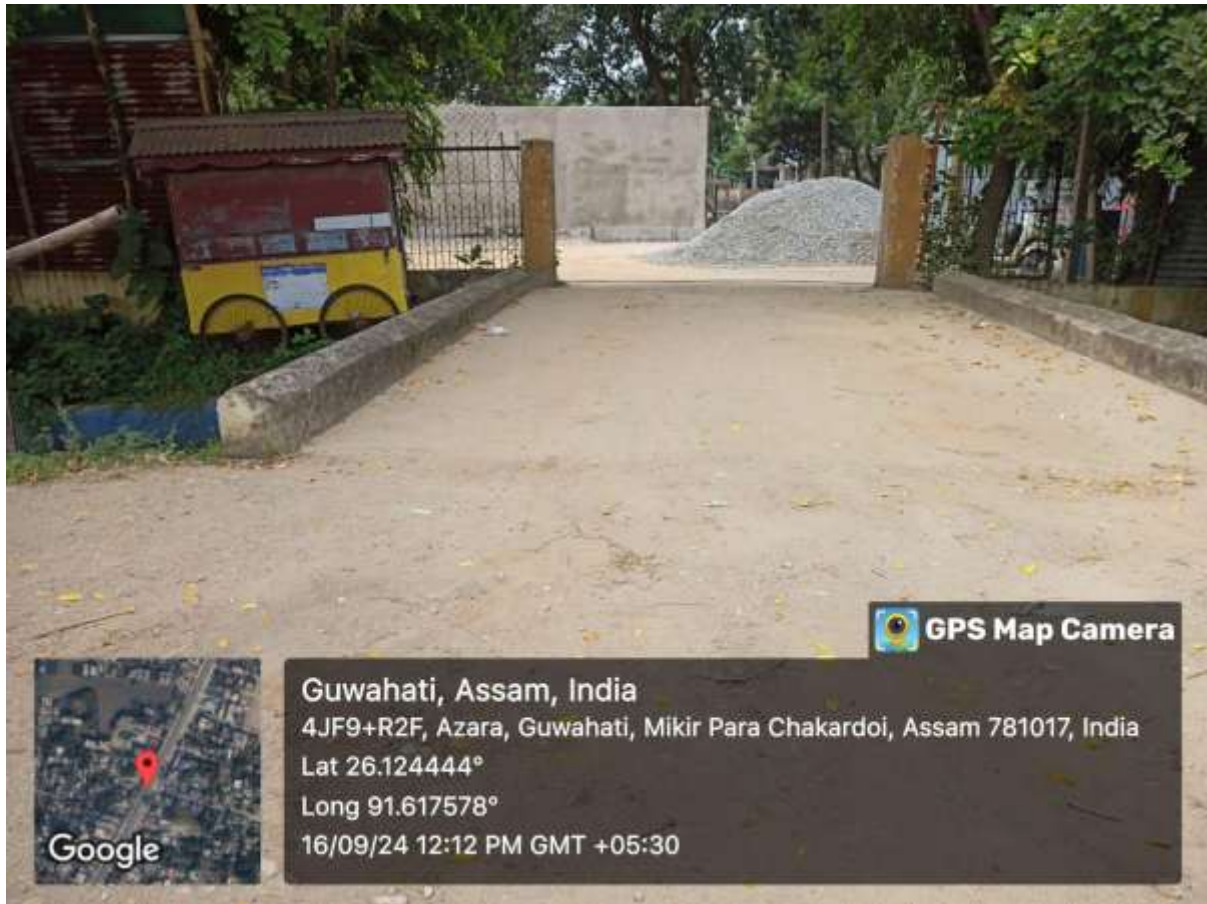
4.0 SITE ACCESS/EGRESS:

All drivers who have alight from their vehicle to carry out works are to be inducted. No induction is required for delivery of smaller items to the construction site. On entry to the construction site all drivers will be directed to designated area. Site specific Traffic Management Plan will be introduced to all drivers during induction.

IV.1. SITE ACCESS VIA GATE-1 & GATE-2:

Access to the Gate from NH-37 will be via Gate-1 & Gate-2 through culvert road. Gate -2 presently under construction. With the progress of the construction work Gate will be used in restriction & limitation during different stages & different purposes. Gate-1 will be used for all purposes till the Gate-2 become ready for use.

Gate-1: Will be the main exist point as well as the entrance for site visitors.



Gate-2: Will be mainly used for materials & equipment delivery.

4.2 FREQUENCY OF MOVEMENT:

In order to minimise the truck movement noise, the expected frequency of heavy vehicle movements of materials & machinery is between 5 to 10 Trucks per day. Size of the trucks to be used for transport of materials with its movements will be discussed during the course of the daily prestart meeting cum discussion.

4.3 LOADING /UNLOADING OF VEHICLES:

All load delivered to the construction site will be unloaded in the designated area as defined by the EPC Contractor team.

All the trucks loaded with loose materials will be covered with tarpaulin so that no air borne dust particles coming out during transportation.

4.4 GENERAL AWARENESS:

All traffic movements will be communicated in Tool Boxes.

Utmost care will be taken at all intersections, vehicles interaction on the main road junctions.

Oversize load will be prohibited.

Distance between two vehicles will be maintained minimum 10.0-meter distance.

All in coming/ outgoing trucks/vehicles will be provided with wheel clearing/cleaning by sprinkler jet water spraying system at the entry point & exist point so that no waste materials go out from the construction site.

5. SPECIFIC INSTRUCTIONS:

5.1 Rest breaker & slops.

A driver must ensure their own safety & that of other road users by taking a break from the driving task if feeling symptoms of fatigue.

Weather conditions & ground stability do not move off the road unless in to approved parking bays of NH-37.

5.2 PARKING:

All vehicles to be parked in designated area inside the project premises

All vehicles associated with the development shall be parked wholly within the site.

Re fuelling or maintenance of vehicle will be allowed in isolated location inside the project premises. Necessary arrangements will be made for collection & storage of Spent Oil/Waste OIL generating during the maintenance of the Vehicles, DG Set etc. These Spent Oil/Waste oil will be collected & stored in sealed containers. Some quantities will be used for inhouse utilization as per requirement. These containers will be kept at The Hazardous Waste Stack Yard setting up in west direction of The Project Site for further disposal of these wastes through authorized recyclers or vendors as per provision of Hazardous & Other Wastes (MHTM) Rules 2016.

5.3 Pedestrian Movements:

All pedestrian movement in the construction site will be restricted from direct entry, without prior permission from the Project Authority. The internal road which are utilizing by the locality of nearby house hold has already provided with barrier of Green Net to protect pedestrian from traffic. A rigid barrier will be used in due course to protect pedestrian from excavation, scaffolding etc.

5.4 EMERGENCY:

Procedure for any emergency or evacuation shall be in accordance with the Emergency Response Plan of the construction site.

5.4 NOTIFICATION REQUIREMENT:

Necessary communication will be made to the locality near the project area one week prior to the construction starts.

5.5. VISITORS/TRUK DRIVERS SITE INDUCTION:

5.5 (i) Visitors Requirement:

Visitors must enter their Name, address, Contact NO, Purpose of visit etc at the visitors register available at the entrance point.

Visitors will not be permitted to perform any work inside the project premises.

5.5(ii). Truck Driver/Delivery Driver Requirement:

Only authorised, duly inspected having up to date road permit, Fitness Certificate Vehicles will be allowed to enter the project premises.

The driver of the vehicle must remain in his vehicle or in an allocation as instructed by construction personal whilst being unloaded.

Fall protection/prevention is required any time, drivers are exposed to probable fall hazard of one meter or more.

6.0 STANDARD PERSONAL PROTECTIVE EQUIPMENT:

Standard personal protective equipment including but not limited to Protective Clothes, Hard Hat, Safety glass, safety foot wear must be worn by the drivers in the construction site.

Any incidents, injuries must be reported to the authority.

7.0 TRAFFIC CONTROL ZONE:

Following actions will be taken to provide safe work environment to the worker before starting the construction works—

All the legal permissions have been acquired by the EPC Contractor.

- I. Traffic control elements & traffic operation will be regularly monitored so that care & attention to road side safety is never slack during the progress of work
- II. The area near the approach road of NH-37 which may be affected by the works & which effect traffic flow & road access near the Gate-1 & Gate-2 (Under Construction).

For proper traffic management the whole construction area will be divided into three zones—Advance Warning Zone, The Transition Zone & Work Zone.

7.1 Advance Warning Zone:

The advance warning zone is the area to warn the road user of the approaching hazard & to prepare them for the change in driving condition.

In the Project site, the advance warning zone has been marked 100 m away from both sides of NH37 to the approach road of the project site. Following information are to be provided in this zone—“Construction Works Ahead” sign accompanied by the distance to the hazard.

The reduction in the speed of the vehicle will be notified in this zone. The information in this zone will be conveyed through a series of traffic signs along the length of the zone.

7.2 APPROACH TRANSITION ZONE:

The transition zone is the area in which traffic is guided into the altered traffic flow pattern around the working zone.

The approach transition zone will start from connecting point of approach road to the entrance (Gate-1) of the project site. In this zone the speed of the vehicles will be further reduced & channel them to the narrower haul road.

The movement of traffic across the transition zone will be with the help of Signs, barricades, channelisers & pavement markings.

Proper lighting arrangements will be made for illuminating this sign during the night hours to avoid involvement of collision between vehicles & object or two vehicles collision.

The haul road available in the project site through the transition zone is narrower than other area & is quite insufficient for simultaneous passage of both the up & down traffic. Traffic control, if necessary, by manual flagging is also under consideration in this zone.

7.3 WORKING ZONE:

Working zone is where the actual construction is being undertaken. Working zone will be demarked prior construction starts. Speed will continue to be controlled in this zone because of the close proximity of construction area. As per the development of the construction work schedule diversion of the haul road will be done.

8.0 TRAFFIC CONTROL DEVICES:

8.1 SIGNS:

In the construction zone two types of Signs are generally used—Warning Sign & Direction (Guidance) Signs.

Warning Signs: -

Common type of warning signs such as Men at work, Road narrows diversion ahead, rough road, Slippery Road, Divided Road, Divided Road ends etc will be used as per requirement during the different stage's construction.

Direction Signs: -

To provide the necessary information & guidance for alternate route & work being done DIVERSION signs with Black letter arrows on yellow back ground will be used as per requirement or as it feel necessary during the construction work.

8.2. TRAFFIC CONES AND CYLINDERS:

Traffic cones of standard size 500mm, 750mm, &1000mm height & 300 mm to 500 mm in diameter will be used at near entrance & exist point (Gate-1) of the vehicles.

8.3. BARRICADE:

Barricade may be portable or permanent will be provided as per requirement –

- I. To prevent traffic & pedestrian from entering work area such as excavation, material storage areas.
- II. Provide protection to the workers involving in main construction zones.

REMARKS:

This is the provisional Traffic Management Plan which have been prepared on the basis of the probable traffic hazard occurs during the different stages of construction. This management plan will be modified from time to time per work schedule & considering the prevailing situation in due course & mitigation measures will also be taken accordingly.

Annexure 12: Grievance Redressal Mechanism

1. **Grievances under the Project:** The possible grievances of the community as envisaged, and which could be addressed through this project include:

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
- Public resistance for the project anticipating negative impacts of the project like tree felling for site clearance
- Accessibility issues of public
- Land demarcation issues.

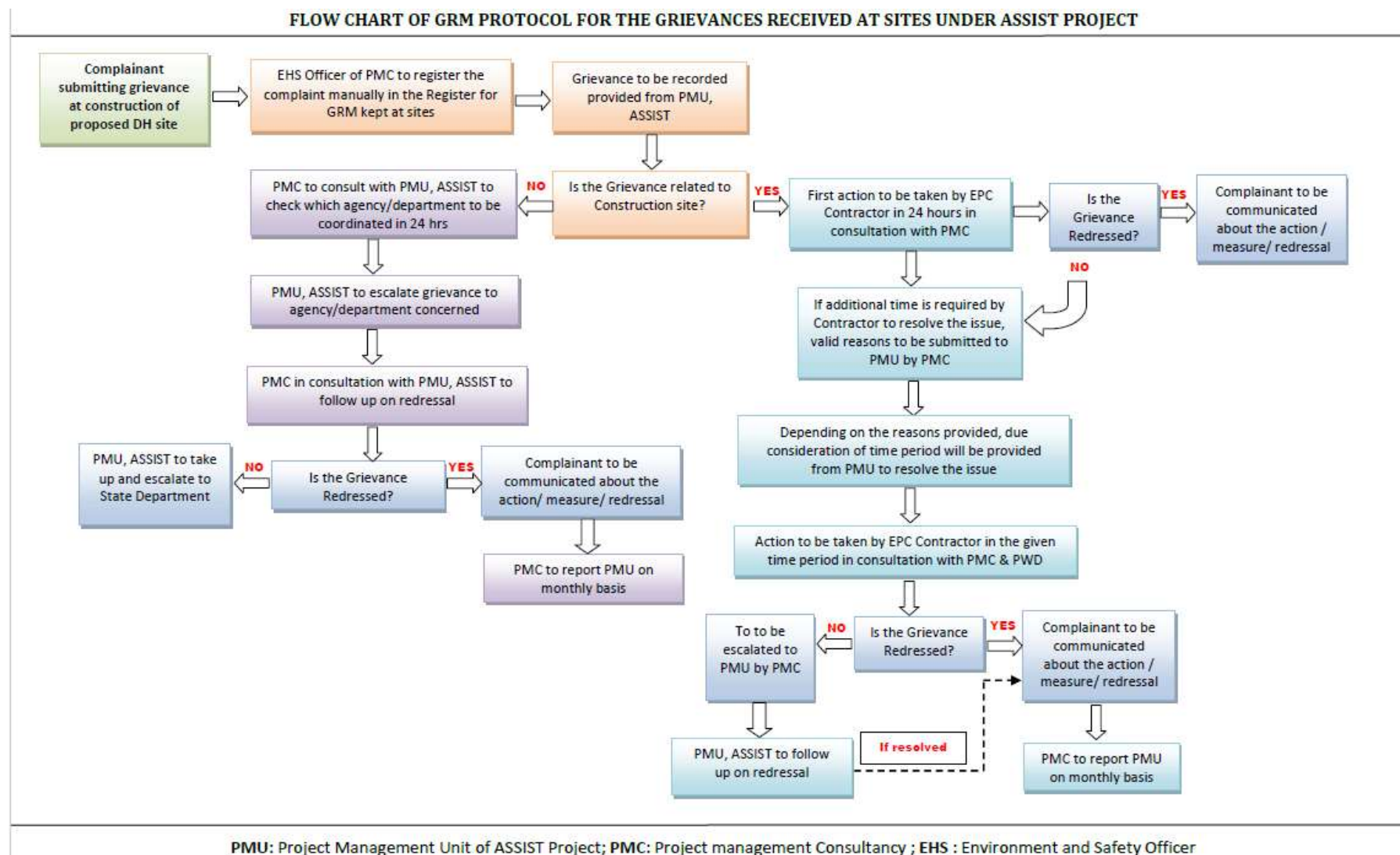
2. **Functioning of GRM**

All complaints and concerns will be addressed through a transparent, gender responsive, culturally appropriate process through a GRM protocol developed under the project. The following channels are established to receive inquiries/comments and concerns /grievances of the citizens/complainant:

- Calling in the GRM toll free number /phone number of ASSIST
- Physically registering complaint at sites in person & sending by posts or submission in the drop box installed at sites
- Sending in GRM email of ASSIST
- Online Submission in the ASSIST GRM Portal (to be developed)

The EPC Contractor at site 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:

2.1. The protocol for Grievance Redressal Management is shown with the help of the flow chart below:



2.2.1. For registering complaints of Community

Page 160

[illegible]

3. Contractor Grievance Redress Committee

Sr. No	Name and details	Designation	Status in the GRC (Convener/ Member)	Contact Details
1	Mr. Abhisek Agarwal	Project Manager	Chairperson (Contractor Representative)	7002379233
2	Mr. Biswadeep Das	Senior Project Manager	Member (AHIDMS Client Representative– Senior project manager for the package)	-
3	Mr. Dilip Dubey	EHS Officer	Member (PMC Engineer)	8586861265.
4	Mr. Paritosh Deb Nath.	Project Manager	Member (PMC Engineer)	8486019330.
5	Mrs. Sewali Das.	Community Member	Member (Community Member)	9859143366.
7	Himangshu Kumar Sarma.	Contractors EHS Officer	Convener (Contractors EHS Officer)	6001264584-

4. GRIEVANCE REDRESSAL MECHANISM (GRM) RESPONSIVE TO GBV/SEA/SH UNDER THE PROJECT

A. Available options for lodging GBV sensitive complaint:

- 1) Calling in the GRM toll free number/phone number of ASSIST
Female operator to be engaged and trained to receive GBV sensitive complaints
- 2) Physically registering complaint at HCFs, Project Intervention sites and Entities and at O/o AHIDMS in person, by posts, call or email
Designated trained focal persons at each of the entities to register GBV sensitive complaints
- 3) Sending in the GRM email of ASSIST
Designated trained focal persons to open email and take necessary action for the GBV sensitive complaints
- 4) Online Submission in the ASSIST GRM Portal

A separate section will be created in the GRM portal to handle GBV-sensitive grievances. Such complaints will be addressed through a survivor-centred approach and, where applicable, referred to the Internal Committee (IC) or Local Complaints Committee (LCC) in accordance with the POSH Act. Safe and confidential channels for submitting GBV grievances will also be identified and established.

B. To approach the reporting channels that exists in the State as stated below for submission of grievances safely and confidentially. In the process, to respect and acknowledge complainant's right to approach any reporting channel.

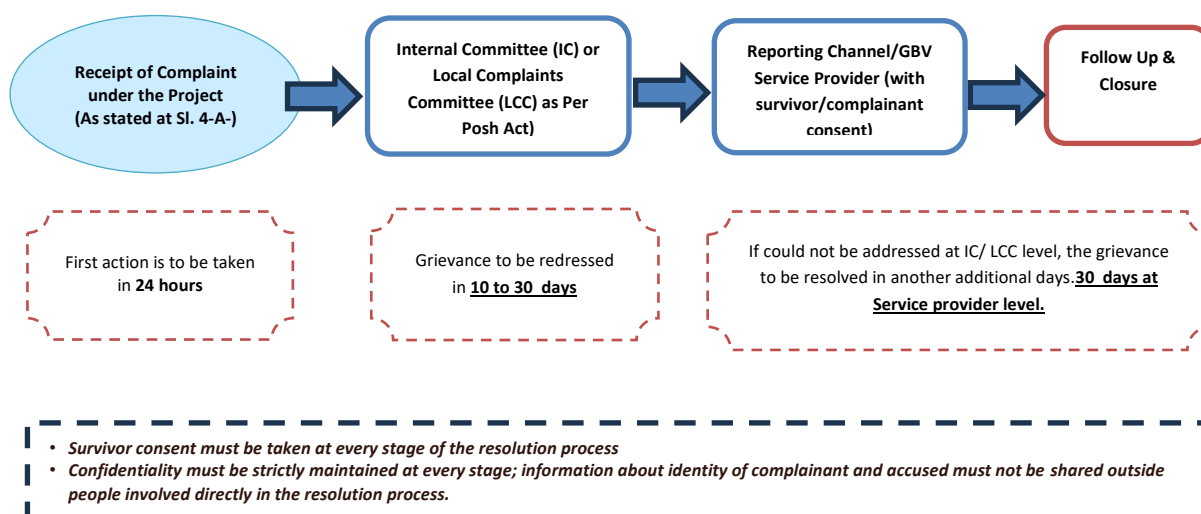
Reporting Channels for the Project

- a) District Social Welfare Officer (DSWO)
- b) District Hub for Empowerment of Women (DHEW)
- c) Women Helpline -181
- d) Childline – 1098 (For Girls upto 18 years of old)
- e) One Stop Centres (OSCs)
- f) Police – 100
- g) Internal Committee/ Local Complaints Committee
- h) Project GRM mechanisms:

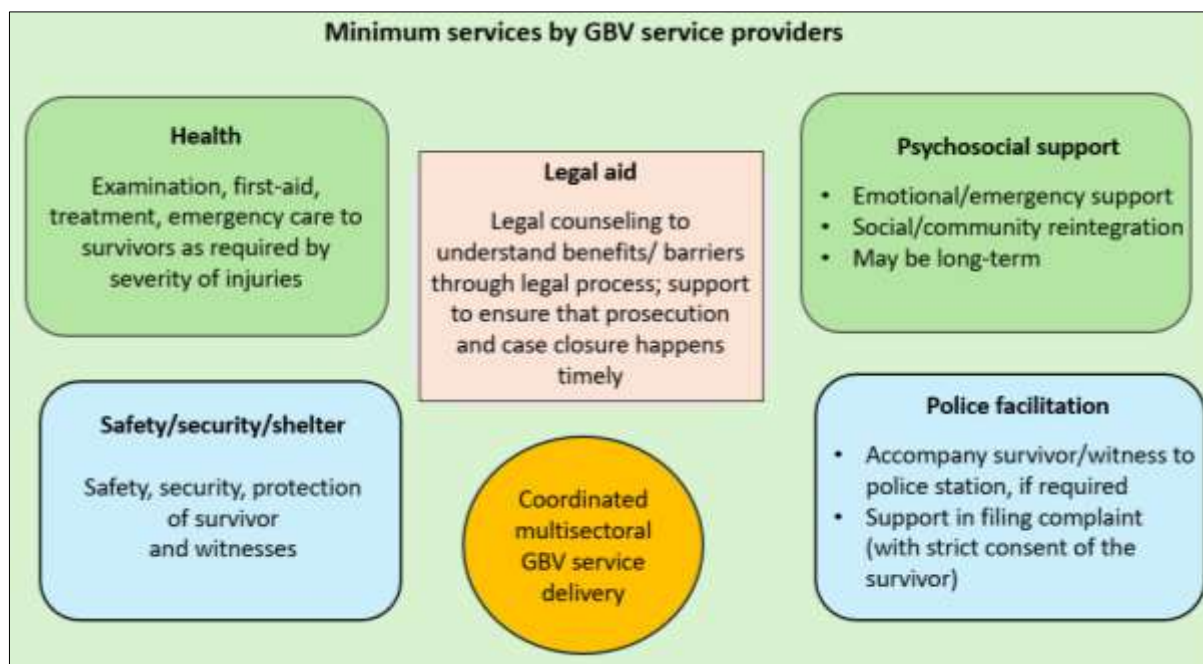
- i. Project GRM Portal
- ii. Drop Boxes at construction site, Complaints Boxes at existing Hospitals, Nursing Institutes/CoE
- iii. GRM Toll Free Number and Email

C. Display information on all uptake channels at all Program sites and offices.

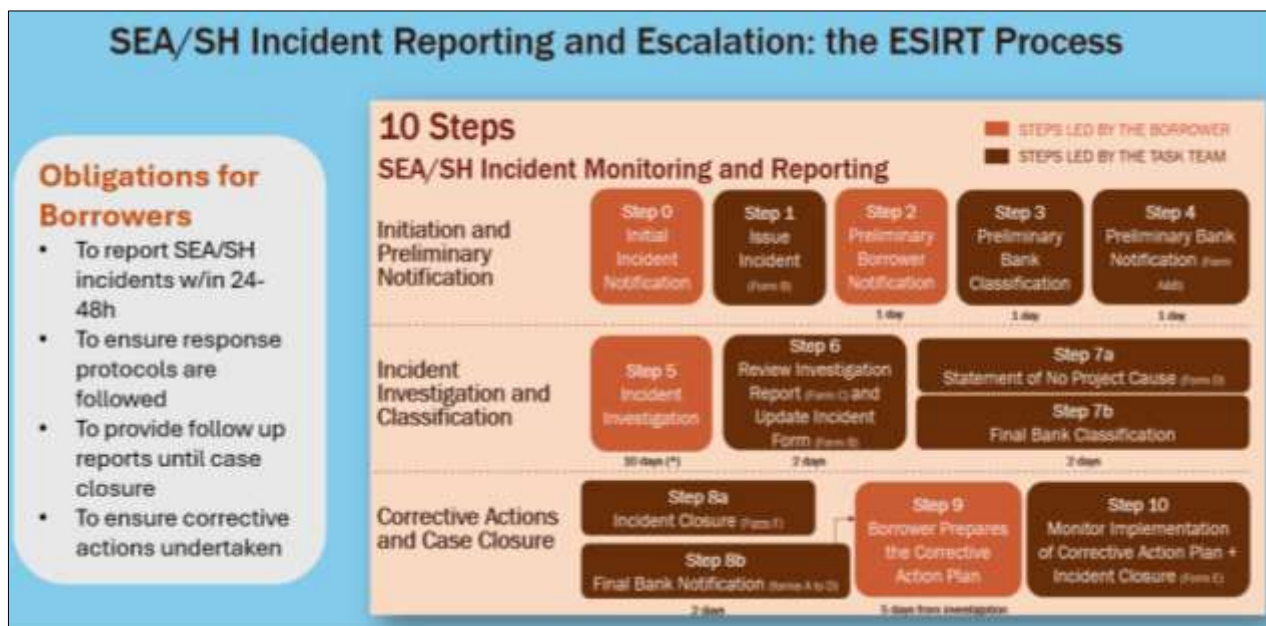
D. Process Flow



E. Minimum services to be provided by the service providers



F. World Bank ESIRT (Environmental and Social Incident Response Toolkit) Process: SEA/SH incidents reporting and escalation



G. Details of District Social Welfare Officer (DSWO), District Hub for Empowerment of Women (DHEW) and One Stop Centres (OSC) Officials, Women & Child Development Department, Assam

Sl No	Name of the Districts	Name of the DSWO/ (ifc) DSWO	Contact No.	Email ID	Contact person of DHEW for referral services	Contact No.	Contact person of the OSC for support services	Contact No.
1	Bajali	Jyoti Kumar Das	9401821333	dswobajali@gmail.com	BHAGYASHREE DAS	9706123668	Papi Devi	9706491268
2	Baksa	Simanta Pradip Choudhury	9435123527	dswobas2017@gmail.com	Santosh Ramchiary	7002361507	LEELA BRAHMA	9613981356
3	Barpeta	Bodiozzaman Ahmed	7002717992	dswobar2017@gmail.com	SUNAYANA DAS	9365956982	Nazma Heptullah	700297227
4	Biswanath	Mainul Hoque Choudhury	7002616102	dswobiswanath@gmail.com	Monali Beniya	8134826921	Manoshi Dawka	7578046687
5	Bongaigaon	Jayanta Kr. Das	9435023320	dswobon2017@gmail.com	Barasha Ray	9387306586	Puja Konwar	7002395134
6	Cachar	Deepa Das, ACS	9582379341	dswocac2017@gmail.com	Bonani Bhattacharjee	9706701254	Rupali Akura	9957990006/
7	Charaideo	Smt. Jyatsna Biswas	9707403318	dswochaideo2019@gmail.com	HERUSIKHA HATIMURIA	7576868367	HERUSIKHA HATIMURIA	7576868367
8	Chirang	Shyameswar Mushahary	7636609511	dswochi2017@gmail.com	Srai Srai Wary	8133025927	ANSUMAI DAIMARY	6003858929
9	Darrang	Kukheswar Borah	8638010484	dswodar2017@gmail.com	Dhirukalpa Saikia	9678093103	Jayashree Kalita	6000673645
10	Dhemaji	Sukanya Das	9435143322	dswodmj2017@gmail.com	Hudipta Borgohain	8876775781	Jyotsna Dowarah	6009964110
11	Dhubri	Pranamika Phukan	7896599527		Meghali Roy	9954365656	HIRAMANI PATHAK	8011055713
12	Dibrugarh	Prasanta Bora	8011443022	dswodibrugarh@gmail.com	Mousumi Mani	9957985006	Trishna Devi	8638515471
13	Dima Hasao	Jyoti Bikash Dutta	7896854196	dswodim2017@gmail.com	Sarada Langthasa	8134836268	Desmaidi Hagjer	9127162656
14	Goalpara	Abu Mostafa Arsal Hussain	9954323707	dswogoa2017@gmail.com	Himashree Sinha	9101116735	FARHIN NASIBA ISLAM	8638874808
15	Golaghat	Sri Dudu Dutta	7002713324	dswogol2017@gmail.com	JUPI SAIKIA	8399957089	Monjulika Gogoi Singi	8752878553
16	Hailakandi	Manjeet Das	7099104821	dswohai2017@gmail.com	Amit Kumar Das	9707251447	Nasrin Sultana Mazur	7896867730 / 7002263009
17	Hojai	Nileswar Ray	9365182833	hojaidswo@gmail.com	Tina Bhattacharjee	8133970839	MOMI BEGUM	8638622864
18	Jorhat	Sri Jatish Baruah	9954111635	dswojor2017@gmail.com	Sanjukta Bhuyan	8486455983	Leena Chakravarty	9706227040
19	Kamrup	Bhupen Bhattacharyya	9435073084	dswokamr2017@gmail.com	Gulashmi Rekha Borah	7637845575	JAYSHREE DEKA	8486067980
20	Kamrup (Metro)	Santosh Kutum	7636804618	dswokamrupmetro@gmail.com dswokamrupmetro@gmail.com	Anamika Sarma	9613064776	ILUSMITA KONWAR Cimmi Sarma	9864012581 8103956724
21	Karbi Anglong	Syed Nasir Rahman	8638960682	dswokarbianglong2019@gmail.com	Ms. Romali Teronpi	8837482338	ISHITA TERANGPI	9954299724
22	Karimganj	Syed Ahidul Islam	9854080014	dswokganj2023@gmail.com	Roopaktha Chakraborty	9101386213	BAISHALI NATH	9101306812
23	Kokrajhar	Jintu Moni Phukan	9435063432	dswokok2017@gmail.com	Daiji Basumatary	8876020894	Khair Brahma	7002814896
24	Lakhimpur	Anjana Brahma	9864074662	dswolak2011@gmail.com	PRANGANA BORAH	8761058136	Priyanka Borah	9101254327
25	Majuli	Uttam Adhikari	9101762224	dswomajuli12@gmail.com	Kuki Boruah	6000927152	Kakali Baruah	7086955354
26	Morigaon	Manika Borthakur	9365690739	dswomor2017@gmail.com	Pinki Moni Devi	8638670421	Sowansiri Das	9957996236
27	Nagaon	Bholanath Pegu	9435879432	dswonag2017@gmail.com	Antariksha Parashar	6001251902	Porimoni Borah	8638127912
28	Nalbari	Manoj Das	83768 32333	dswonal2017@gmail.com	Dikshita Barman	8638265070	Bhonita Deka	6000827184
29	Sivasagar	Upama Saikia	9678743665	dswosiv2017@gmail.com	Bidisha Dutta	8721985968	PUJA KONWAR	7002314783
30	Sonitpur	Rubi Kalita	8876502873	dswoson2017@gmail.com	SHILPI SAIKIA	9864438593	Nirmali Bezbaruah	6000649207

H.

Sl No	Name of the Districts	Name of the DSWO/ (i/c) DSWO	Contact No.	Email ID	Contact person of DHEW for referral services	Contact No.	Contact personof the OSC for support services	Contact No.
31	South Salmara Mankachar	Nandita Saharia	8638230565	dswossm@gmail.com	Mizanur Rahman	9101299835	Nasima Khatun	6001676069
32	Tamulpur	Irani Thakuria	9365969590	dswotamulpur22@gmail.com	Anupa Basumatary	9864430656	Saya Basumatary	7896741153
33	Tinsukia	Monika Kakoty Bharali	7670007893	dswotin2017@gmail.com	Jayashree Gogoi	7002386106	Barasha Kalita	8473817559
34	Udalguri	Dhiraj Kumar Talukdar	7002174660	dswouda2017@gmail.com	Mainaoshri Boro	7086486646	Monita Daimari	9394367879
35	West Karbi Anglong	Helen Terangpi	9854963097	dswowka@gmail.com	Jery George Millick	8134947523	JIRLEEN RONGPIPI	8812873913

Source: Women & Child Development Department, Assam

