राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, झारखण्ड

State Level Environment Impact Assessment Authority, Jharkhand

पौधशाला परिसर, धुर्वा, बस स्टैण्ड.के समीप, पो0+थाना–धुर्वा, राँची झारखण्ड 834004

ई–मेल.chr-seiaajhr@gov.in एवं msseiaa.jhk@gmail.com; वेबसाइट. www.jseiaa.org

सत्यमेव जयते

पत्रांकः–319 दिनांकः–29/10/2023

प्रेषकः

सदस्य सचिव,
राज्य स्तरीय पर्यावरण समाघात निर्धारण
प्राधिकरण (SEIAA), झारखण्ड।

सेवा में,

उपायुक्त,
जिला : साहिबगंज।

विषय : साहिबगंज जिला का बालू खनिज से संबंधित DSR के अनुमोदन के संबंध में।

प्रसंग : आपका कार्यालय का पत्रांक–1139/एम०, दि0–14.10.2023।

महाशय,

उपर्युक्त विषयक आपके कार्यालय के प्रासंगिक पत्र दिनांक 14.10.2023 द्वारा साहिबगंज जिला का बालू खनिज से संबंधित DSR की एक प्रति अनुमोदन हेतु दिनांक 19.10.2023 को SEIAA कार्यालय में समर्पित किया गया।

तद्अनुसार SEAC, झारखण्ड की 110वीं बैठक दिनांक 17.10.2023 से दिनांक 21.10.2023 में Shri Bibhuti Kumar, District Mining Officer, Sahibganj की उपस्थिति में M/s Rian Enviro Pvt. Ltd., Patna, Bihar consultant द्वारा दिनांक 20.10.2023 में SEAC के समक्ष Presentation दिया गया, जिसमें DSR के Salient Feature निम्नवत् बताये गये :–

1. The final DSR submitted is duly signed by all members of the Sub Divisional Committee and the Consultant. All the pages of the DSR are signed by the authorized officer of the Sub Divisional Committee.
2. The final DSR consists of the complete potential area and is demarcated as Potential Resource Area (PRA) / Sand Leases / Ghats as per EMGSM guideline 2020.
3. The replenishment study of pre & post monsoon period is included in final DSR.
4. The final DSR had been placed in the public domain for 01 (One) month from the 01.07.2023. As per the Sub Divisional Committee no comments / observations were obtained.'

5. Demand and supply of the river bed material has been provided. The future demand for next 05 years is included in the final DSR.
6. The PRA / Sand Leases / Ghats have not been proposed on the confluence / meanders / concavieties /active channels of the river.
7. Khata & Khasra numbers of the lease area certified by the concerned Circle Officer (CO) are incorporated in the final DSR.
8. The distance of PRA / Sand Leases / Ghats from the Forest / Wildlife Protected area / Birds Sanctuary/ Wildlife Sanctuary / National Park / Eco Sensitive Zone has been verified and certified by the concerned DFOs of the respective Territorial and Wildlife division.
9. A report detailing the presence of aquatic animal in the river in proximity of the proposed PRA / Sand Leases / Ghats is included in the final DSR.
10. The proposed PRA / Sand Leases / Ghats meet the siting criteria of State Pollution Control Board / SEIAA.
11. High resolution color satellite images of the proposed potential sand mining areas are included in final DSR.
12. Bulk density and specific gravity of sand sample data has been provided by NABL accredited laboratory.
13. Cluster and contiguous cluster formation as per EMGSM guidelines, 2020 has been included in the Annexures.
14. Mining is restricted to 3/4th of the river width and 60% of the mineable reserve.
15. Transportation routes for movement of sand are provided in the final DSR.
16. All the annexures as per EMGSM guidelines, 2020 are included in the final DSR.
17. An undertaking with reference to Point no. 9.3 of the EMGSM guidelines, 2020 regarding monitoring of mining near inter-district or inter-state boundary has been provided.
18. The representative of the Sub Divisional Committee along with the Consultants have affirmed that all the guidelines of EMGSM guidelines, 2020 / Hon'ble Apex Court in Civil Appeal no. 3661-3662/2020, Pawan Kumar vs State of Bihar & ors, Hon'ble NGT in O.A. no. 54/2022/EZ, Bhumi Adhigrahan Visthapan Avam Punarvas Kisan Samiti vs State of Jharkhand & ors have been followed in preparation of the final DSR.

SEAC द्वारा उपरोक्त तथ्यों के आलोक में सर्वसम्मति से आपके द्वारा समर्पित DSR को अनुमोदन हेतु SEIAA को अपनी अनुशंसा भेजी गयी।

SEAC की DSR Sahibganj की अनुमोदन हेतु भेजी गयी अनुशंसा के आलोक में SEIAA, झारखण्ड की 110वी बैठक दिनांक 27.10.2023 से दिनांक 29.10.2023 में विचार किया गया।

विचारोपरांत SEAC द्वारा की गयी अनुशंसा के आलोक में SEIAA द्वारा सर्वसम्मति से **साहिबगंज** जिला का बालू खनिज से संबंधित DSR का अनुमोदन किया गया।

साहिबगंज जिला का बालू खनिज से संबंधित अनुमोदित DSR की एक मूल प्रति अत्र– सह–संलग्न कर आपको अग्रेतर कार्रवाई हेतु भेजी जा रही है।

अनु० यथोक्त।

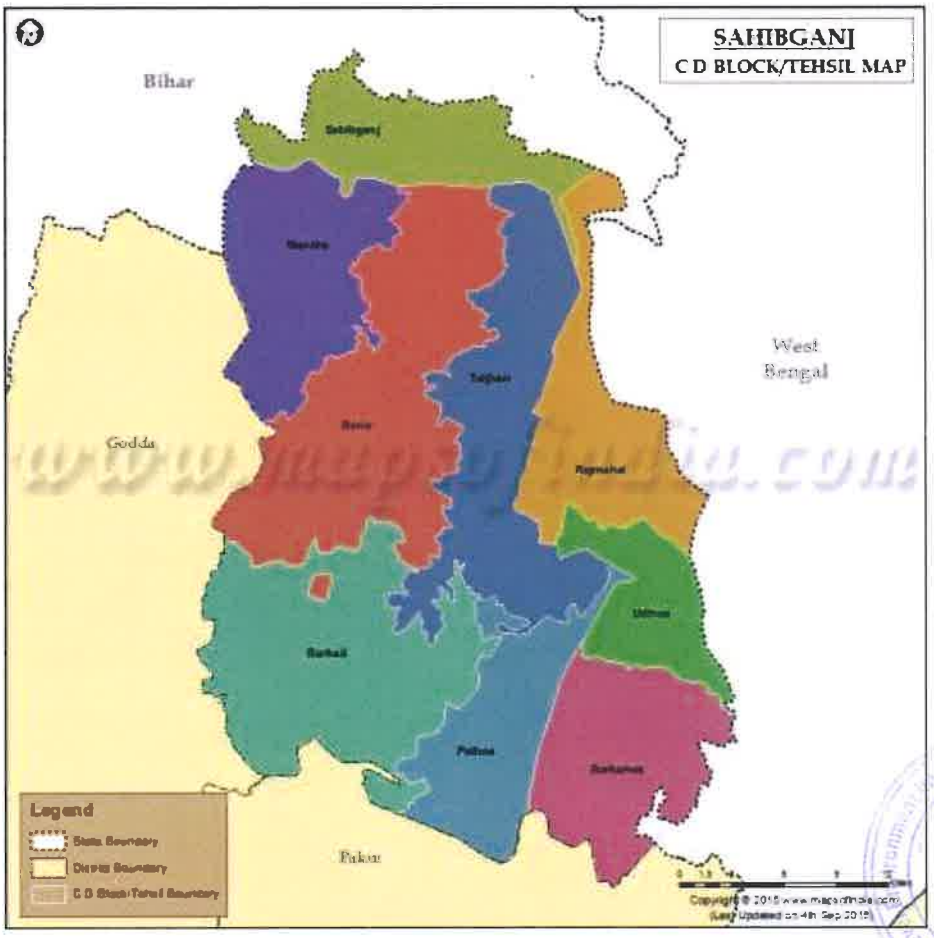
विश्वासभाजन,

सदस्य सचिव,

राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण (SEIAA), झारखण्ड।

DISTRICT SURVEY REPORT (DSR) FOR SAND MINERAL OF SAHIBGANJ DISTRICT, JHARKHAND

(As per Notification No. S.O.3611 (E) dated 25th July 2018, Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, issued by Ministry of Environment, Forest and Climate Change)



Prepared by

M/S RIAN ENVIRO PRIVATE LIMITED
202 & 402, Mangal Market, Raja Bazar, Sheikhpura, Patna, Bihar, Pin code-800014
Reg. address: 133, Ansal Chamber-II, 6 Bhikaji Cama Place, New Delhi- 110 066
(QCI NABET Accreditation No. - NABET/EIA/2124/IA 0079 Valid till 10.03.2024)

The Deputy Commissioner though its letter 494/M, dated 09.05.2023, had constituted a Sub-Divisional Committee to verified the District Survey Report prepared by Environmental Consultant. List of the members of the Sub-Divisional Committee is as follows: -

क्र. सं.	पदाधिकारी	हस्ताक्षर
1	अनुमंडल पदाधिकारी , साहेबगंज।	09/10/23.
2	वन प्रमंडल पदाधिकारी , साहेबगंज।	9/10/23
3	जिला खनन पदाधिकारी , साहेबगंज।	9/10/23
4	सहायक निदेशक, जिला भूतात्विक कार्यालय, साहेबगंज।	सुभाष 9/10/2023
5	कार्यपालक अभियंता, लघु सिंचाई प्रमंडल , साहेबगंज।	9/10/23
6	क्षेत्रीय पदाधिकारी, J.S.P.C.B राँची।	9/10/23

9/10/23

उपायुक्त,

साहेबगंज

29/10/2023

Member
State Level Environment Impact Assessment Authority, Jharkhand

29/10/2023

Member Secretary
State Level Environment Impact Assessment Authority Jharkhand

Chairman
State Level Environment Impact Assessment Authority, Jharkhand

State Level Environment Impact Assessment Authority * Jharkhand, Ranchi * Approved

Table of Contents

List of Tables:

List of Figures

Annexure	
ANNEXURE-1	Compliance Report
ANNEXURE- A	Details of Existing Sand Ghats (As per OLD DSR)
ANNEXURE -B	Committee Involved in DSR
ANNEXURE -C	Photographs of the site Survey
ANNEXURE -D	Sp. Gravity & Bulk Density data of sand from NABL lab
ANNEXURE -E	Proposed Ghats Coordinate
ANNEXURE -F	DFO & CO Report
ANNEXURE - G	Advertisement Copy/ Public Domain
ANNEXURE - H	Annexure as prescribed in the EMGSM, 2020
ANNEXURE – I	Haul Road Map

ANNEXURE – J	Undertaking regarding presence of aquatic animal certified by concerned Govt. Departments like Zoological survey of India.
ANNEXURE -K	PREMONSOON DATA
ANNEXURE-L	UNDERTAKING 9.3 as per EMGSM 2020
Plate	
Plate A	Plate showing sandbars in pre-monsoon
Plate B	Plate showing potential Zone in post-monsoon
Plate C	Cadastral Map of Gumani River
Plate D	Composite Map

1 Preface

The need for District Survey Report (DSR) has been necessitated by Ministry of Environment, Forest and Climate Change (MoEF & CC) vide. their Notification No. 125 (Extraordinary, Part II Section 3, Sub-section ii), S.O. 141 (E), dated 15th January 2016. The notification was addressed to bring certain amendments with respect to the EIA notification 2006 and in order to have a better control over the legislation. District level committees have been introduced in the system. As a part of this notification, preparation of District Survey Reports has been introduced. Subsequently, Ministry of Environment, Forest and Climate Change has published Notification No. 3611 (E), dt. 25th July, 2018 regarding inclusion of the "Minerals Other than Sand" and format for preparation of the DSR has been specified. Enforcement &Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and also based on the reports submitted by expert committees and investigation teams.

District Survey Report of River Bed Sand Mining in the Sahibganj district is prepared under;

- MoEF & CC, GoI notification S.O. 141 (E) dated 15/01/2016
- Sustainable Sand Mining Guidelines, 2016
- Sand Policy of Govt. of Jharkhand, 2017
- MoEF & CC, GoI notification S.O. 3611 (E) dated 25/07/2018
- Enforcement and Monitoring Guidelines for Sand Mining 2020
- Jharkhand Minor Mineral Concession (Amendment) Rules 2020.

The DSR of Sahibganj District also describes the general geographical profile of the district, distribution of natural resources, livelihood, climatic condition and sources of revenue generation.

2 Introduction

The District Survey Report of Sahibganj District has been prepared as per the guide line of Ministry of Environment, Forests & Climate Change (MoEF & CC), Government of India vide. Notification S.O.-1533(E) dated 14th Sept, 2006 and subsequent MoEF & CC Notification S.O. 141(E) dated 15th Jan, 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF & CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report.

The main objective of DSR is to identify the areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and estimation of annual rate of replenishment and allowing time for replenishment after mining in that area. The DSR would also help to calculate the annual rate of replenishment wherever applicable and allow time for replenishment. Besides the sand mining, the DSR also include the potential development scope of in-situ minor minerals.

The objectives of the District Survey Report are as following:

1. To identify and quantify minor mineral sand resources for its optimal utilization.
2. To regulate sand and gravel mining in the district Sahibganj, identification of site-specific end-use consumers and reduction in demand and supply gaps.
3. To facilitate use of Information Technology (IT) for surveillance of the sand mining at each step.
4. To enable environmental clearance for cluster of sand and gravel mines.
5. To restrict illegal mining.
6. To reduce occurrences of flood in the area.
7. To maintain the aquatic habitats.
8. To protect ground water in the area by limiting extraction of material in riverbeds to an elevation above the base flow.
9. To maintain data records viz. details of mineral resource, potential area, lease, approved mining plan, co-ordinates of lease hold areas, and revenue generation.
10. To design a scientific mining plan and estimate ultimate pit limit.

To frame a comprehensive guideline for mining of sand and other minor minerals.

The District Survey report (DSR) comprises of primary field dada as well as secondary data published and endorsed by various departments and websites about geology of the area, mineral resources, climate, topography, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc. Data on lease and mining activities in the district, revenue etc. is collected and collated from concern district Head Quarter.

The Deputy Commissioner though its letter 494/M, dated 09.05.2023, had constituted a Sub-Divisional Committee to verified the District Survey Report prepared by Environmental Consultant. List of the members of the Sub-Divisional Committee is as follows: -

अनुमंडल पदाधिकारी , साहेबगंज।

जिला खनन पदाधिकारी , साहेबगंज।

कार्यपालक अभियंता , लघु सिंचाई प्रमंडल , साहेबगंज।

राज्य प्रदूषण पार्षद द्वारा नामित पदाधिकारी।

वन प्रमंडल पदाधिकारी , साहेबगंज के नामित पदाधिकारी।

2.1 Statutory Framework:

a. Evolution of the Environmental Regulatory Framework:

Requirement of District Survey Report & its year wise modification of Guidelines is furnished in Table No 2.1.

Table 2-1 : Requirement of District Survey Report & its year wise modification of Guidelines

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF&CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major Minerals more than 5 ha.
2006	In order to cover the minor minerals also into the preview of EIA, the MoEF&CC issued EIA Notification SO 1533 (E), dated 14th September 2006, made mandatory to obtain environmental clearance for both Major & Minor Mineral more than 5 Ha.
2012	Further, Hon'ble Supreme Court wide order dated the 27th February, 2012 in I.A. No.12- 13 of 2011 in Special Leave Petition (C) No.19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc.,

Year	Particulars
	ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF"; and Hon'ble National Green Tribunal, order dated the 13th January, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor Minerals.
2016	The MoEF & CC in compliance of above Hon'ble Supreme Court's and NGT'S order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State governments, detailing the provisions on environmental clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District survey report and proper monitoring of minor mineral. There by issued Notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006, and made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District survey report (DSR) of River bed mining and other minor minerals.
2017	Jharkhand Minerals (Concession, Prevention of Illegal Mining, Transportation and Storage) Rules, 2017. The notification stated about the prevention of Illegal mining, transportation and storage of sand and guidelines for mining activity, safety barriers, mining depth and lease. The main objective of Jharkhand State Sand Mining Policy, 2017 to ensure that sand mining is done in an environmentally sustainable and socially responsible manner, Preparation of District Survey Report, and to ensure Categorization of Streams/Rivers, Management of Sand Deposition.
2018	MoEF & CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report. The notification stated about the objective of DSR i.e. "Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of

Year	Particulars
	replenishment and allowing time for replenishment after mining in that area".
2020	Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 has been published modifying Sustainable Sand Mining Guidelines, 2016 by MoEF & CC for effective enforcement of regulatory provisions and their monitoring. The EMGSM 2020 directed the states to carry out river audits, put detailed survey reports of all mining areas online and in the public domain, conduct replenishment studies of river beds, constantly monitor mining with drones, aerial surveys, ground surveys and set up dedicated task forces at district levels. The guidelines also push for online sales and purchase of sand and other riverbed materials to make the process transparent. They propose night surveillance of mining activity through night-vision drones.

2.2 Methodology of DSR Preparation

The steps followed during the preparation of District Survey Report are given in Figure 2.1. The individual steps are discussed in following paragraphs.

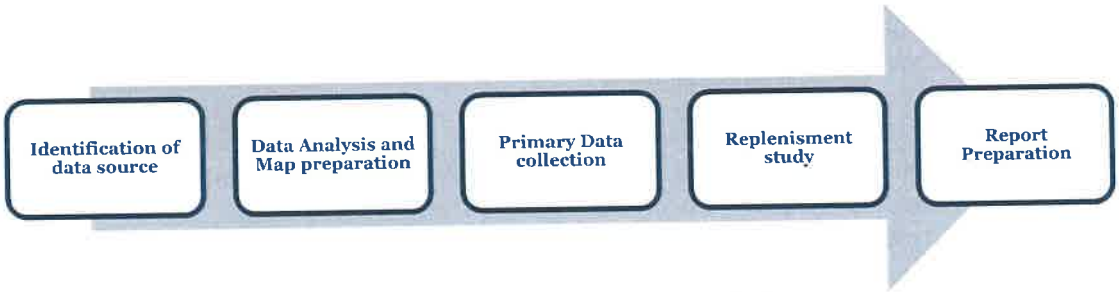


Figure 2-1 : Steps followed in preparation of DSR

2.2.1 Data source Identification:

District Survey Report has been prepared based on the Primary data base and secondary data base collected from different sources. The secondary data sources which are used in DSR are mostly Government published data based on the published report in reputed journal. District profile has been prepared based on the District Statistical handbook published by Jharkhand Government as well as District Census 2011. Mining lease details and the revenue generated from sand has been prepared based on available data from DMO, Sahibganj. Satellite imagery as well as field data

has been used for map preparation related to physiography and land utilization pattern of the district.

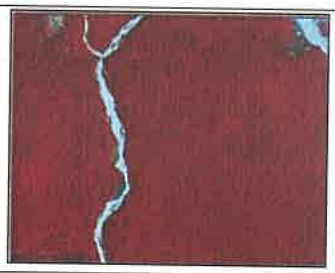
2.2.2 Data Analysis and Map preparation:

Dataset which are captured during the report preparation, are gone through detailed analysis work. District Survey Report involves the analytical implication of captured dataset to prepare relevant maps. Methodology adopted for preparation of relevant maps is explained below.

Land Use and Land Cover Map: Land Use and Land Cover classification is a complex process and requires consideration of many factors. The major steps of image classification may include determination of a suitable classification system via Visual Image Interpretation, selection of training samples, Satellite image (FCC-False Colour Composite) pre-processing, selection of suitable classification approaches, post-classification processing, and accuracy assessment.

Here LISS-III satellite Imagery has been taken for Supervised Classification as supervised classification can be much more accurate than unsupervised classification, but depends heavily on the training sites, the skill of the individual processing the image, and the spectral distinctness of the classes in broader scale.

According to the Visual Image Interpretation (Tone, Texture, Colour etc.) training set of the pixel has been taken.

	
Agricultural Land - Based on their Geometrical shape, Red and Pink colour tone, Agricultural Land has been identified.	**Vegetation Covered Area** - Based on their continuous Red colour tone, Vegetation Covered Area has been identified.
	
Agricultural Fallow Land - Based on their Geometrical shape, Light and dark cyan with light pink colour tone, Agricultural Land has been identified.	**Bad Land Topography**- Light Yellowish mixed with cyan colour has been identified as Bad Land Topography.

	
Settlement – Area with Cyan Colour including geometrical shape has been recognised as Settlement Area.	**Water Bodies** – Dark blue colour has been classified as Water Bodies.

Figure 2-2 : Pictorial description of Land Use Classification methods

Geomorphological Map:

The major steps of preparing Geomorphological Map is identifying features like – Alluvial Fan, Alluvial Plain, Hilly Region etc. from Satellite Imagery (FCC-False Colour Composite) via Visual Image Interpretation and then digitization has been taken into the consideration to prepare map including all the Geomorphological features according to their location.

	
Alluvial Plain- In satellite Imagery the flat land has been identified as Alluvial Plain just below the Alluvial Fan.	**Alluvial Fan** – A fan-based deposition formed by stream where the velocity is abruptly decreased. In satellite Imagery this has been identified just below the hilly region.

Figure 2-3 : Pictorial description of Geomorphological Units Classification methods

Physiographical Map:

The major step of preparing Physiographical Map is generating contour at a specific interval to show the elevation of the area using Cartosat DEM.

Block Map:

- Raw Data collected from **National Informatics Centre (NIC Website).**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary and district headquarter, sub –district headquarter, places, road, railway, river, nala etc.

- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Transportation Map:

- Raw Data collected from **National Informatics Centre (NIC Website).**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary and district headquarter, sub –district headquarter, places, road, railway, river, nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website).**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary and district headquarter, sub –district headquarter, places, road, railway, river, nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Seismic Map:

- Raw data collected from **Ministry of Earth Science.**
- Data has been geo-referenced using GIS software.
- Digitization of Earthquake zone and superimposed it over Block Boundary.
- Zone name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Soil Map:

- Raw data collected from **National Bureau of Soil Survey and Land Use Planning.**
- Data has been geo-referenced using GIS software.
- Digitization of Soil classification zone and superimposed it over District Boundary.
- Soil classification has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Wildlife Sanctuary and National Park Location Map:

- Raw data collected from **ENVIS Centre on Wildlife & Protected Areas.**
- Data has been geo-referenced using GIS software.
- Digitization of Wildlife Sanctuary & National Park and superimposed it over Block Boundary.

- Wildlife Sanctuary & National Park name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

2.2.3 Primary Data Collection:

To prepare DSR, capturing primary data or field data has also been carried out in the district. Field study involves assessment of the mineral resources of the district by means of river cross- section studies in specific interval. This provides clear picture of mineral matters characterization and their distribution over the area. Pre-monsoon data provided by DMO Sahibhanj.

2.2.4 Report Preparation:

The district survey report portrays general profile, geomorphology, land use pattern and geology of the district. The report then describes the availability and distribution of riverbed sands and other minor minerals in the district. Apart from delineation the potential mining blocks, the report also includes inventorization of the minerals, recent trends of production of minor minerals and revenue generation there from. Annual replenishment of the riverbed sand has been estimated using field observation, satellite imagery and empirical formula. The road network connecting arterial road to potential mining blocks has been identified. Potential environmental impacts of mining of these minerals, their mitigation measures along with risk assessment and disaster management plan have also been discussed. Finally, the reclamation strategy for already mined out areas is also chalked out.

2.3 Demand and Supply of Sand

Sand is a multi-purpose topographical material. It is known as one of the three fundamental ingredients in concrete. The composition of sand is diverse.

The robustness of sand has played a significant role in everyday life. We use sand practically every other day.

Sand extraction from river beds are the main mining activities in the district. With a spurt in construction of real estate sectors and various govt. sponsored projects, the demand for sand has increased manifold.

In the real world, there are a lot of situations where we can find uses/demand of sand. Followings are the common sand uses.

1. While bunging metal, we can mix sand with clay binder for frameworks used in the foundries.
2. Sand can be used for cleaning up oil leak or any spill by dredging sand on that spill. The material will form clumps by soaking up, and we can quickly clean the mess.
3. Sand can be used as a road base which is a protective layer underneath all roads
4. Industrial sand is used to make glass, as foundry sand and as abrasive sand.

5. One creative usage of sand is serving as a candle holder. We can try putting some sand before pouring tea light or any candle in a glass. It holds the candle still and refrain the candle from rolling by giving it an excellent decoration.
6. Adds texture and aesthetic appeal to space.
7. Sand is mostly pure to handle, promptly available and economically wise.
8. We use sand in aquariums, fabricating artificial fringing reefs, and in human-made beaches
9. Sandy soils are ideal for growing crops, fruits and vegetables like watermelon, peaches, peanuts, etc.
10. Sand can light a path by filling mason jars with sand and tea light which is another inexpensive way to make a walkway glow.
11. Sand helps to improve resistance (and thus traffic safety) in icy or snowy conditions.
12. We need sand in the beaches where tides, storms or any form of preconceived changes to the shoreline crumble the first sand.
13. Sand containing silica is used for making glass in the automobile and food industry-even household products for the kitchen.
14. Sand is a strong strand which is used for plaster, mortar, concrete, and asphalt.

Sand extracted from Sahibganj district is used extensively in construction works ranging from individuals to organized corporate and government sectors.

3 General Profile of the district

3.1 General Information

The district Sahibganj is situated in the north – eastern part of the Jharkhand state. It is bounded in the north by a small portion of Bhagalpur and Kathihar districts of Bihar state, in the east by West Bengal, in the south by Pakur district and in the west by Godda district and a portion of Bhagalpur district (Bihar). The district is situated between 24° 43' 00"and 25° 50' 45" North latitude and 87°27' 30" and 87° 58' 15" East longitude. The district covers Survey of India toposheets nos. 72 O/ 7, 72 O/ 8, 72 O/ 11, 72 O/ 12, 72 O/ 16, 72 P/5, 72 P/ 9, 72 P/10, 72 P/13 and 72 P/14.

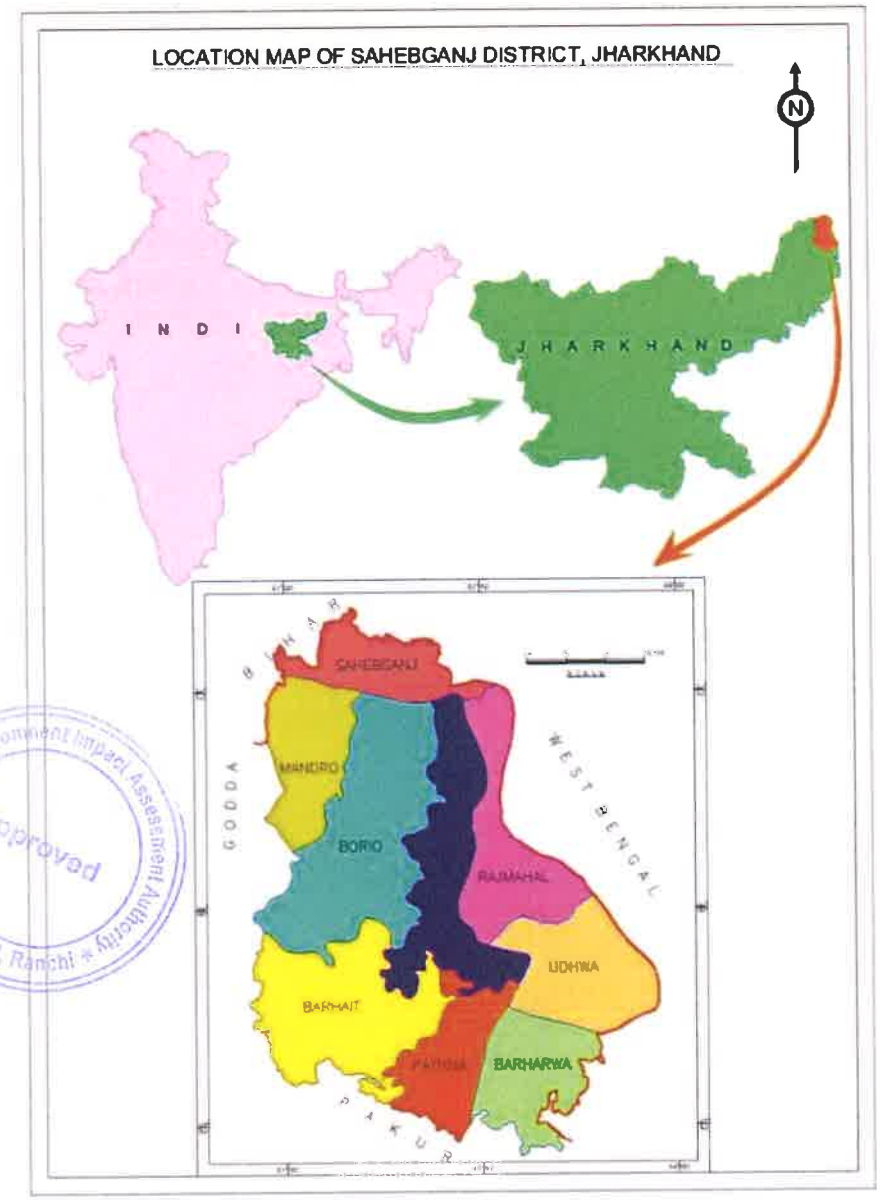


Figure 3-1 : Location map of Sahibganj district, Jharkhand

3.2 Administrative Setup of District

The district has two sub divisions i.e., Sahibganj and Rajmahal and nine blocks namely – Sahibganj, Borio, Taljhari, Rajmahal, Barharwa, Pathna, Barhait, Mandro and Udhwa. The total number of villages in the district is 1813, of these 1349 are inhabited and 464 uninhabited.

The district administration is headed by the Deputy Commissioner. He belongs to I.A.S. cadre. He also acts as the Collector in case of Revenue matters, as District Development Commissioner in case of District Developmental works, as District Magistrate in case of maintenance of Law and Order and General Administration, as District Election Officer in case of conduct of Election. He is assisted by a lot of officers mostly belonging to officials of Jharkhand Public Service Commission. Police Administration is looked after by the superintendent of the police (S.P.). He is also assisted by no. of officers like Assistant Superintendents of Police, Deputy Superintendent of Police, Inspector of Police, etc.

A Block map of Sahibganj District is furnished as Figure No.3.2.

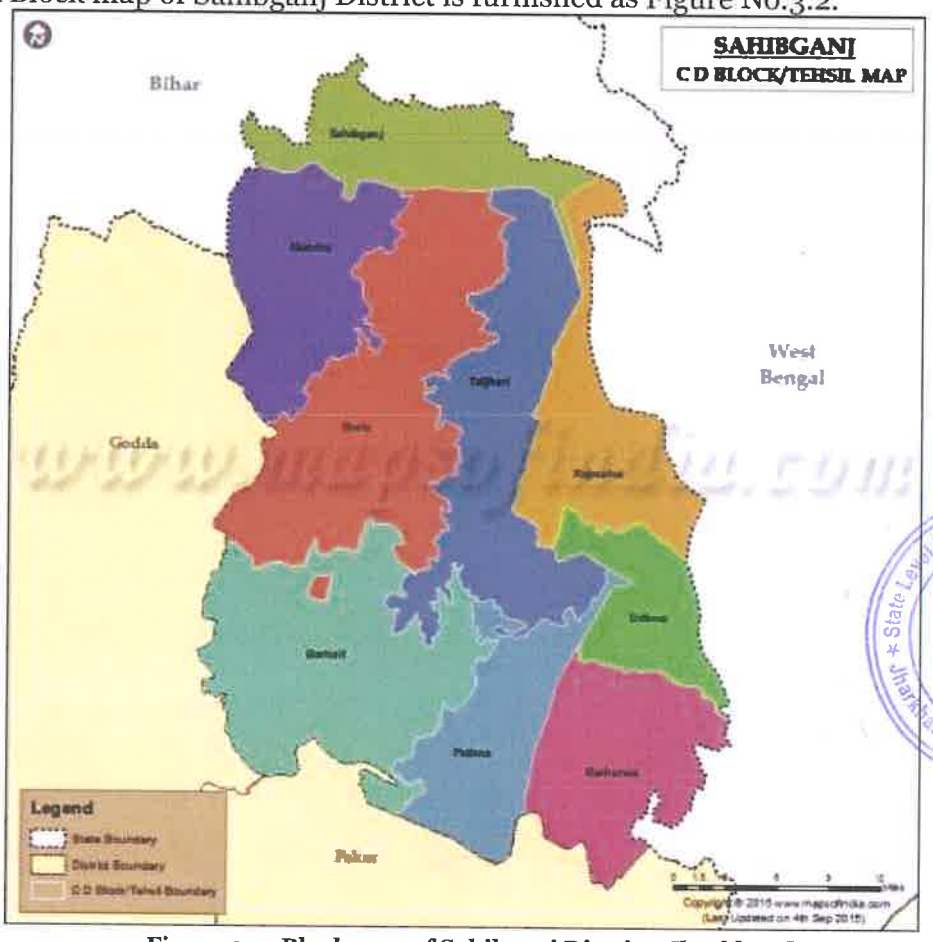


Figure 3-2: Block map of Sahibganj District, Jharkhand
(Source: https://www.mapsofindia.com/maps/jharkhand/tehsil/sahibganj.html)

Detail of Blocks of Sahibganj District is furnished in Table No.3.1.

Table 3-1 : Details of Block of Sahibganj District

Sl. No.	Block Name	Area in sq.km.
1	Sahibganj	168.16
2	Borio	391.76
3	Taljhari	273.03
4	Rajmahal	140.76
5	Barharwa	187.33
6	Pathna	171.39
7	Barhait	370.98
8	Mandro	182.24
9	Udhwa	214.83

(Source: District Census Handbook, Sahibganj)

3.2.1 Climate Condition

The district is characterized by humid to sub-humid climate. During summer the hot spell prevails from March to middle of June. Rainy season started from middle of June to end to September. Winter starts from the middle of November and continues till the end of February. The district experiences great heat from March to May, when the maximum temperature reaches up to 44.4°c. December being the coldest month when the minimum temperatures fall down up to 6.8°c.

The area receives rainfall by South-West monsoon. Rainy season sets in the middle of June and lasts till September. The normal average rainfall) in the district is 1575 mm.

The rainfall of the district is given below in Table No.3.2.

Table 3-2 : Details of rainfall data of 20 years (from 2001 to 2020)

Year/Month	Jan.	Feb.	March	Aprill	May	June	July	Agu.	Sept.	Oct.	Nov.	Dec.	Total
2001	0.0	0.0	1.5	6.5	142.3	279.9	172.1	178.0	303.5	282.6	0.0	0.0	**1366.4**
2002	4.3	0.0	9.8	78.4	97.9	313.9	208.7	490.5	376.6	50.7	0.0	0.0	**1630.8**
2003	0.5	45.8	28.6	18.3	194.0	266.7	297.8	222.1	180.2	307.5	0.0	2.7	**1564.2**
2004	14.2	0.0	1.5	14.8	53.6	315.9	367.7	203.5	114.2	422.1	0.0	0.0	**1507.5**
2005	8.0	1.1	16.8	5.9	59.6	65.8	420.6	258.7	218.6	144.1	0.0	0.0	**1199.2**
2006	0.0	0.0	0.8	58.3	85.5	362.0	350.0	247.1	551.2	29.1	17.2	0.0	**1701.2**
2007	0.0	35.6	38.4	5.2	48.3	162.0	437.3	162.5	316.2	48.0	0.0	0.0	**1253.5**
2008	38.6	5.0	10.0	14.3	71.4	369.9	325.2	384.0	160.9	69.1	0.0	0.0	**1448.4**
2009	0.0	2.0	0.6	0.0	166.2	47.0	255.8	227.4	180.8	149.2	0.0	0.0	**1029.0**
2010	0.0	1.4	0.0	11.3	57.8	175.5	260.1	136.0	250.8	55.9	0.0	0.0	**948.8**
2011	0.0	1.0	0.0	11.6	94.6	283.4	203.2	404..6	193.8	10.8	0.0	0.0	**798.4**
2012	0.0	0.0	0.0	18.2	7.5	68.0	414.5	107.5	286.4	75.0	34.6	0.0	**1011.7**
2013	0.0	0.0	0.0	15.2	70.6	190.5	107.7	303.6	73.1	141.8	0.0	0.0	**902.5**
2014	0.0	10.3	0.2	0.0	166.2	190.5	414.5	227.4	180.8	55.9	0.0	0.0	**1245.8**
2015	5.9	7.9	26.8	51.0	60.8	262.6	448.2	414.8	40.2	30.8	0.0	0.0	**1348.9**
2016	8.4	0.0	1.4	0.0	71.1	156.2	327.4	172.3	247.0	41.2	0.0	0.0	**1025.0**
2017	4.7	0.0	0.0	18.6	107.7	85.9	385.9	376.9	138.9	129.7	0.0	0.0	**1248.3**
2018	0.0	0.0	20.2	0.0	65.4	83.5	273.3	291.6	107.2	58.7	0.0	8.6	**908.5**
2019	0.0	31.4	0.0	27.1	60.1	325.7	428.6	154.6	442.5	75.1	0.0	7.0	**1552.1**
2020	4.4	20.7	0.0	46.7	167.8	189.3	324.9	205.3	502.4	42.6	0.0	0.0	**1504.1**
Total	**89.0**	**162.2**	**156.6**	**401.4**	**1848.4**	**4194.2**	**6423.5**	**4763.8**	**4865.3**	**2219.9**	**51.8**	**18.3**	**25194.3**
Average	**4.5**	**8.1**	**7.8**	**20.1**	**92.4**	**209.7**	**321.2**	**238.2**	**243.3**	**111.0**	**2.6**	**0.9**	**1259.7**

(Source:- DSO, Sahibganj)

3.2.2 Demography

According to the 2011 census, Sahibganj district has a population of 1,150,567 with which 589,391 male population and 561,176 female population. There are 464 uninhabited villages (out of 1,813 total villages) in the district of Sahibganj. In terms of population per sq.km. Sahibganj is the 8rd densely populated district in the state with 588 persons per sq.km as against the state's 414. Sahibganj has a sex ratio of 933 females for every 1000 males, and a literacy rate of 66.41%. The district headquarter is Sahibganj. Sahibganj has a sex ratio of 952 females for every 1000 males, and district has population of literate's 483263 with which 287303 males population and 195960 female population.

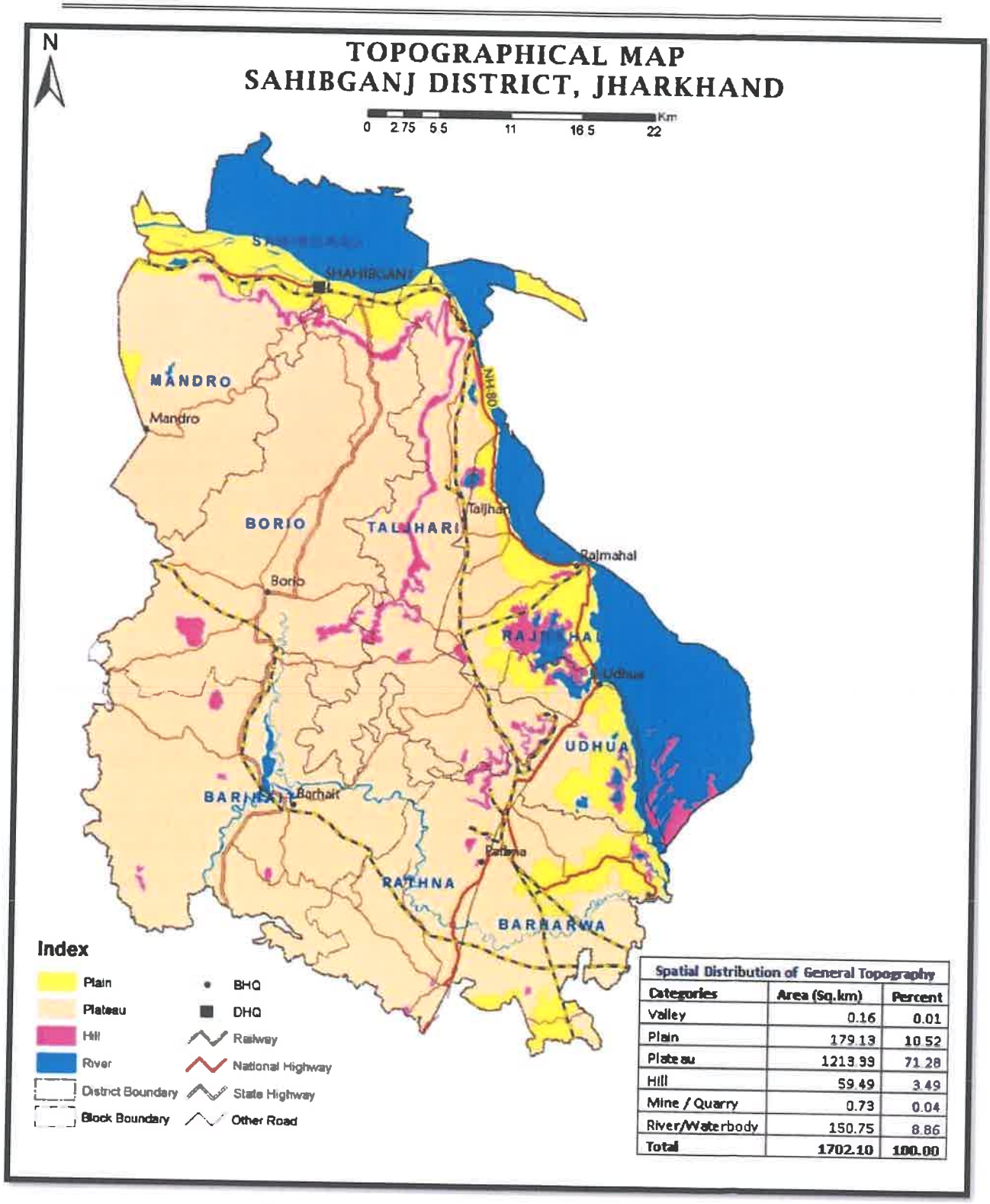
3.2.3 Cropping pattern

The major crops cultivated in the area are paddy, wheat, maize, gram, oil seeds, pulses and vegetable. The paddy is grown in all the three cropping season viz., Aghani, Bhadai and summer. Summer paddy is mainly cultivated in the low lying area along the river course where water is available for sufficient irrigation. But the land available for cultivation is very limited because of the hilly and rugged topography.

3.2.4 Topography & Terrain

A large part of the district is hilly. The vast tract of land enclosed between hill ranges had been assigned a name- Damin-I-koh, which is a Persian word means Skirts of the hills. The region on the bank of the Ganges is fertile and richly cultivated. The district may be divided into two natural divisions on the basis of its geographical location and cultivable land. First region consists of Borio, Mandro, Barhait, Pathna and Taljhari blocks and lies under Damin-I-koh area. The hills and slopes are covered with forests, once dense but scanty now. The valleys have cultivable lands, yielding mostly paddy. The inhabitants of this region are generally Paharias, Mal Paharias and Santhals. The inhabitants on the hill top cultivate Barbatti and maize using rain water.

The second region consists of Sahibganj, Rajmahal, Udhwa and Barharwa blocks. This plain region consists of the uplands, undulation along ridges and depressions. The Ganges, Gumani and Bansloi rivers flow through this region. This area has plenty of fertile lands and is richly cultivated. The inhabitants of this region are mainly middle class people of different castes, Paharias and Santhals.



Spatial Distribution of General Topography		
Categories	Area (Sq.km)	Percent
Valley	0.16	0.01
Plain	179.13	10.52
Plateau	1213.99	71.28
Hill	59.49	3.49
Mine / Quarry	0.73	0.04
River/Waterbody	150.75	8.86
Total	1702.10	100.00

Figure 3-3: Topographical Map Sahibganj District

(source: https://jsac.jharkhand.gov.in/district_profile/Sahibganj.pdf)

3.2.5 Hydrogeology

The occurrence and movement of ground water in the area is variable, which is broadly governed by geological frameworks i.e., nature of rock formations including their porosity (primary and secondary) and permeability. The principal aquifer in the area is Basalt, where the occurrence and movement of ground water primarily depends on the degree of interconnection of secondary pores/voids developed by fracturing and weathering. Rajmahal Traps in the area constitutes number of basaltic flows separated by intertrappeans beds which are often agillaceous and arenacious in nature. The intertrappeans beds separates two flows occurs as impermeable beds. The distinctive hydrogeological features of the basaltic rocks are the significant primary porosity in the form of vesicles, cracks etc. The secondary porosity is developed due to fracturing during cooling of lavas, tectonic disturbances, weathering etc. Laterites are mainly of insitu origin and have formed by subaerial erosion of underlying basalts under favourable climatic condition. The study 22 reveals that vesicular basalts, laterites, intertrappeans formation etc form suitable condition for ground water storage. The alluvium occurs in the northern and eastern boundary of the district, which is composed mainly of sand and sub ordinate clay. Younger alluvium (up to 70 m) is most productive rather than older alluvium.

DEPTH TO WATER LEVEL: Water level scenario of shallow aquifer was generated by utilizing water level data of 27 monitoring wells representing shallow aquifer. The pre monsoon (May 2016) depth to water monitored between 2.84 to 11.51 mbgl. The post monsoon depth to water level (Nov. 2016) in the dug wells ranges from 1.48 to 7.50 mbgl. During 2017, the water level of shallow aquifer was monitored between 2.58 to 11.15 and 1.14 to 6.51 mbgl for the period of pre and post monsoon respectively. Similarly, post monsoon water level was monitored for the year 2018 and it is observed the water level varies from 2.45 to 9.62 mbgl.

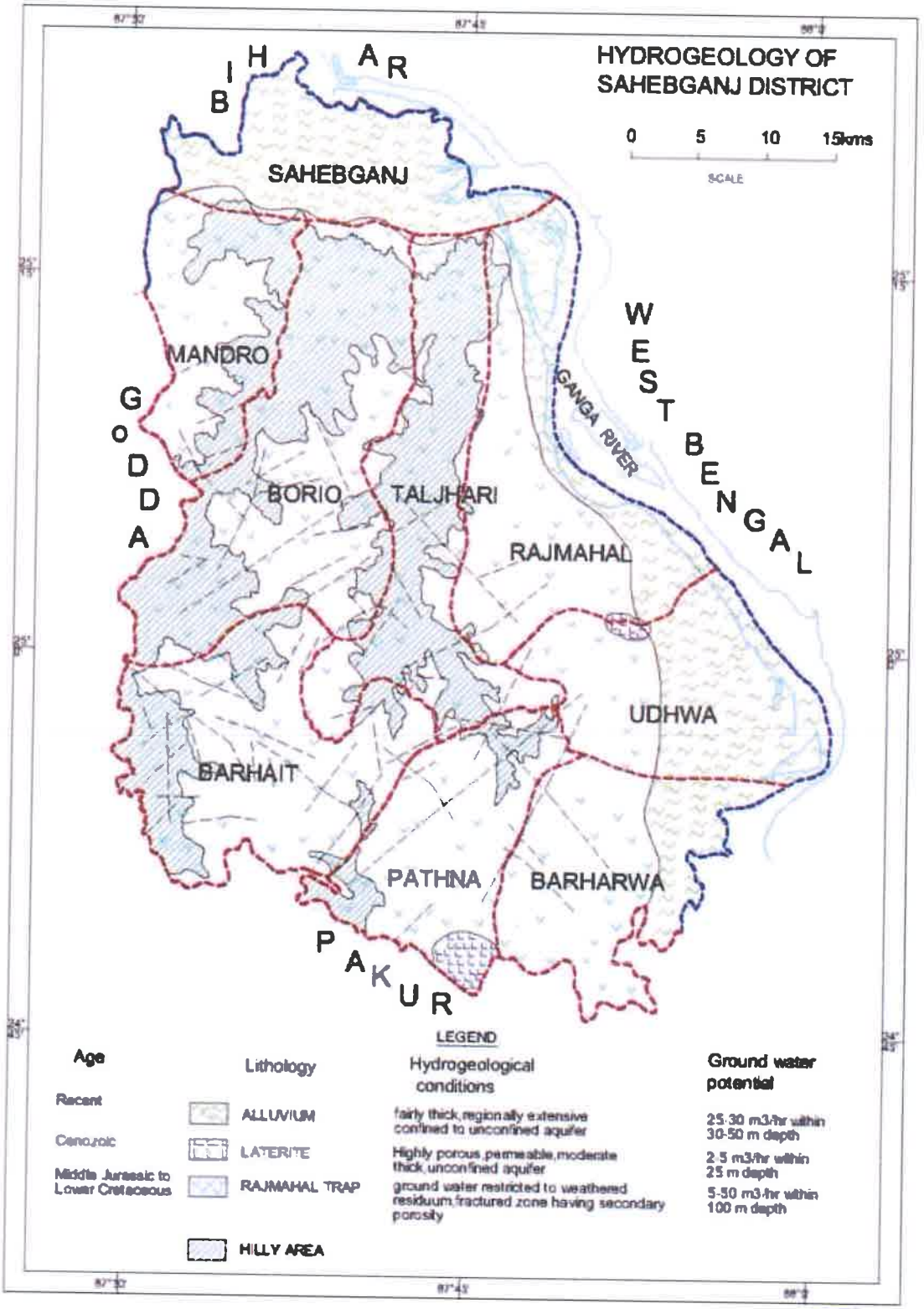


Figure 3-4 : Hydrogeological map of Sahibganj district

(Source: http://cgwb.gov.in/AQM/NAQUIM_REPORT/Jharkhand/Final%20Sahibganj%20Report-NAQUIM-201718.pdf)

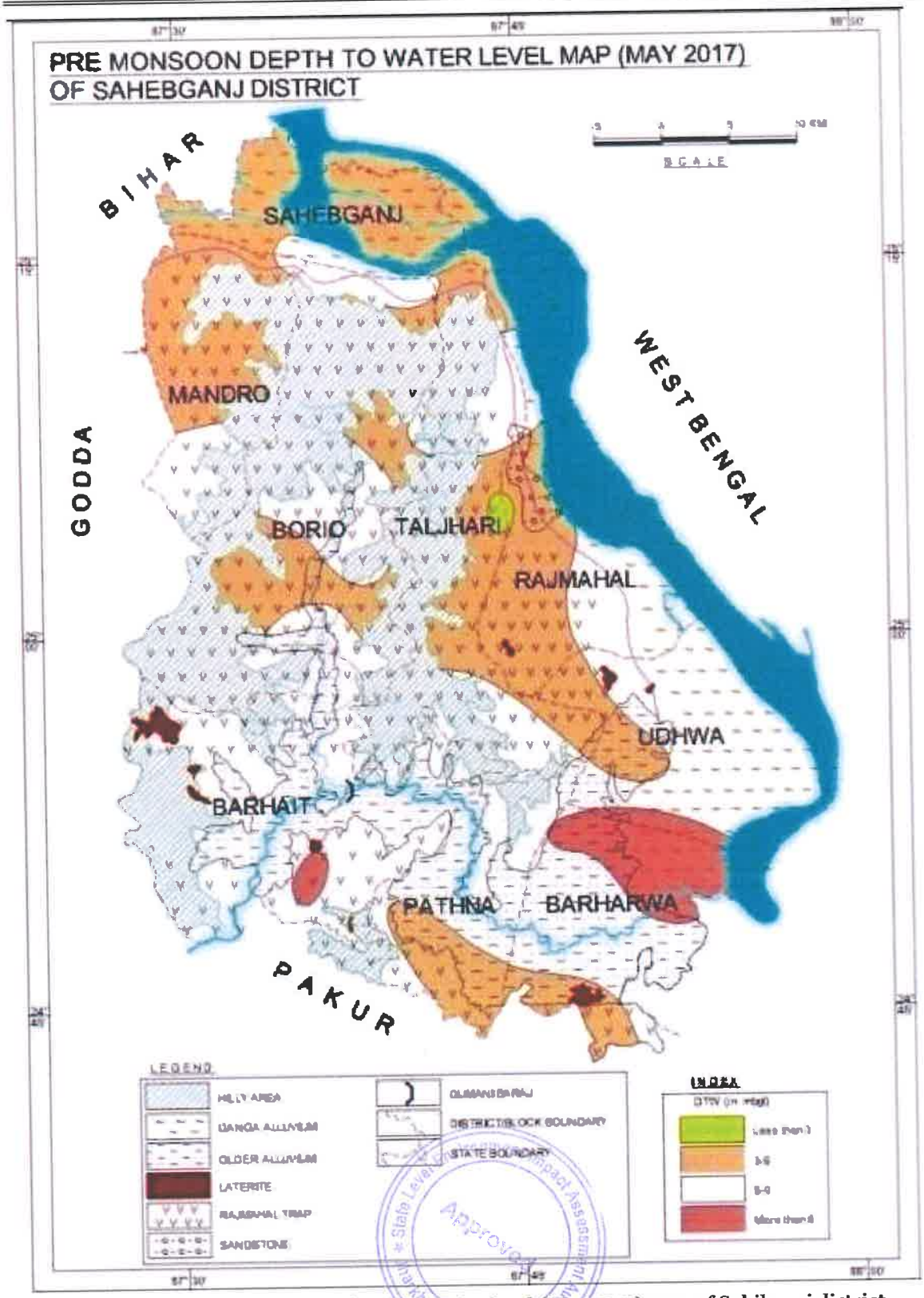


Figure 3-5 : Pre- Monsoon depth to water level (May 2017) map of Sahibganj district

(Source: http://cgwb.gov.in/AQM/NAQUIM_REPORT/Jharkhand/Final%20Sahibganj%20Report-NAQUIM-2017-18.pdf)

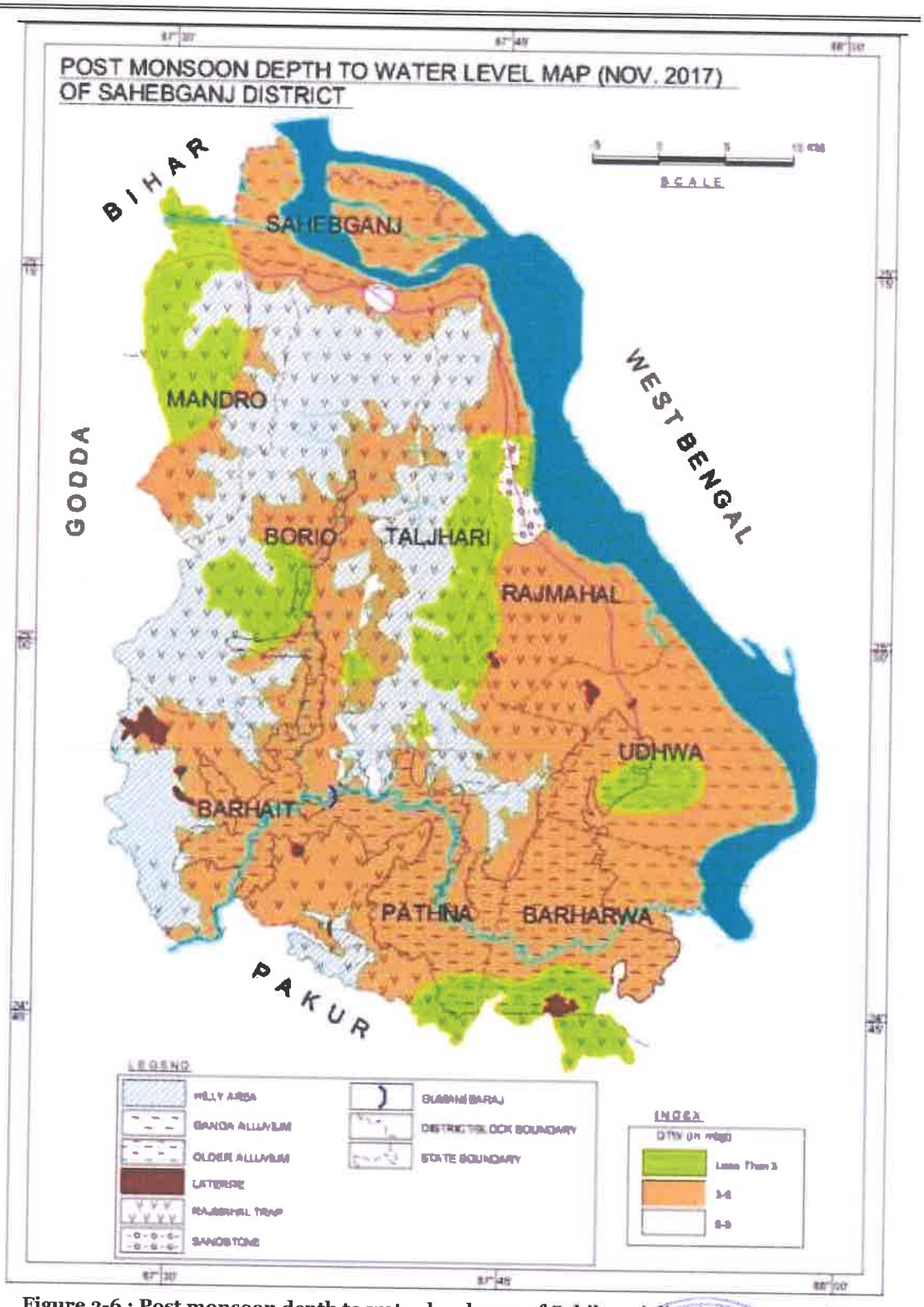


Figure 3-6 : Post monsoon depth to water level map of Sahibganj district (Nov 2017)

(Source: http://cgwb.gov.in/AQM/NAQUIM_REPORT/Jharkhand/Final%20Sahibganj%20Report-NAQUIM-2017-18.pdf)

3.2.6 Ground Water Development:

There is sufficient scope for ground water development through shallow as wells deep bore wells. State Govt. department has been constructed a large number of bore wells to mitigate the drinking water problem in the district. Central Ground Water Board has drilled 8 exploratory wells 5 observation wells in the district. The depth of bore wells ranges between 44.20 – 200.00 mbgl. The yield of bore wells ranges from 1.08 to 30.00 m3/hr. The Transmissivity and Storativity value ranges from 32.30 to 176.00 m2/day and 01.40 x 10-4 to 07.30 x 10-5 respectively. The stage of ground water development of the district is only 22.44%.

General Range of Chemical Parameters of Aquifer – I & II: - Evaluation of ground water suitability in relation to its different purposes has been classified for drinking /domestic and irrigation. The variation ranges of the concentration in ppm of different chemical constituents and quality parameters of Aquifer I.

Chemical Constituents and quality parameters	**Aquifer – I (Dug well samples)**	**Aquifer – II (Hand pump sample)**
pH	7.42-8.43	7.11-8.46
EC (micro siemens/cm at 25^{0}c)	92-2400	131 - 1494
TDS (ppm)	60 - 1560	85 - 971
TH as CaCo3 (ppm)	90 - 1060	60 - 495
Ca (ppm)	10 - 304	6 - 114
Mg (ppm)	8.5 – 86.26	6.07 – 61.96
Na (ppm)	8 - 100	9.48 - 105
K (ppm)	0.29 – 10.01	0.23 – 6.28
HCO3 (ppm)	61.5 - 603	55.4 - 387
Cl (ppm)	10.63 - 460	7.09 - 252
SO4 (ppm)	9.96 – 126.74	13.35 - 112
NO3 (ppm)	0 – 34	0 – 24.63
F (ppm)	0.03 – 0.29	0 – 0.11

Classification of ground water of Aquifer – I & II based on EC

Sl. No.	Water Class	Rages of EC	No. of samples falling and their percentage	
			Aquifer - I	**Aquifer - II**
1	Excellent	< 250	01 (4%)	01 (4%)
2	Good	250 – 750	10 (44%)	18 (75%)
3	Permissible	750 – 2250	10 (44%)	05 (21%)
4	Unisuitable	>2250	02 (8%)	Nil

The ground water of Aquifer – I (shallow aquifers) in the area is alkaline in nature. On the above table, the pH value of the area is 7.42 – 8.43. The TDS value varies between 60 to 1560 mg/l. Overall values of Calcium and Magnesium varies between 10 to 304 mg/l and 8.5- 86.26 mg/l in the area respectively. Nitrate concentration is observed between 0 to 34 mg/l while the Fluoride value varies from 0 to 0.29 mg/l within the area.

The ground water of aquifer - II in the area is alkaline in nature. The pH value ranges 7.11 to 8.46 mg/l. The EC value ranges between 131 to 1494 mg/l. The TDS value varies from 85 to 971 mg/l and the total hardness ranges between 60 to 495 mg/l. Calcium and Magnesium values varies from 6 to 114 mg/l and 6.07 to 61.96 mg/l respectively.

Table 3-3 : Stage of ground water development of Sahibganj District as on 31st March 2009(Ha-m)

Sl. No	Assessment Unit/ District	Net Annual Ground Water Availability	Gross Ground Water Draft for Irrigation	Gross Ground Water Draft for Domestic and Industrial water Supply	Gross Ground Water Draft for all Uses (10+11)	Allocation for Domestic and Industrial Requirement supply upto next 25 years	Net Ground Water Availability for future irrigation development (9 – 12 – 13)	Stage of Ground Water Development (12/9)*100 (%)	Categorisation for future ground water development (safe/ critical/ over - exploited)
1	Sahibganj	2365.41	25.056	168.99	194.05	225.30	2115.06	8.20	Safe
2	Mandro	462.87	111.36	100.79	212.15	217.14	1194.18	45.83	Safe
3	Borio	787.12	142.912	138.31	281.23	459.81	1785.75	35.73	Safe
4	Taljhari	386.78	58.464	108.06	166.52	144.06	184.26	43.05	Safe
5	Rajmahal	747.22	68.316	206.37	274.69	275.14	403.76	36.76	Safe
6	Udhwa	1978.59	31.552	219.49	251.04	292.62	906.10	10.90	Safe
7	Pathna	1292.89	112.752	114.19	226.94	1027.90	1219.05	17.55	Safe
8	Barharwa	1334.42	375.512	241.82	617.33	322.40	636.51	46.26	Safe
9	Barhait	1934.22	197.664	184.48	382.14	245.95	1490.60	19.76	Safe
	Total	**11613.70**	1123.59	1482.50	**2606.09**	**1976.48**	**8513.63**	**22.44**	

(Source: Central Ground Water Board, Sahibganj)

a) Drainage System

The river Ganges forming the northern boundary of the district enters at its north western corner and journeys eastward up to Sakrigali where it takes a turn to the south and forms the southern boundary of the district up to a little beyond Radhanagar in Rajmahal subdivision. The river has been drifting gradually to the north and the Sahibganj town, which was once on the riverbank, is now about a mile away. The average width of the Ganges in the district is about 4 and half kilometers. It generally swells during the rains and inundates the lowlands lying east of the loop line. River Gamani emerges from the southern region of the Rajmahal hills. It flows in a north-easterly direction up to Barhait valley where it is joined by the river Mural. The drainage pattern of the district is dendritic. Drainage map of the district is shown in 3-7.

(source: https://jsac.jharkhand.gov.in/district_profile/Sahibganj.pdf)

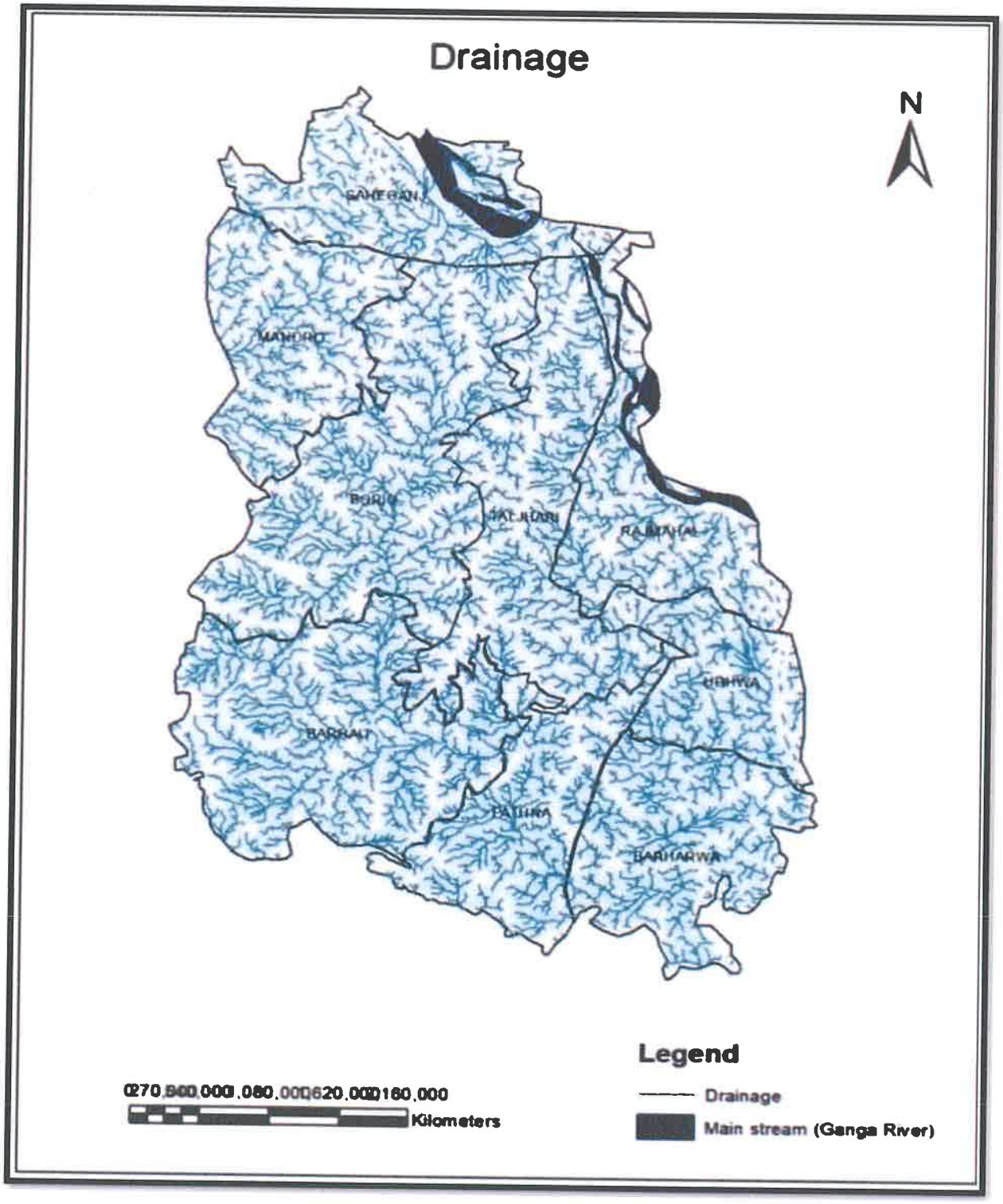


Figure 3-7 : Drainage map of Sahibganj district

(Source: http://cgwb.gov.in/AQM/NAQUIM_REPORT/Jharkhand/Final%20Sahibganj%20Report-NAQUIM-2017-18.pdf)

- **Floods in district Sahibganj:**

The area is mainly drained by the river Ganges, Gumani and Morang. The Ganga flowing along extreme northern to eastern part of the district is the perennial river. River Gumani flows west to east direction in southern part of the district while river Morang flows north to south direction in middle part of the district and finally joined by the river Gumani near village Barhait.. The Gumani and Morang are seasonal in nature. Ganga River is perennial river, which carry huge volumes of water during the rainy season. Town is located adjoining the river Ganga. The highest recorded flood level of river Ganga is 28.22 m.

(Source: District Environment Plan Sahibganj)

Distribution of the vulnerable and less vulnerable flood prone districts are shown in the below figure.

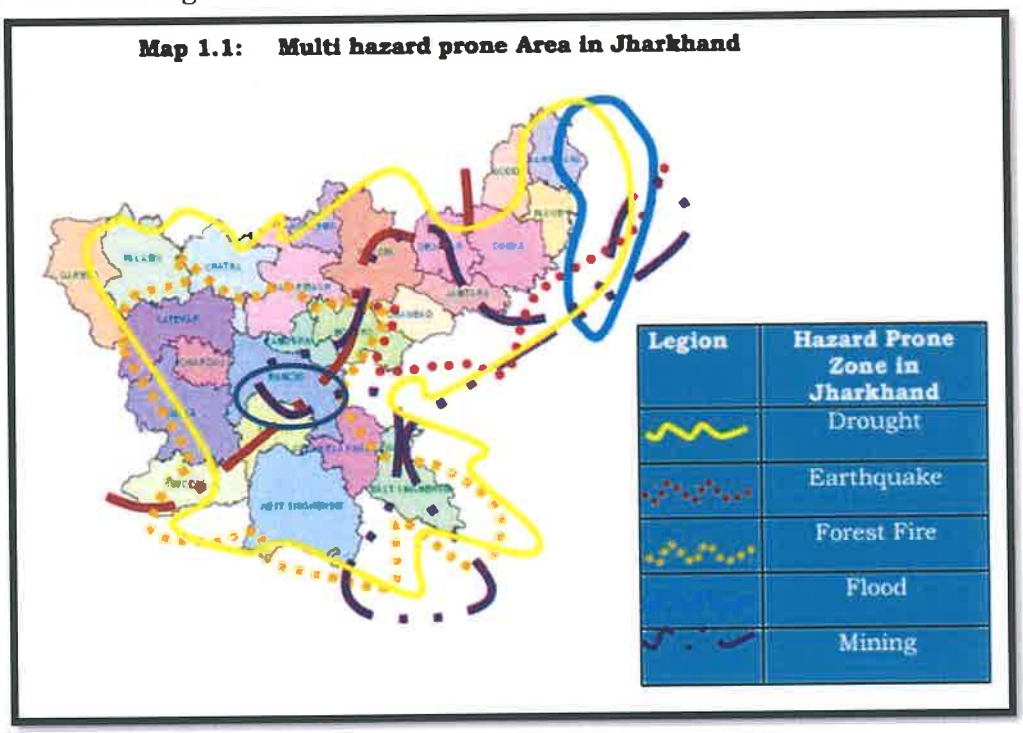


Figure 3-8 : Multi hazard prone area in Jharkhand

(Source: https://selfstudy365.com/qa/how-many-districts-of-jharkhand-come-under-the-earthquake-hazard-zone-fiedabao)

From the above information, it is being observed that, Sahibganj is flood prone district of Jharkhand.

b) Seismicity

As per Seismicity Zonation map, 3 types of Zones have been observed in Jharkhand. Sahibganj comes under India's seismic zone-IV.

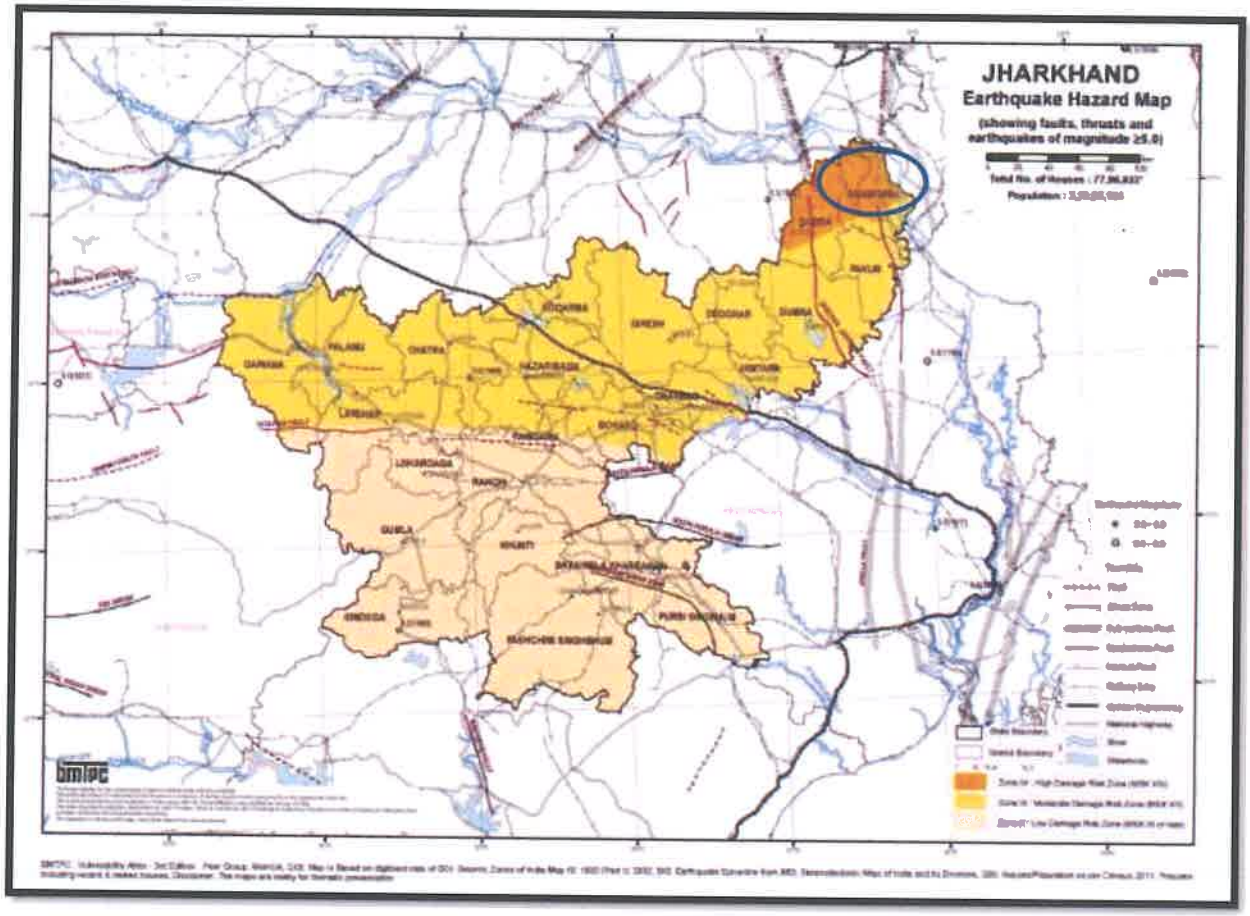


Figure 3-9 : Jharkhand Earthquake Map

(Source: https://bmtpc.org/DataFiles/CMS/file/VAI2019/eq-jh.html)

c) Flora

The most common tree found in the district is sal (Shorea Robusta). Some teak, though not of good quality, is also found. Some other trees found in the district are Jackfruit, Simal, Bamboo, Asan and Satsal. Sal and Simal logs and Jackfruit are exported in large quantities to the neighboring districts and also to the places outside Jharkhand.

d) Fauna

A map showing Wildlife Protect areas in Jharkhand state are furnished which depicts there is no Wildlife Protect area in Sahibganj District.

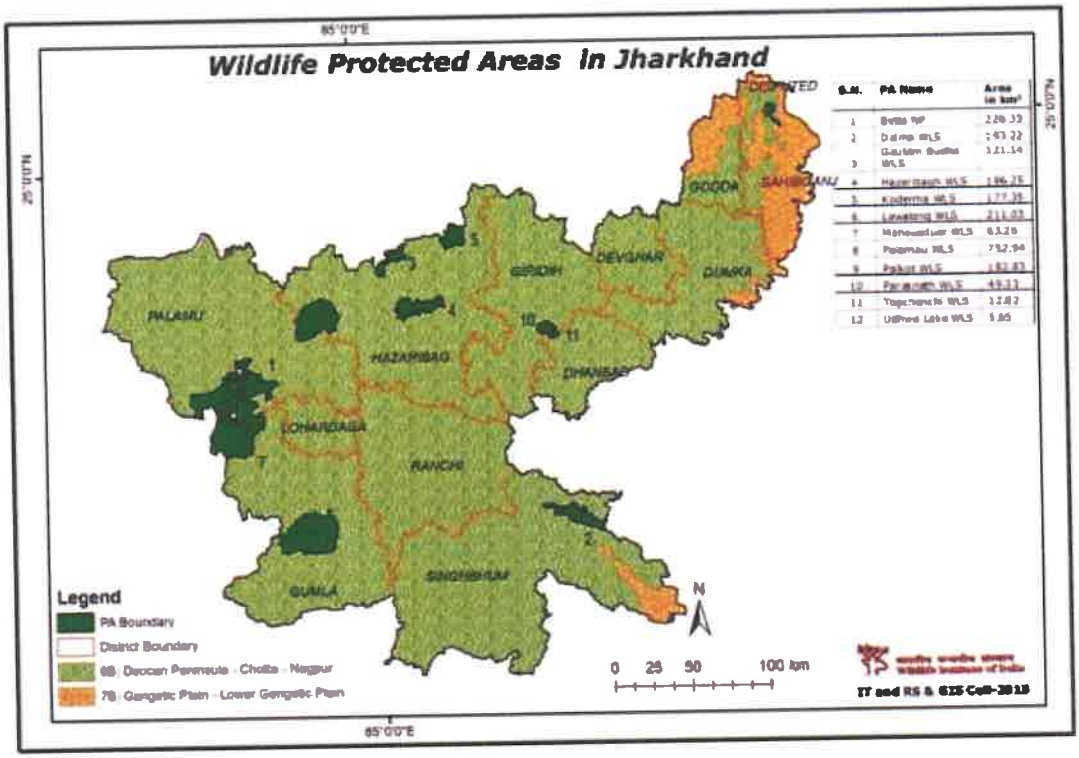


Figure 3-10 : Wildlife Protected area in Jharkhand District
(Source: http://wiienvis.nic.in/Database/Maps_PAs_1267.aspx)

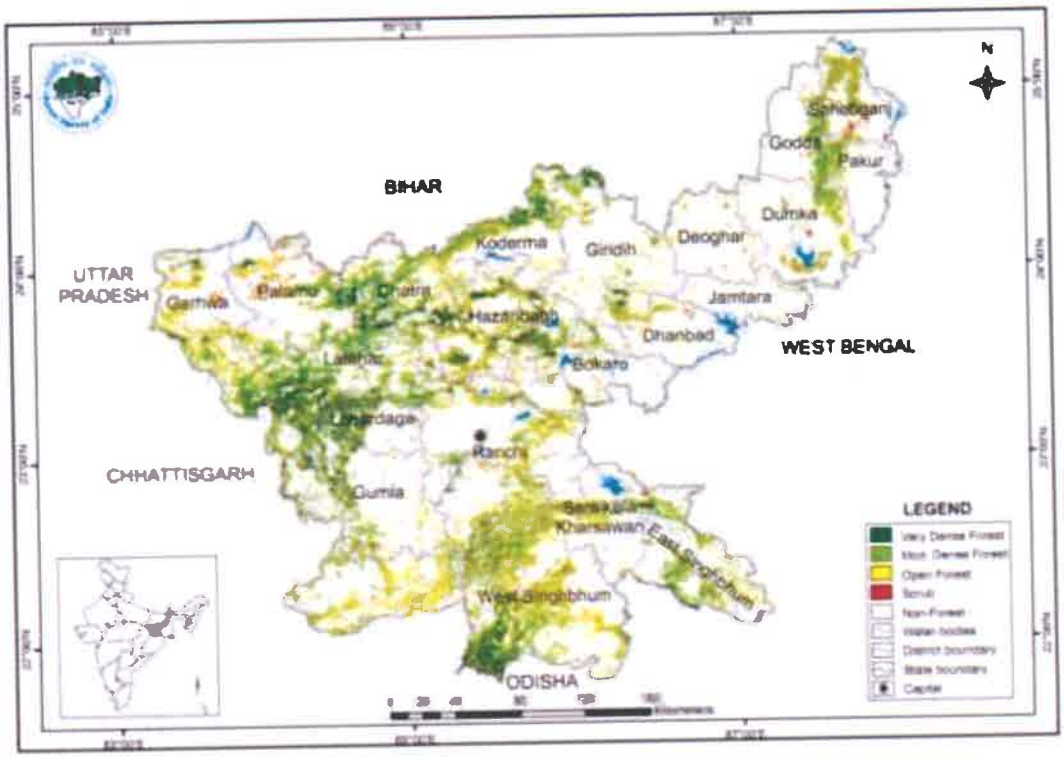


Figure 3-11 : Forest Cover Map of Jharkhand
(Source: https://forest.jharkhand.gov.in/Reports_2017/forestcovermap.aspx

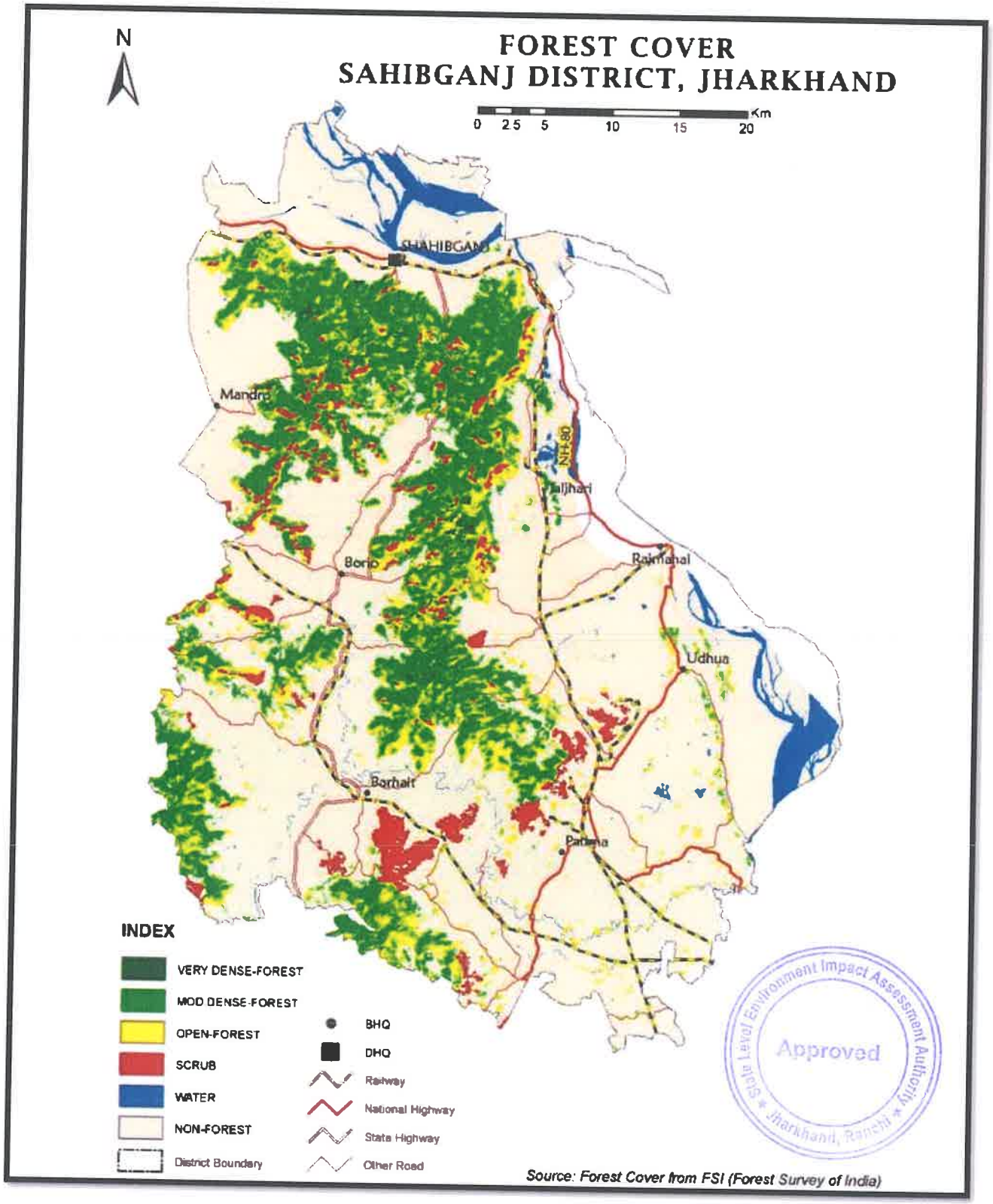


Figure 3-12: Forest Cover Sahibganj District, Jharkhand
(source: https://jsac.jharkhand.gov.in/district_profile/Sahibganj.pdf)

4 Physiography of the district

4.1.1 General Landforms

The area is characterized by undulating topography with hills and plain. Major part of the area is covered by basaltic terrain of Rajmahal hills which is bounded on the north and partly on the east by the Ganges. The western part of the area is bounded by the hills.

4.1.2 Soil and rock pattern

The area is characterized by the following type of soils –

(i) Rajmahal trap soil

(ii) Red soil

(iii) Eroded scarp soil

(iv) Foothill soils

(v) Tal soil

(vi) Alluvial soil.

Rajmahal trap soil: Soils derived from basaltic lava occurs in major part of the area. These soils, black in colour are very fertile and restricted to Rajmahal lava areas.

Red Soil: Red soils are light to medium and are red to yellow and light gray in colour. These soils are mildly acidic in reaction and low in organic constituent. Dry crops and paddy grow in these soils.

Eroded scarp soil: This type of soil occurs in transverse section of dissected, descending scarp land at various altitude of upland. This type of soil has poor fertility with shallow thickness.

Foothill soil: Foothill soils occur in the eastern fringe of the area. The soil is deep and acidic in reaction. The soil is yellowish red in colour crops like maize, arhar etc. grow in these soils.

Tal soil: Tal soil is found in the back water belt around Berharwa areas when the rain water remains collected in the rainy season. The soil is very fertile. Kharif crop is cultivated in these soils since the area remain submerged in rain water.

Alluvial soil: Alluvial soil occurs near Sahibganj plains. The texture is clayey loam type. Paddy, wheat, sugarcane grow in these soils.

5 Land use pattern of the district:

There is heterogeneity in the soils of the area. The soils of the district are light grey and fine textures in nature.

Land use pattern of Sahibganj district (2015– 2016)

Block	Total area (Sq. Km)	Forest land	Barren & non agricul-turable land	Cultiva-ble waste land	Permanent pastures & other grassing land	Land under miscella-neous trees	Current fallow	Fallow land other than current fallow	Net area sown
Sahebganj	173.27	--	1689.45	1794.68	0.87	23.42	4699.93	2243.29	3062.69
Borio	261.74	12336.27	1834.38	3439.01	1448.00	270.95	5763.64	6769.30	2663.81
Mandro	123.52	7892.23	375.33	398.74	292.63	88.09	6435.37	4281.97	2050.60
Barhait	308.82	4016.29	3623.08	2133.34	1396.08	1700.68	6464.55	8462.62	6786.80
Rajmahal	126.93	--	244.53	138.85	141.06	0.04	4040.04	2385.53	3391.19
Udhwa	199.13	--	127.67	47.16	25.97	115.37	4190.34	673.86	2674.29
Taljhari	158.28	2650.61	1726.35	1056.88	313.05	106.51	7600.10	4300.93	4333.54
Pathna	163.16	1112.49	1641.11	1014.17	585.21	392.60	996.66	3946.30	6323.15
Barharwa	187.25	--	47.31	74.33	386.47	87.59	1144.10	2794.03	13443.11
Total	1702.10	28007.89	11309.21	10097.16	4589.34	3085.25	41334.73	35857.83	44729.18

(Source: http://cgwb.gov.in/AQM/NAQUIM_REPORT/Jharkhand/Final%20Sahibganj%20Report-NAQUIM-2017-18.pdf)

A) Forest detail of the area

Owing to large scale unscrupulous felling the region once known for its thick and extensive forests is now bereft of much of its jungle wealth. The Forest department has undertaken afforestation of these areas.The most common tree found in the district is sal (Shorea Robusta).Some teak, though not of good quality, is also found. Some other trees found in the district are Jackfruit, Simal, Bamboo, Asan and Satsal. Sal and Simal logs and Jackfruit are exported in large quantities to the neighboring districts and also to the places outside Jharkhand.

b) Agriculture& Irrigation

The local population of the district mostly depends on agriculture and forestry for their sustenance. The agriculture activity of the area is solely dependent upon the monsoon rainfall. Paddy is the main crop of the district. Gram and Khesari are other crops grown widely in Rajmahal and its adjoining areas. Irrigational facilities

are not adequate in this district. The most common source is the dug well, but this is not a very dependable source of irrigation. The major part of the district being rocky in nature, it is difficult to dig wells. The undulating nature of land makes it possible to store rain water by bunding. Apart from being dependent upon rains, these are by no means adequate. The result is that failure of rains invariably involves failure of crops except in small pockets. Minor irrigation structures like surface water tanks and ponds are the other source for irrigation.

c) Mining

The Rajmahal Hills are the source of building and road stones. Most of the quarrying is done by the side of the loop line of the Eastern Railway. Pakur chips are quite well known and are used extensively all over Jharkhand, Bihar and parts of West Bengal. Kaolin is found near Mangal Hat in Rajmahal subdivision. Bentonite available in some places is used by women-folk as hair washing material and now a day it is getting popular among urban ladies as Multani Mitti.
Available mineral resources in the district is given below:

- BLACK STONE
- KAOLINE
- COAL
- CHINA CLAY
- BENTONITE

Sand mining activities are playing a significant role industrial, social and economic development of the district. The sand mining carried out throughout the district mainly in stretch of Ganga & Gumani river etc.

6 Geology

Geologically major part of the area is represented by Rajmahal traps having huge thickness of basaltic lava flows with intercalated shales and Clays. The type area is the Rajmahal hills at the head of the Ganges delta near the border of Jharkhand and west Bengal. Tha Rajmahal ranges extend with a north-south trend for more than 120 kms through the districts of Santhal Parganas in Jharkhand and Birnbaum in West Bengal (GSI, 1989). It consists of long flat topped hills attaining a maximum altitude of about 600 m. The basaltic lava flows of the Rajmahal Trap of middle Jurassic to lower cretaceous age occupy the major part of the district. It has been found that there are at least seven successive flows of basalt in the area, each flow ranging in thickness between 20m and 75 m. Rajmahal Traps are undererlain by Gonwana formations. Rajmahal Traps are overlain by Laterites and Alluvium. The river Ganga deposit recent alluvium occurs in the northern to eastern boundary of the area. The alluvium comprising of sand, silt, gravel and sub – ordinate clay. Laterites are mainly in situ origin and have been formed by sub – aerial erosion of underlying basalt under favorable climatic conditions. The stratigraphic sequence of the area is as under.

	Age	Formation
	Recent	Alluvium
	Cenozoic	Laterite
Upper Gondwana	Middle Jurassic to Lower Cretaceous	Rajmahal Trap with intertrappeans
	..... Igneous Contact	
	Lower Triassic to lower Jurassic	Dubrajpur Formation
Lower Gondwana	.....Unconformity and overlap	
	Upper Permian	Barakar Formation
	Lower Permian	Talchir Formation
	..... Unconformity.....	
	Precambrians	Metamorphics (Granite-Gniess, etc.)

(Source: http://cgwb.gov.in/AQM/NAQUIM_REPORT/Jharkhand/Final%20Sahibganj%20Report-NAQUIM-2017-18.pdf)

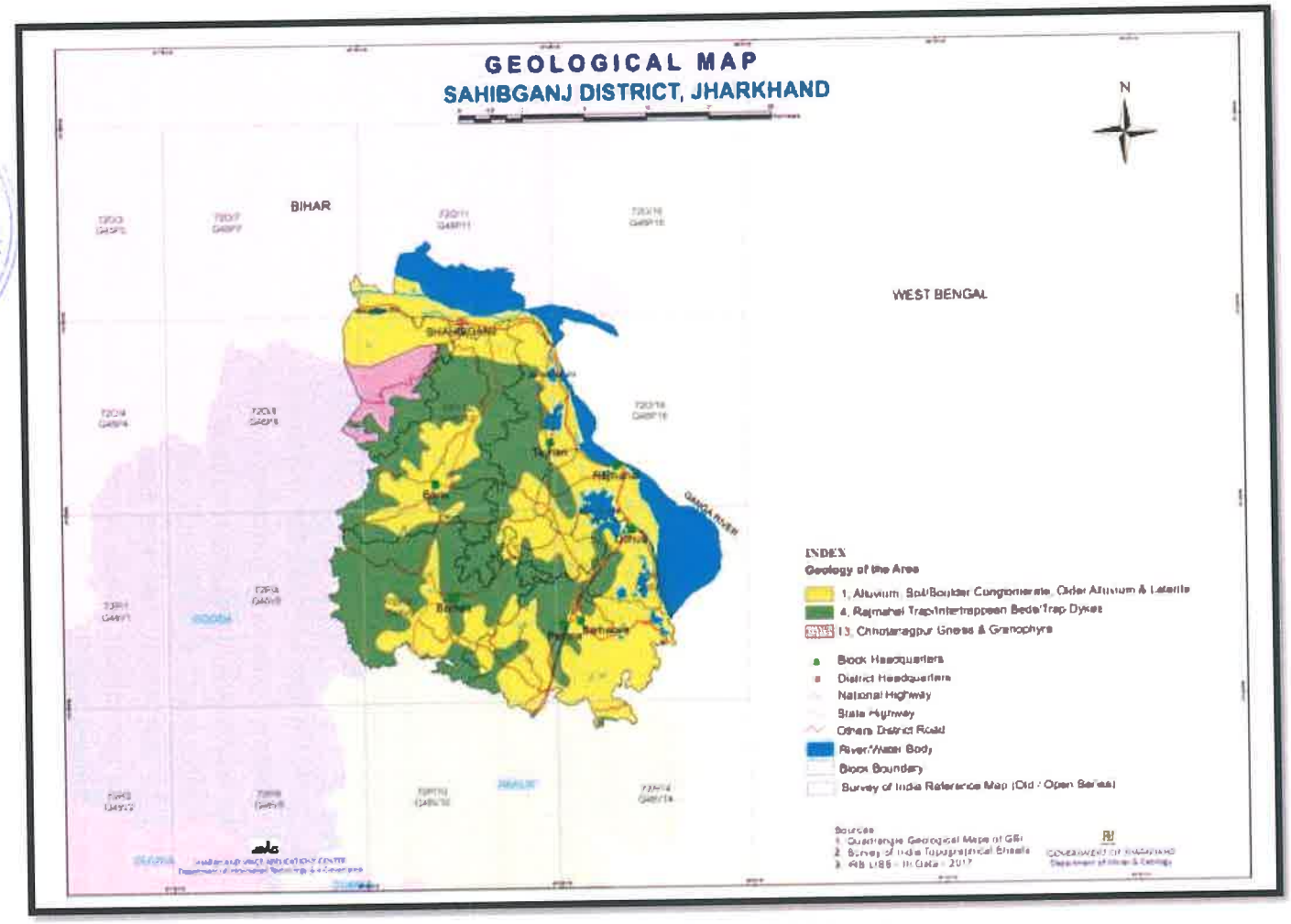


Figure 6-1:- Geological Map of Sahibganj
(Source: https://geology.jharkhand.gov.in/documents/geological_map/Sahibganj.pdf)

7 Mineral wealth

The Rajmahal Hills are the source of building and road stones. Most of the quarrying is done by the side of the loop line of the Eastern Railway. Pakur chips are quite well known and are used extensively all over Jharkhand, Bihar and parts of West Bengal. Kaolin is found near Mangal Hat in Rajmahal subdivision. Bentonite available in some places is used by women-folk as hair washing material and now a day it is getting popular among urban ladies as Multani Mitti.

Available minor mineral resources in the district are:

- Sand
- Black Stone
- Kaoline
- Coal
- China Clay
- Bentonite

Sand mining activities are playing a significant role industrial, social and economic development of the district. The sand mining carried out throughout the district mainly in stretch of Gumani river.

7.1 Overview of mineral resources

The mineral resources of the district whose categorization and estimation have been done are furnished in this section.

7.2 Details of Resources

A) Sand and other riverbed minerals:

i) Drainage System

The river Ganges forming the northern boundary of the district enters at its north western corner and journeys eastward up to Sakrigali where it takes a turn to the south and forms the southern boundary of the district up to a little beyond Radhanagar in Rajmahal subdivision. The river has been drifting gradually to the north and the Sahibganj town, which was once on the riverbank, is now about a mile away. The average width of the Ganges in the district is about 4 and half kilometers. It generally swells during the rains and inundates the lowlands lying east of the loop line. River Gamani emerges from the southern region of the Rajmahal hills. It flows in a north-easterly direction up to Barhait valley where it is joined by the river Mural.

The district is drained by these rivers with a few minor tributaries. The Ganga and Gumani River are having I, II and III order of tributaries.

All these tributaries show dendritic to sub-dendritic drainage pattern typical of granitic terrain. The rivers of the district show structurally controlled pattern. The drainage here is highly dissected in crisscross fashion. The general trend of the drainage is from NW to SE.

Table 7-1: Drainage System with description of Main River

S. No.	Name of the River	Area drained (Sq. Km)	% Area drained in the district
1	Ganga River	1048.227	38%
2	Gumani River	994.561	6%

Table 7-2:- Salient Features of Important River & Stream

S. No.	Name of the River or Stream	Total Length in the District (in km)	Place of Origin	Altitude at Origin
1	Ganga River	40	Gangotri glacier in the Himalayas	7,010 m
2	Gumani River	44	Sundar Pahari	456 m

ii) Annual deposition of riverbed minerals

Annual deposition of riverbed minerals is dependent on various factors which are explained below.

A. Geomorphological studies

Geomorphological characteristic of a river is foremost factor for annual deposition of sedimentary load. The study includes following parameter:

i) Place of Origin

Details of origin of rivers of Sahibganj District is furnished below.

Table 7-3:- Place of Origin of important rivers and streams

Name of the River or Stream	Place of origin
Ganga River	Gangotri glacier in the Himalayas
Gumani River	Sundar Pahari

ii) Catchment Area

The Sahibganj district is mainly drained by Ganga and Gumani Rivers and their tributary rivers which are forming the catchment area of the district.

iii) General profile of river stream

River profile has been studied along the cross-section lines which was chosen based on the drastic variation of the river widths, proximity of the operating sand Ghats and the position of the sand bars.

Relative disposition of rivers in Sahibganj district along with the distribution of the section lines are shown in figure 7.1.

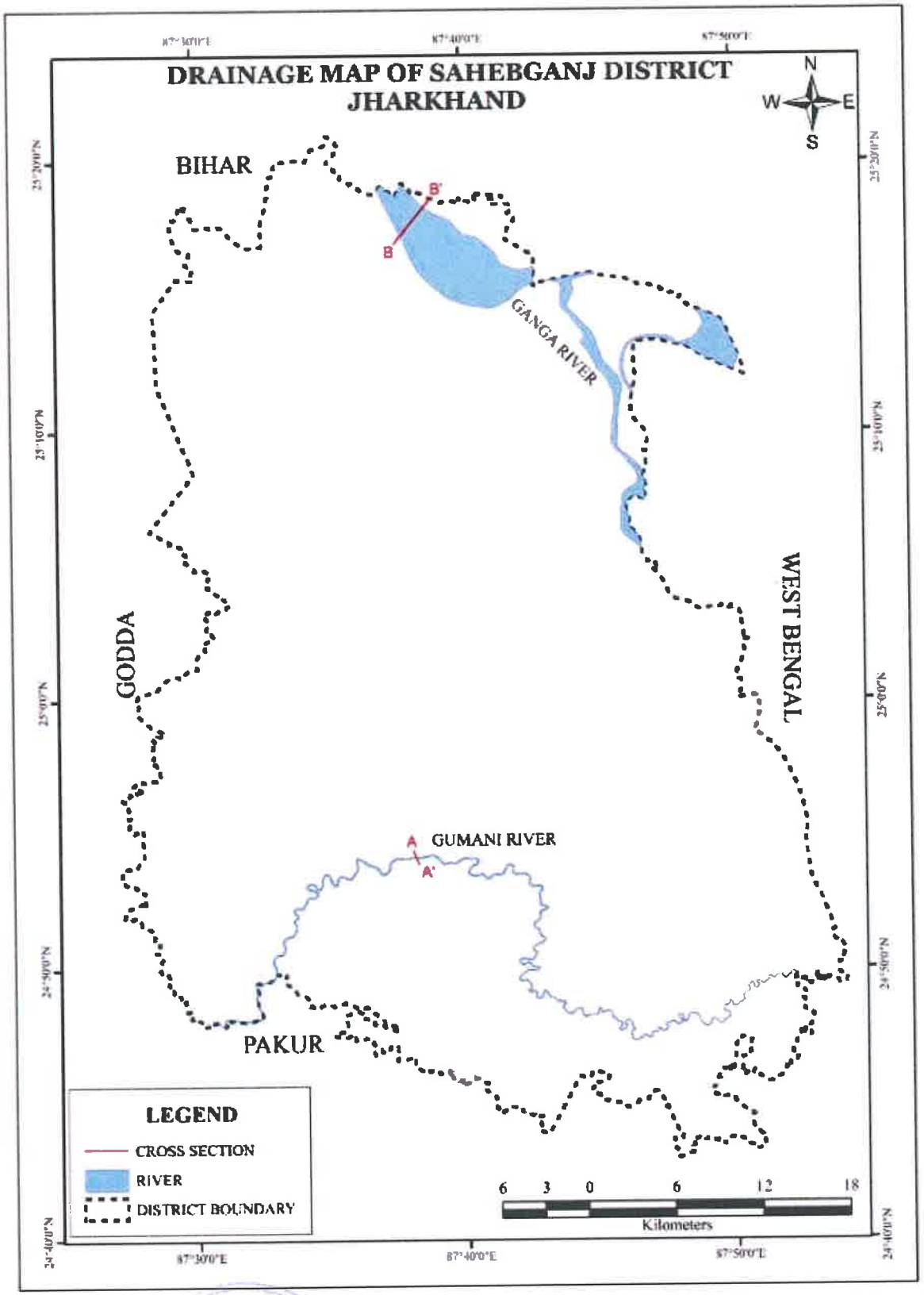


Figure 7-1:- Plan showing the major rivers along with the distribution of Section Lines, Sahibganj District, Jharkhand

Figure 7-2:- Cross Section along A-A' on river Gumani

Figure 7-3:- Cross section of Ganga River along B-B'

iv) Annual deposition factor

Annual deposition of riverbed materials depends on various factors, such as process of deposition, mode of sediment transport, sediment transport rate and sediment yield of the river.

1. Process of deposition

Deposition is the processes where material being transported by a river is deposited. Deposition occurs when the forces responsible for sediment transportation are no longer sufficient to overcome the forces of gravity and friction, creating a resistance to motion; this is known as the null-point hypothesis. This can be when a river enters a shallow area or towards its mouth where it meets another body of water.

The principle underlying the null point theory is due to the gravitational force; finer sediments remain in the water column for longer durations allowing transportation outside the surf zone to deposit under calmer conditions. The gravitational effect or settling velocity determines the location of deposition for finer sediments, whereas a grain's internal angle of friction determines the deposition of larger grains on a shore profile.

Deposition of non-cohesive sediments: Large-grain sediments transported by either bedload or suspended load. In case of bedload, when there is insufficient bed shear stress and fluid turbulence are insufficient to keep the sediment moving, the grain cease horizontal movement and rapidly come to rest. In case of suspended load the grain settle longer distance vertically through the fluid before coming to rest.

Deposition of cohesive sediments: The cohesion of sediment occurs with the small grain sizes associated with silts and clays, or particles smaller than 4Φ or 62.5 μm. If these fine particles remain dispersed in the water column, Stokes law applies to the settling velocity of the individual grains. The face of a clay platelet has a slight negative charge where the edge has a slight positive charge when two platelets come into close proximity with each other the face of one particle and the edge of the other are electrostatically attracted, and then have a higher combined mass which leads to quicker deposition through a higher fall velocity.

2. Mode of sediment transport in rivers

Sediment transport in rivers provides a dynamic linkage between flow and channel form. Mainly there are three processes by which sediment load is transported and these are (i) rolling or traction, in which the particle moves along a sedimentary bed but is too heavy to be lifted from it; (ii) saltation; and (iii) suspension, in which particles remain permanently above the bed, sustained there by the turbulent flow of the water.

Another name for sediment transport is sediment load. The total load includes all particles moving as bedload, suspended load, and wash load.

Bed load: Bedload is the portion of sediment transport that rolls, slides or bounces along the bottom of a waterway. This sediment is not truly suspended, as it sustains intermittent contact with the streambed, and the movement is neither uniform nor continuous. Bedload occurs when the force of the water flow is strong enough to overcome the weight and cohesion of the sediment. While the particles are pushed along, they typically do not move as fast as the water around them, as the flow rate is not great enough to fully suspend them. Bedload transport can occur during low flows (smaller particles) or at high flows (for larger particles). Approximately 5-20% of total sediment transport is bedload. In situations where the flow rate is strong enough, some of the smaller bedload particles can be pushed up into the water column and become suspended.

Suspended load: While there is often overlap, the suspended load and suspended sediment are not the same thing. Suspended sediment are any particles found in the water column, whether the water is flowing or not. The suspended load, on the other hand, is the amount of sediment carried downstream within the water column by the water flow. Suspended loads require moving water, as the water flow creates small upward currents (turbulence) that keep the particles above the bed. The size of the particles that can be carried as suspended load is dependent on the flow rate. Larger particles are more likely to fall through the upward currents to the bottom, unless the flow rate increases, increasing the turbulence at the streambed. In addition, suspended sediment will not necessarily remain suspended if the flow rate slows.

Wash load: The wash load is a subset of the suspended load. This load is comprised of the finest suspended sediment (typically less than 0.00195 mm in diameter). The wash load is differentiated from the suspended load because it will not settle to the bottom of a waterway during a low or no flow period. Instead, these particles remain in permanent suspension as they are small enough to bounce off water molecules and stay afloat. However, during flow periods, the wash load and suspended load are indistinguishable.

3. Sediment Transport Rate

The rate at which sediment is moved past a cross section of the flow is called either the sediment transport rate or the sediment discharge. It's related to the sediment load, but it's different, just because different fractions of the sediment load are transported at different rates. It can be measured in mass per unit time, or in weight per unit time, or in volume per unit time. The sediment transport rate is commonly denoted by Qs.

4. Estimation of Sedimentation

There are two approaches to obtaining values describing sediment loads in streams. One is based on direct measurement of the quantities of interest, and the other on relations developed between hydraulic parameters and sediment transport potential.

The total bed material load is equal to the sum of the bedload and the bed material part of the suspended load; in terms of volume transport per unit width, qt = qb + qs. Here wash load, i.e., that part of the suspended load that is too fine to be contained in measurable quantities in the river bed, is excluded from qs.

There are number of equations to compute the total sediment load. Most of these equations have some theoretical and empirical bases.

In 1973, Ackers and White developed a general theory for sediment transport which was calibrated against the flume-transport data then available. Their functions have been widely accepted as one of the best available procedures for estimating the total bed over the full width of the flow section.

Dendy Bolton formula is often used to calculate the sedimentation yield. But use of these equations to predict sediment yield for a specific location would be unwise because of the wide variability caused by local factors not considered in the equation's development. However, they may provide a quick, rough approximation of mean sediment yields on a regional basis. Computed sediment yields normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant

density because the equations are derived from average values. The equations express the general relationships between sediment yield, runoff, and drainage area.

5. Sediment Yield

The water that reaches a stream and its tributaries carries sediment eroded from the entire area drained by it. The total amount of erosion debris exported from such a drainage basin is its sediment load or sediment discharge and the sediment yield is the sediment discharge divided by the total drainage area of the river upstream of the cross section at which the sediment discharge is measured or estimated. Sediment yield is generally expressed as a volume or weight per unit area of drainage basin—e.g., as tons per square kilometer. Further, sediment yield is usually measured during a period of years, and the results are thus expressed as an annual average.

v) Replenishment Study (As per EMGSM guidelines, 2020):

Replenishment study for a river solely depends on estimation of sediment load for any river system and the estimation is a time consuming and should be done over a period. The process in general is very slow and hardly measurable on season-to-season basis except otherwise the effect of flood is induced which is again a cyclic phenomenon. Usually, replenishment or sediment deposition quantities can be estimated in the following ways as given below:

A. Replenishment study based on satellite imagery involves demarcation of sand bars potential for riverbed mining. Both pre and post monsoon images need to be analysed to established potential sand bars. Volume estimation of sand is done by multiplying Depth and Area of the sand bar. The sand bars are interpreted with the help of satellite imagery. Ground truthing has been done for 100% of the total identified sand bars. During ground truthing, width and length of each segment were physically measured. It has also been observed that in few cases, sand bars have attained more than 3 meters height from the average top level of the river beds. Considerations of sand resources have been restricted within 3 meters from the average top surface of the river bed.

B. Direct field measurement of the existing leases involving estimation of the volume difference of sand during pre- and post-monsoon period. With systematic data acquisition, a model has developed for calculation of sediment yield and annual replenishment with variable components.

C. The replenishment estimation based on a theoretical empirical formula with the estimation of bed-load transport comprising of analytical models to calculate the replenishment estimation.

A. Replenishment estimation

Sedimentation in any river is dependent on sediment yield and sediment yield depends on soil erosion in river's catchment area. Catchment yield is computed using Strange's Monsoon runoff tables for runoff coefficient against rainfall return period. Peak flood discharge calculated by using Dickens, Jarvis and Rational formula at 25, 50 and 100 years return period. The estimation of bed load transport using Ackers and White Equation.

Methodology Adopted: To delineate replenishment percentage in the river bed of the district, below mentioned steps have been followed.

- **Field data collection:**

Field data collections were done during pre-monsoon period, post monsoon period & end period for the river ghats on continuous basis. However, the nonoperational areas were covered through traverses. In both the cases, relative elevation levels were captured through DGPS/ Electronic Total Station. Thickness of the sand bars was measured through sectional profiles. In few instances, sieve analysis of the sands was carried out to derive the size frequency analysis.

Physical benchmark also established using DGPS at the river site.

Figure 7-4:- Site View of River Gumani

- **Selection of Study profiles:**

Study profiles are selected based on the occurrence of the sand bars in the channel profiles. Aerial extents of each of the profiles are mapped from satellite imagery. Frequency distribution did while selection of the ground truthing of the blocks.

- **Data Compilation:**

Following data were compiled for generation of this annual replenishment report:

- Elevation levels of the different sand Ghats and Sand Bar's as measured at site.
- Extents of the sand bars are measured from the satellite imagery.
- Sand production data of the district.

- **Assessment of sediment load in the river:**

Assessment of sediment load in a river is subjective to study of the whole catchment area, weathering index of the various rock types which acts as a source of sediments in the specific river bed, rainfall data over a period not less than 20 years, and finally the detail monitoring of the river bed upliftment with time axis. Again, the sediment load estimation is not a dependent variable of the district boundary, but it largely depends upon the aerial extents of the catchment areas, which crossed the district and state boundaries.

- **Estimation of annual sand deposition:**

The major sand producing rivers of the Sahibganj district are Ganga and Gumani River. Planning has been done for systematic sand mining in the rivers.

Altogether 53 sand bars have been identified during pre-monsoon period. Out of the total 53 Ghats, 37 are falling in Gumani River, 16 ghats are falling on Ganga River.

During post-monsoon period, total 49 sand ghats identified. Out of the total 49 Ghats, 38 are falling in Gumani River, 11 ghats are falling on Ganga river.

While calculation of the areas of sand bar, a classification system has been adopted with three categories of land identified within the channel areas which is as follows:

a. The untapped Sand Bars.
b. The Sand bars worked in the pre-monsoon period.
c. Main channel course within the channel.

Details of each sand bars along with their sand resources in pre-monsoon and post monsoon period are provided in below table no 7.4.

Table 7-4:- Estimation of Sand Resources in Pre-monsoon period & Post monsoon period in sand bars

Pre monsoon						Post monsoon						Difference in Sandbar(Mcum)
S L No	Sand Bar_Code	RL (m)	Area in sq.m.	Sand Thickness in m.	Sand Volume in M. Cum	S L No	Sand Bar_Code	RL (m)	Area in sq.m.	Sand Thickness in m.	Sand Volume in M. Cum	
Estimation of Sand Resources in Pre monsoon period & Post monsoon period of Gumani River												
1	PRE_SG_GM_01	96	6071.4683	1.5	0.009	1	PO_SG_GM_01		6071.4683	1.5	0.009	0.000
2	PRE_SG_GM_02	80	20001.0260	1.5	0.030	2	PO_SG_GM_02	80.5	20001.0260	1.5	0.030	0.000
3	PRE_SG_GM_03	79	7619.5550	1.5	0.011	3	PO_SG_GM_03	79.5	7619.5550	1.5	0.011	0.000
4	PRE_SG_GM_04	75	14301.6287	1.5	0.021	4	PO_SG_GM_04	75.5	14301.6287	1.5	0.021	0.000
5	PRE_SG_GM_05	65	11639.4138	1.5	0.017	5	PO_SG_GM_05	65.5	11639.4138	1.5	0.017	0.000
6	PRE_SG_GM_06	64	35474.4254	1.5	0.053	6	PO_SG_GM_06	64.5	35474.4254	1.5	0.053	0.000
7	PRE_SG_GM_07	63	10102.9263	1.5	0.015	7	PO_SG_GM_07	63.5	19377.7559	1.5	0.029	0.014
						8	PO_SG_GM_7A	63.5	13256.9647	1.5	0.020	0.020
8	PRE_SG_GM_08	63	18523.7366	1.5	0.028	9	PO_SG_GM_08	63.5	18523.7366	1.5	0.028	0.000
9	PRE_SG_GM_09	62	10332.0567	1.5	0.015	10	PO_SG_GM_09	62.5	15920.2871	1.5	0.024	0.008
10	PRE_SG_GM_10	62	7683.5809	1.5	0.012	11	PO_SG_GM_10	62.5	7683.5809	1.5	0.012	0.000
11	PRE_SG_GM_11	63	27943.8634	1.5	0.042	12	PO_SG_GM_11	63.5	27943.8634	1.5	0.042	0.000
12	PRE_SG_GM_12	61	4612.0142	1.5	0.007	13	PO_SG_GM_12	61.5	15629.2944	1.5	0.023	0.017
13	PRE_SG_GM_13	63	13537.0229	1.5	0.020	14	PO_SG_GM_13	63.5	13537.0229	1.5	0.020	0.000
14	PRE_SG_GM_14	64	7014.2620	1.5	0.011	15	PO_SG_GM_14	64.5	7014.2620	1.5	0.011	0.000
15	PRE_SG_GM_15	62	12331.4807	1.5	0.018	16	PO_SG_GM_15	62.5	17621.1936	1.5	0.026	0.008
16	PRE_SG_GM_16	60	29423.4943	1.5	0.044	17	PO_SG_GM_16	60.5	29423.4943	1.5	0.044	0.000
17	PRE_SG_GM_17	63	8540.9150	1.5	0.013	18	PO_SG_GM_17	63.5	8540.9150	1.5	0.013	0.000

18	PRE_SG_GM_18	63	28099.3767	1.5	0.042	19	PO_SG_GM_18	63.5	28099.3767	1.5	0.042	0.000
19	PRE_SG_GM_19	59	25184.1352	1.5	0.038	20	PO_SG_GM_19	59.5	25184.1352	1.5	0.038	0.000
20	PRE_SG_GM_20	62	14291.5972	1.5	0.021	21	PO_SG_GM_20	62.5	14291.5972	1.5	0.021	0.000
21	PRE_SG_GM_21	61	5362.4516	1.5	0.008	22	PO_SG_GM_21	61.5	5362.4516	1.5	0.008	0.000
22	PRE_SG_GM_22	60	5637.9968	1.5	0.008	23	PO_SG_GM_22	60.5	5637.9968	1.5	0.008	0.000
23	PRE_SG_GM_23	62	10536.0576	1.5	0.016	24	PO_SG_GM_23	62.5	10536.0576	1.5	0.016	0.000
24	PRE_SG_GM_24	62	11776.6971	1.5	0.018	25	PO_SG_GM_24	62.5	11776.6971	1.5	0.018	0.000
25	PRE_SG_GM_25	59	9688.0979	1.5	0.015	26	PO_SG_GM_25	59.5	9688.0979	1.5	0.015	0.000
26	PRE_SG_GM_26	57	24338.1357	1.5	0.037	27	PO_SG_GM_26	57.5	24338.1357	1.5	0.037	0.000
27	PRE_SG_GM_27	59	7365.3868	1.5	0.011	28	PO_SG_GM_27	59.5	7365.3868	1.5	0.011	0.000
28	PRE_SG_GM_28	58	9220.0154	1.5	0.014	29	PO_SG_GM_28	58.5	9220.0154	1.5	0.014	0.000
29	PRE_SG_GM_29	59	5582.2161	1.5	0.008	30	PO_SG_GM_29	59.5	5582.2161	1.5	0.008	0.000
30	PRE_SG_GM_30	57	12033.5354	1.5	0.018	31	PO_SG_GM_30	57.5	12033.5354	1.5	0.018	0.000
31	PRE_SG_GM_31	59	3039.2440	1.5	0.005	32	PO_SG_GM_31	59.5	3039.2440	1.5	0.005	0.000
32	PRE_SG_GM_32	57	1229.3975	1.5	0.002	33	PO_SG_GM_32	57.5	1229.3975	1.5	0.002	0.000
33	PRE_SG_GM_33	55	5247.5565	1.5	0.008	34	PO_SG_GM_33	55.5	6812.3349	1.5	0.010	0.002
34	PRE_SG_GM_34	55	13913.2081	1.5	0.021	35	PO_SG_GM_34	55.5	13913.2081	1.5	0.021	0.000
35	PRE_SG_GM_35	54	14650.0090	1.5	0.022	36	PO_SG_GM_35	54.5	14650.0090	1.5	0.022	0.000
36	PRE_SG_GM_36	53	9845.0915	1.5	0.015	37	PO_SG_GM_36	53.5	9845.0915	1.5	0.015	0.000
37	PRE_SG_GM_37	52	9722.8539	1.5	0.015	38	PO_SG_GM_37	52.5	9722.8539	1.5	0.015	0.000
			471915.93		**0.708**				**517907.73**		**0.777**	0.069
Estimation of Sand Resources in Pre monsoon period & Post monsoon period of Ganga River												
1	PRE_SG_GA_01	50	6186575.1414	2	12.373	1	PO_SG_GA_01	50.5	931230.3468	2	1.862	-10.511
2	PRE_SG_GA_02	49	331200.5651	2	0.662	2	PO_SG_GA_01_02_04_05_06_07	48.5	12746881.1663	2	25.494	24.831
3	PRE_SG_GA_03	48	424725.5293	2	0.849							
4	PRE_SG_GA_04	49	2562570.1220	2	5.125							
5	PRE_SG_GA_05	50	1012724.5413	2	2.025							

6	PRE_SG_GA_06	50	450113.1943	2	0.900								
7	PRE_SG_GA_07	49	208855.2447	2	0.418								
8	PRE_SG_GA_08	49	280051.0454	2	0.560	3	PO_SG_GA_08	49.5	280051.0454	2	0.560	0.000
9	PRE_SG_GA_09	51	496943.6492	2	0.994	4	PO_SG_GA_09	51.5	496943.6492	2	0.994	0.000
10	PRE_SG_GA_10	47	789679.9390	2	1.579	5	PO_SG_GA_10	47.5	789679.9390	2	1.579	0.000
11	PRE_SG_GA_11	46	443806.8047	2	0.888	6	PO_SG_GA_11	46.5	459369.0926	2	0.919	0.031
12	PRE_SG_GA_12	47	1107200.1754	2	2.214	7	PO_SG_GA_12	47.5	1182596.6684	2	2.365	0.151
13	PRE_SG_GA_13	46	1042129.2110	2	2.084	8	PO_SG_GA_13	46.5	1036394.9672	2	2.073	-0.011
14	PRE_SG_GA_14	47	190196.6348	2	0.380	9	PO_SG_GA_14	47.5	190326.4073	2	0.381	0.000
15	PRE_SG_GA_15	46	355339.6729	2	0.711	10	PO_SG_GA_15	46.5	305618.4662	2	0.611	-0.099
16	PRE_SG_GA_16	49	3597071.2278	2	7.194	11	PO_SG_GA_16	49.5	3597071.2278	2	7.194	0.000
			19479182.698		**38.958**				**22016162.976**		**44.032**	5.074

Maps showing distribution of sand bars on rivers of the Sahibganj district during Pre and Post monsoon are depicted in Plate-A & B respectively.

Table 7-5:- Sediment Load comparison between Pre-& Post Monsoon periods for different rivers of Sahibganj district

River Name	Pre-Monsoon no of sand bar	Post-Monsoon no of sand bar	Pre-Monsoon Sediment Load (Mcum)	Post-Monsoon Sediment Load (Mcum)	Difference (Mcum)	Difference %
Gumani River	37	38	0.708	0.777	0.069	9%
Ganga River	16	11	38.958	44.032	5.074	12%
Total	**53**	**49**	**39.666**	**44.809**	**5.143**	**11%**

Thus, in Sahibganj district, about 5.143 million cum of sand has been found as an incremental volume the river of the district when compared between pre and post monsoon sand reserve data. An average aggradation and replenishment rate for the year of Sahibganj district comes to about 111%.

B. Replenishment estimation based on an empirical formula:

The river reaches with sand provide the resource and thus it is necessary to ascertain the rate of replenishment of the mineral. Regular replenishment study needs to be carried out to keep a balance between deposition and extraction. The replenishment estimation based on a theoretical empirical formula comprising of analytical models to calculate.

Sediment load deposition in a river is depend on catchment area, weathering index of the various rock types of the catchment area, land-use pattern of the area, rainfall data and grain size distribution of the sediments. Again, the sediment load estimation is not a dependent variable of the district boundary, but it largely depends upon the aerial extents of the catchment areas, which crossed the district and state boundaries.

i. Methodology of the study:

The replenishment estimation is based on a theoretical empirical formula with the estimation of bedload transport comprising of analytical models to calculate the replenishment estimation. Sedimentation in riverbed depends on catchment yield, peak flood discharge due to rainfall, bed load transport rates and sediment yield characteristic of the river. Some of the common methods used for Replenishment study are explained below.

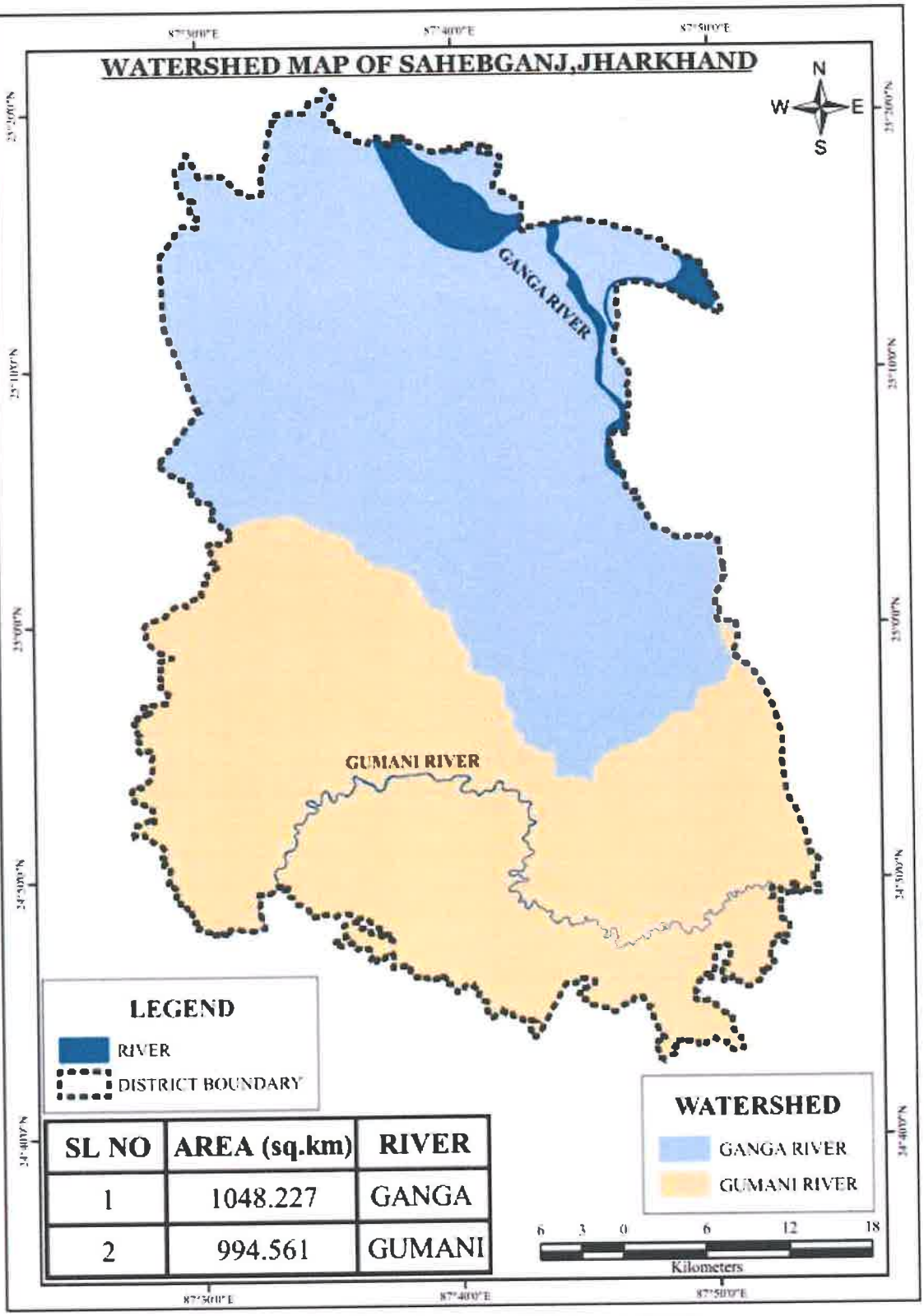
Catchment Yield Calculation:

The total quantity of surface water that can be expected in a given period from a stream at the outlet of its catchment is known as yield of the catchment in that period. The annual yield from a catchment is the end product of various processes such as precipitation, infiltration and evapo-transpiration operating on the catchment.

Catchment Yield can be estimated using following formula:

Catchment Yield (m^3) =Catchment area (m^2)* Runoff coefficient (%)*Rainfall (m)

The runoff generated from the watershed is analyzed using Strange's Tables method to get the reliable yield results. Runoff from a catchment is dependent upon annual rainfall as well as catchment characteristics such as soil types and the type of groundcover / land usage. Remote sensing was used for demarcation of catchment area relevant to the drainage system. Runoff coefficient of the catchment has been established based on Strange's Table.



SL NO	AREA (sq.km)	RIVER
1	1048.227	GANGA
2	994.561	GUMANI

Figure 7-5:- Watershed map of Sahibganj District

(Source: https://hydrosheds.org/images/inpages/HydroBASINS_TechDoc_v1c.pdf)

Strange (1892) studied the available rainfall and runoff and obtained yield ratios as functions of indicators representing catchment characteristics. Catchments are classified as good, average and bad according to the relative magnitudes of yield they give. For example, catchment with good forest cover and having soils of high permeability would be classified as bad, while catchment having soils of low permeability and having little or no vegetal cover is termed good. Based on the study Strange established runoff coefficient table as given below:

Table 7-6:- Runoff coefficient of the catchment based on Strange's Table

Total monsoon rainfall (mm)	Runoff coefficient (%)			Total monsoon rainfall (mm)	Runoff coefficient (%)		
	Good catchment	Average catchment	Bad catchment		Good catchment	Average catchment	Bad catchment
25.4	0.1	0.1	0.1	787.4	27.4	20.5	13.7
50.8	0.2	0.2	0.1	812.8	28.5	21.3	14.2
76.2	0.4	0.3	0.2	838.2	29.6	22.2	14.8
101.6	0.7	0.5	0.3	863.6	30.8	23.1	15.4
127	1	0.7	0.5	889	31.9	23.9	15.9
152.4	1.5	1.1	0.7	914.4	33	24.7	16.5
177.8	2.1	1.5	1	939.8	34.1	25.5	17
203.2	2.8	2.1	1.4	965.2	35.3	26.4	17.6
228.6	3.5	2.6	1.7	990.6	36.4	27.3	18.2
254	4.3	3.2	2.1	1016	37.5	28.1	18.7
279.4	5.2	3.9	2.6	1041.4	38.6	28.9	19.3
304.8	6.2	4.6	3.1	1066.8	39.8	29.8	19.9
330.2	7.2	5.4	3.6	1092.2	40.9	30.6	20.4
355.6	8.3	6.2	4.1	1117.6	42	31.5	21
381	9.4	7	4.7	1143	43.1	32.3	21.5
406.4	10.5	7.8	5.2	1168.4	44.3	33.2	22.1
431.8	11.6	8.7	5.8	1193.8	45.4	34	22.7
457.2	12.8	9.6	6.4	1219.2	46.5	34.8	23.2
482.6	13.9	10.4	6.9	1244.6	47.6	35.7	23.8
508	15	11.3	7.5	1270	48.8	36.6	24.4
533.4	16.1	12	8	1295.4	49.9	37.4	24.9
558.8	17.3	12.9	8.6	1320.8	51	38.2	25.5
584.2	18.4	13.8	9.2	1346.2	52.1	39	26
609.6	19.5	14.6	9.7	1371.6	53.3	39.9	26.6
635	20.6	15.4	10.3	1397	54.4	40.8	27.2
660.4	21.8	16.3	10.9	1422.4	55.5	41.6	27.7
685.8	22.9	17.1	11.4	1447.8	56.6	42.4	28.3
711.2	24	18	12	1473.2	57.8	43.3	28.9
736.6	25.1	18.8	12.5	1498.6	58.9	44.1	29.4
762	26.3	19.7	13.1	1524	60	45	30

Rainfall returns period for 25, 50 and 100 years calculated as below:

As per Weibull's Formula,

Return period/Recurrence interval = (n+1)/m

Where: n number of years on record;

m is the rank of observed occurrences when arranged in descending order.

a. Peak Flood Discharge Calculation:

The term "peak discharge" stands for the highest concentration of runoff from the basin area. The accurate estimation of flood discharge remains one of the major challenges as it depends upon physical characteristic of the catchment area and the flood intensity, duration and distribution pattern. There have been many different approaches for determining the peak runoff from an area. As a result, many different models (equations) for peak discharge estimation have been developed. Formulas used for Peak Discharge calculation are as below:

As per Dicken's formula,

$$Q = CA^{3/4}$$

Where: Q is Maximum flood discharge (m^3/sec) in a river

A is Area of catchment in Sq. Km

C is Constant whose value varies widely between 2.8 to 5.6 for catchments in plains and 14 to 28 for catchments in hills

As per Jarvis formula,

$$Q = CA^{1/2}$$

Where: Q is Maximum flood discharge (m^3/sec) in a river

A is Area of catchment in Sq. Km

C is Constant whose value varies between 1.77 as minimum and 177 as maximum. Limiting or 100 percent chance floods are given by the value of C of 177

As per Rational formula,

$$Q = CIA$$

Where: Q is Maximum flood discharge (m^3/sec) in a river

A is Area of catchment in Sq. Km

C is Runoff coefficient which depends on the characteristics of the catchment area. It is a ratio of runoff: rainfall

I is Intensity of rainfall (in m/sec)

b. Bed Load Transport Calculation:

The most important problems in river engineering are to predict bed load transport rates in torrential floods flowing from mountainous streams. Three modes of transport namely; rolling, sliding and saltation may occur simultaneously in bed load transport. The different modes of transportation are

closely related and it is difficult, if not impossible, to separate them completely. There are number of equations to compute the total sediment load. Most of these equations have some theoretical and empirical bases.

Ackers and White Equation:

Ackers and White (1973) used dimensional analysis based on flow power concept and their proposed formula is as follows.

$$C_t = C_s G_s \left(d_{50}/h\right) \left(V/U_*\right)^{n'} \left[\left(F_{gr}/A_1\right) - 1\right]^m$$

The dimensionless particle d_{gr} is calculated by:

$$d_{gr} = d_{50} \left(g(G_s-1)/v^2\right)^{1/3}$$

The particle mobility factor F_{gr} is calculated by:

$$F_{gr} = (U_*^{n'}/(G_s-1) g\, d_{50})^{1/2} * (V/(5.66 \log(10h/d_{50}))^{1-n'}$$

Where,

A_1 = Critical particle mobility factor
C_s = Concentration coefficient in the sediment transport function
C_t = Total sediment concentration
d_{50} = Median grain size
d_{gr} = Dimensionless particle diameter
F_{gr} = Particle mobility parameter
g = Acceleration of gravity
D_s, S_g = Specific gravity
h = Water depth
m = Exponent in the sediment transport function
n' = Manning roughness coefficient
U_* = Shear velocity
V = Mean flow velocity
ν = Kinematic viscosity

Meyer – Peter's equation:

Meyer-Peter's equation is based on experimental work carried out at Federal Institute of Technology, Zurich. Mayer-Peter gave a dimensionless equation based, for the first time, on rational laws. Mayer- Peter equations giving an empirical correlation of bed load transport rates in flumes and natural rivers. The simplified Meyer-Peter's equation is given below:

$$g_b = 0.417[\tau_0 (\eta'/\eta)^{1.5} - \tau_c]^{1.5}$$

Where,

gb = Rate of bed load transport (by weight) in N per m width of channel per second.

η' = Manning's coefficient pertaining to grain size on an unrippled bed and Strickler formula i.e. η' = (1/24) x d1/6 where d is the median size (d_{50}) of the bed sediment in m.

η = The actual observed value of the rugosity coefficient on rippled channels. Its value is generally taken as 0.020 for discharges of more than 11cumecs, and 0.0225 for lower discharges.

τc = Critical shear stress required to move the grain in N/m2 and given by equation τc = 0.687da, where da is mean or average size of the sediment in mm. This arithmetic average size is usually found to vary between d_{50} and d_{60}.

τ0= Unit tractive force produced by flowing water i.e. γwRS. Truly speaking, its value should be taken as the unit tractive force produced by the flowing water on bed = 0.97γwRS. R is the hydraulic mean depth of the channel (depth of flow for wider channel) and S is the bed slope.

c. Sediment Yield Estimation:

Sedimentation occurred as the velocity decreases along with its ability to carry sediment. Coarse sediments deposit first, then interferes with the channel conveyance, and may cause additional river meanders and distributaries. The area of the flowing water expands, the depth decreases, the velocity is reduced, and eventually even fine sediments begin to deposit. As a result, deltas may be formed in the upper portion of reservoirs. The deposited material may later be moved to deeper portions of the reservoir by hydraulic processes within the water body.

There are many sediment transport equations which are suitable for use in the prediction of the rate of replenishment of river. Some of the famous sediment equations are:

1. Dendy – Bolton Equation
2. Yang Equations
3. Engelund-Hansen Equation
4. Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)

Dendy – Bolton Equation:

Dendy – Bolton formula is often used to calculate the sediment yield because:

- The formula uses catchment area and mean annual runoff as key determinants.
- It does not differentiate in basin wide smaller streams and their characteristics.
- Dendy and Bolton equation calculates all types of sediment yield i.e. Sheet and rill Erosion gully Erosion, Channel Bed and bank erosion and mass movement etc.

Dendy-Bolton determined the combined influence of runoff and drainage area on sediment yield to compute the sediment yield. They developed two equations i.e., for run off less than 2 inch and for run off more than 2 inch, which are given below:

For run off less than 2 inch:

(Q<2in) $S=1289*(Q)^{0.46}*[1.43-0.26 \text{ Log } (A)]$

For run off more than 2 inches:

(Q > 2 in): $S= 1958*(e^{-0.055*Q})*[1.43-0.26 \text{ Log } (A)]$
Where: S = Sediment yield (tons/sq miles/yr)

Q = Mean Annual runoff (inch)

A = Net drainage are in sq. mile

Dendy Bolton formula is often used to calculate the sediment yield. But use of these equations to predict sediment yield for a specific location would be unwise because of the wide variability caused by local factors not considered in the equations development. However, they may provide a quick, rough approximation of mean sediment yields on a regional basis for preliminary watershed planning. Computed sediment yields normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant density because the equations are derived from average values. The equations express the general relationships between sediment yield, runoff, and drainage area. Many variables influence sediment yield from a drainage basin. They include climate, drainage area, soils, geology, topography, vegetation and land use. The effect of any of these variables may vary greatly from one geographic location to another, and the relative importance of controlling factors often varies within a given land resource area. Studies revealed that sediment yield per unit area generally decreases as drainage area increases. As drainage area increases, average land slopes usually decrease; and there is less probability of an intense rainstorm over the entire basin. Both phenomena tend to decrease sediment yield per unit area.

Modified Universal Soil Loss Equation (MUSLE):

Modified universal soil loss equation (MUSLE) for estimation of sediment yield is also used widely. MUSLE is a modification of the Universal Soil Loss Equation (USLE). USLE is an estimate of sheet and rill soil movement down a uniform slope using rain- fall energy as the erosive force acting on the soil (Wischmeier and Smith 1978). Depending on soil characteristics (texture, structure, organic matter, and permeability), some soils erode easily while others are inherently more resistant to the erosive action of rain- fall.

MUSLE is similar to USLE except for the energy component. USLE depends strictly upon rainfall as the source of erosive energy. MUSLE uses storm-based runoff volumes and runoff peak flows to simulate erosion and sediment yield (Williams 1995). The use of runoff variables rather than rainfall erosivity as the driving force enables MUSLE to estimate sediment yields for individual storm events. The generalized formula of MUSLE is as below:

Y=11.8*(Q*qP).56 *K*Ls*C*P

Where,
Y = sediment yield of stream (t/yr/km2),
Q = average annual runoff (m3),
K = soil erodibility factor,
qP = Highest discharge recorded (m3/s),
Ls = gradient/slope length,
C = cover management factor,
P = erosion control practice

ii. Estimation of Replenishment:

For replenishment study, following assumption/calculation taken in to consideration:

- Catchment area (Watershed area) against each river has been calculated based on remote sensing data.
- Rainfall runoff coefficient as per Strange's table for the catchment area is consider 45%, as the rainfall in the district is 1948 mm and the characteristic of the catchment of the district is average in nature.
- Peak flood discharge of the river of the district calculated based on Dicken's formula which is more applicable to north Indian and central Indian catchment. Here Dicken constant C is taken as 12 in present study as per published literature by Saha (2002).
- Bed load transport has not been computed in the regional aspect of the district, as the values are highly dependent on local factors such as particle mobility factor, roughness coefficient, Shear velocity, Mean flow velocity, Kinematic viscosity etc.

- Sedimentation yield calculated as per Dendy Bolton formula as the equations express the general relationships between sediment yield, runoff, and drainage area.
- Computed sediment yields by Dendy-Bolton formula normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant density because the equations are derived from average values.

The data estimated for each river in the district are tabulated below.

Table 7-7:- Replenishment parameter estimated for each river in the district

Estimation parameter	Ganga	Gumani
Catchment Area (m^2)	1048000000	949000000
Annual Rainfall (m)	1.95	1.95
Strange Runoff coefficient (%)	45%	45%
Annual Run-off (m)	0.429	0.429
Catchment Yield (m^3)	919620000	832747500
Peak Flood Discharge (m^3/sec)	69895981.54	64882997.49
Flow depth d (m)	0.9	0.5
Channel width b (m)	1000	250
Mean velocity v (m/s)	0.1	0.002
Channel slope S_0 (m/m)	0.040	0.004
Sediment Yield (Tons/year)	7992.77	7345.55
Estimated Annual Replenishment (in million m3)	0.14968	0.13756

Year-wise sedimentation rate for last 5 years of each river has been calculated as below. Sedimentation rate of a river is dependent on the annual rainfall of the district.

Table 7-8:- Year-wise sedimentation rate (tons/km^2/yr) for last 5 years of each river

Year	Ganga	Gumani	Annual Rainfall
2017	14.7	12.92	1645
2018	30.16	27.61	1313.2
2019	3.08	2.06	2376.5
2020	14.17	11.38	1662.7
2021	7.63	6.74	1948.5

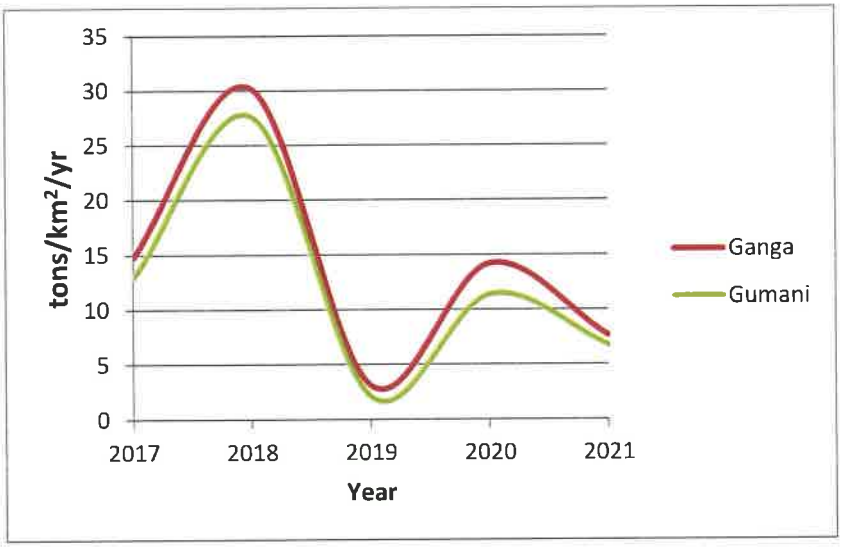


Figure 7-6:- Graphical representation of year-wise sedimentation rate

vi) Total potential of minor mineral in the river bed

The major sand producing rivers of the district are Ganga and Gumani. Total potential sand resource of the district is 40.81 Mcum. *(Source: Table no 7-10).*

B. Geological studies

i) Lithology of the catchment area

Geologically major part of the area is represented by Rajmahal traps having huge thickness of basaltic lava flows with intercalated shales and Clays. The type area is the Rajmahal hills at the head of the Ganges delta near the border of Jharkhand and west Bengal. The Rajmahal ranges extend with a north-south trend for more than 120 kms through the districts of Santhal Parganas in Jharkhand and Birnbaum in West Bengal (GSI, 1989). It consists of long flat topped hills attaining a maximum altitude of about 600 m. The basaltic lava flows of the Rajmahal Trap of middle Jurassic to lower cretaceous age occupy the major part of the district. It has been found that there are at least seven successive flows of basalt in the area, each flow ranging in thickness between 20m and 75 m. Rajmahal Traps are undererlain by Gonwana formations. Rajmahal Traps are overlain by Laterites and Alluvium. The river Ganga deposit recent alluvium occurs in the northern to eastern boundary of the area. The alluvium comprising of sand, silt, gravel and sub – ordinate clay. Laterites are mainly in situ origin and have been formed by sub – aerial erosion of underlying basalt under favorable climatic conditions.

ii) Tectonics and structural behavior of rocks

Rajmahal Traps which are dipping 2–5° towards the north-east. Individual layers vary in thickness from less than one metre (3 ft 3 in) to more than 70 metres (230 ft). These volcanic rocks were formed from the eruptions over the Kerguelen hotspot in the early Cretaceous. The similarity between the geochemical data of Rajmahal volcanos and lavas of the Kerguelen Plateau confirms this. According to plate tectonics, the Indian subcontinent was over this hot spot during the Cretaceous Period. The western boundary of the Rajmahal Traps is faulted and down-thrown towards the east. The eastern boundary of this trap has a North-South trending, fault-controlled basement.

C. Climate Factors

i) Intensity of rainfall

The average annual rainfall of the district is 1259.7mm (Between 2001 to 2020). The rainfall during the monsoon season – June to September – constitutes 80% of the annual rainfall; July, August & September are the rainiest months. The district receives a mean annual rainfall varying from 798.4mm to 1701.2mm.

ii) Climate zone

The district is characterized by humid to sub-humid climate. During summer the hot spell prevails from March to middle of June. Rainy season started from middle of June to end to September. Winter starts from the middle of November and continues till the end of February.

iii) Temperature variation

The district experiences great heat from March to May, when the maximum temperature reaches up to 44.4°c. December being the coldest month when the minimum temperatures fall down up to 6.8°c.

Annual Deposition:

Annual deposition of riverbed minerals has been calculated on post-monsoon sand volume. The pre-monsoon sand volume of the river is the depleted resources and is replenished by the monsoon rainfall.

Sand bar area recommended for mineral concession in the table is calculated as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM) 2020. As per guidelines, mining depth restricted to 3 meters' depth and distance from the bank is ¼th of river width and not less than 7.5 meters. Also, mining is prohibited up to a distance of 1 kilometer (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake

points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

For the purpose of estimating mineable mineral potential, the thickness of the sand bar considered extractable based on base flow level. The annual minable mineral potential is given in Table 7.10.

Table 7-9: Annual deposition of Riverbed minerals

S.No.	River or Stream	Portion of the river stream recommended for mineral concession (%)	Length of area recommended for mineral concession (in meters)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in sq. meter)	Considered mining thickness (m)	Potential Sand Resources (Mcum)	Mineable mineral potential (in million cubic meter) (60% of total mineral potential
1	GUMANI	6%	638.09	46.70	314592.24	1.5	0.5	0.28
2	GANGA	38%	7516.19	1230.13	20166981.07	2.0	40.3	24.20
Total Mineable volume							**40.81**	**24.48**

iii) Riverbed Mineral Potential

Huge quantities of quality sands are found to occur in part of rivers. Smaller patches are also available locally in the other smaller rivers as well.

Table 7-10:- Resources of Potential Riverbed Mineral

Boulder (Mcum)	Pebbles/Gravel (Mcum)	Sand/White sand (Mcum)	Total Mineable, Mineral Potential (Mcum)
-	-	24.48	24.48

iv) Riverbed Mineral Potential Zones

Table 7-11:- Potential Zone of Riverbed Mineral

RIVER NAME	ZONE		COORDINATE		LENGTH (MTS)	WIDTH (MTS)	AREA (SQMTS)
			LATITUDE	LONGITUDE			
GUMANI	ZONE_GM_01	1	24° 47' 57.349" N	87° 30' 49.066" E	259.46	21.89	5351.17534
		2	24° 47' 54.026" N	87° 30' 57.549" E			
	ZONE_GM_02	3	24° 50' 4.474" N	87° 32' 51.908" E	246.59	95.7	18355.59487
		4	24° 50' 12.111" N	87° 32' 49.224" E			
	ZONE_GM_03	5	24° 52' 55.323" N	87° 34' 17.098" E	359.4	63.68	12075.98322

		6	24° 53' 0.071" N	87° 34' 5.616" E			
	ZONE_GM_04	7	24° 54' 7.506" N	87° 38' 21.062" E	1151.77	61.72	34418.81058
		8	24° 54' 2.313" N	87° 38' 58.620" E			
	ZONE_GM_05	9	24° 54' 3.038" N	87° 39' 55.442" E	306.95	49.64	13307.43941
		10	24° 54' 2.608" N	87° 40' 6.373" E			
	ZONE_GM_06	11	24° 53' 42.387" N	87° 40' 8.801" E	2729.7	39.81	74696.81044
		12	24° 53' 30.478" N	87° 41' 20.165" E			
	ZONE_GM_07	13	24° 53' 32.769" N	87° 41' 44.017" E	254.52	31.98	5408.511194
		14	24° 53' 28.915" N	87° 41' 52.079" E			
	ZONE_GM_08	15	24° 53' 28.079" N	87° 42' 11.017" E	1106.38	49.4	43877.85153
		16	24° 53' 1.761" N	87° 42' 30.761" E			
	ZONE_GM_09	17	24° 52' 45.742" N	87° 42' 41.540" E	206.09	23.58	3712.536173
		18	24° 52' 39.054" N	87° 42' 41.549" E			
	ZONE_GM_10	19	24° 52' 21.123" N	87° 42' 44.058" E	201.92	30.81	3838.041012
		20	24° 52' 18.443" N	87° 42' 50.922" E			
	ZONE_GM_11	21	24° 52' 8.918" N	87° 42' 51.855" E	1090.11	58.08	41795.85613
		22	24° 51' 41.401" N	87° 42' 31.586" E			
	ZONE_GM_12	23	24° 51' 27.126" N	87° 42' 33.434" E	738.34	56.54	12613.78774
		24	24° 51' 8.698" N	87° 42' 47.644" E			
	ZONE_GM_13	25	24° 50' 9.792" N	87° 41' 57.591" E	686.12	29.88	11601.42363
		26	24° 50' 7.352" N	87° 42' 19.838" E			
	ZONE_GM_14	27	24° 49' 18.737" N	87° 42' 19.955" E	234.98	56.28	12782.65425
		28	24° 49' 11.630" N	87° 42' 17.333" E			
	ZONE_GM_15	29	24° 48' 19.367" N	87° 43' 41.525" E	305.9	46.48	12634.59439
		30	24° 48' 17.971" N	87° 43' 52.418" E			
	ZONE_GM_16	31	24° 48' 15.034" N	87° 44' 46.286" E	331.24	31.76	8121.166404
		32	24° 48' 24.237" N	87° 44' 50.683" E			
GANGA	ZONE_GA_01	33	25° 18' 9.638" N	87° 38' 30.856" E	7592.61	2059.42	12948646.96
		34	25° 15' 36.126" N	87° 42' 7.143" E			
	ZONE_GA_02	35	25° 15' 38.050" N	87° 43' 42.636" E	12227.27	587.7	4057143.513
		36	25° 9' 16.285" N	87° 45' 49.631" E			
	ZONE_GA_03	37	25° 14' 15.939" N	87° 49' 26.981" E	2728.69	1043.28	3161190.542
		38	25° 12' 42.084" N	87° 48' 51.792" E			

NO MINING ZONE:

As per the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 the restricted zone for mining is a distance from the bank is ¼th of river width and not be less than 7.5 meters. Also, there is a no mining zone up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected

to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

No mining zone has been marked for an area up to a width of 100 meters from the active edge of embankments. Also, the concave side of the river is marked as no mining zone, as mining is this area will affect the course of river in future and will erode the river bank. A representative map of no mining zone shown on River Ganga & Gumani of Sahibganj district is given in Figure 7.7.

Table 7-12:- Restricted Zone of Riverbed Mineral

RIVER NAME	ZONE	RESTRICTED AREA (SQ MTS)
GUMANI	ZONE_GM_01	720.293
	ZONE_GM_02	1645.431
	ZONE_GM_03	2225.646
	ZONE_GM_04	3547.932
	ZONE_GM_05	2393.733
	ZONE_GM_06	16461.468
	ZONE_GM_07	3132.404
	ZONE_GM_08	9405.662
	ZONE_GM_09	1649.915
	ZONE_GM_10	1799.956
	ZONE_GM_11	4007.075
	ZONE_GM_12	2188.444
	ZONE_GM_13	3471.357
	ZONE_GM_14	1130.554
	ZONE_GM_15	2015.416
	ZONE_GM_16	1723.925
GANGA	ZONE_GA_01	1009515.722
	ZONE_GA_02	403785.7264
	ZONE_GA_03	435880.7204

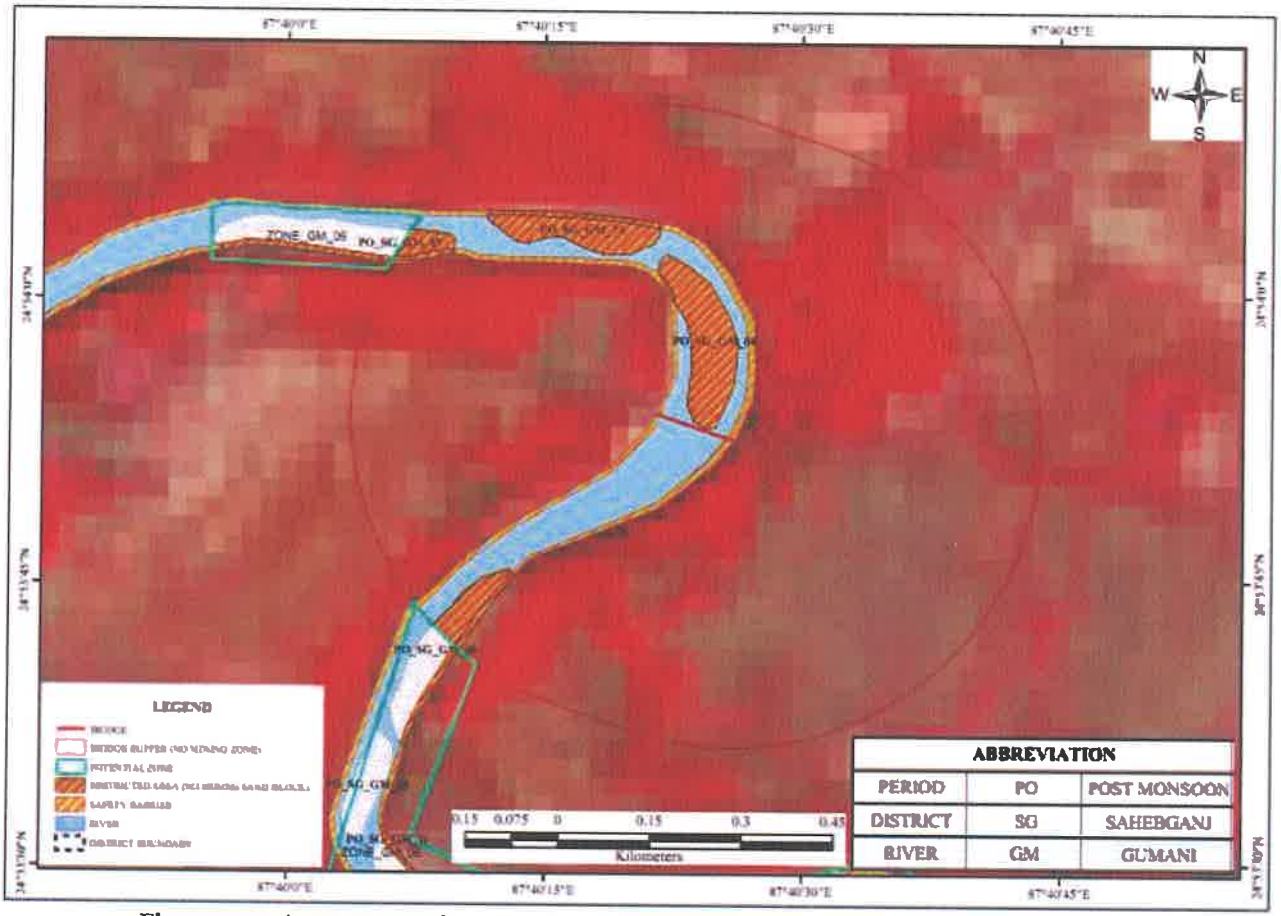


Figure 7-7:- A representative map showing no-mining zone demarcated on Gumani River

8 Overview of mining activity in the district:

8.1 General overview:

Sand is the basic raw material for its utilization in any development activity throughout the world. Sand is primarily produced from mining operations on the surface of the earth, near the river beds and the sand quarrying below the surface of earth. In the earlier time the mud houses/buildings were constructed with the use of mud. However, with the passage of time, new technique of development activities was started. As such the demand of Minor Mineral started on an increasing trend. In order to meet the requirement of raw material for construction, the extraction of sand carried out manually / semi-mechanized process from the river beds. The production of aggregate area is a function of the availability of natural resources, the size of population, the economy of the area and various developmental and infrastructural works being undertaken in the area like road construction, hydroelectric projects etc. Further, being a low- value, high-volume mineral commodity, the prices are dramatically affected by transportation distances. If the distance increases, the transportation cost may increase much more than the cost of the aggregates.

8.2 List of existing mining leases of the districts

Table 8-1 : Details of Sand mining leases of the districts

क्र0	बालू घाट का नाम / मौजा / दाग स0 / रकवा	पंचायत	रकवा	पूर्व बंन्दोवस्तधारी का नाम एवं पता	बंदोबस्ती की तिथी	बंदोबस्ती की तिथी
1	मौजा- नक्सीमल के प्लॉट संख्या- 149/पी0 के कुल 3.00 एकड़ ।	विषनपुर	3.00 एकड़	मो0 सफातुल्ला, पिता- मो0 इसाहक, ग्राम- पुलियाडागा, पो0- विषनपुर, जिला- साहेबगंज ।	02.11.15	26.01.19
2	मौजा- डाहुजोर के प्लॉट संख्या- 1/पी0 एवं 490 के कुल रकवा 3.00 एकड़ ।	मोदीकोला	3.00 एकड़	मो0 नजरूल हक, पितास्व0- हिमायतुल्ला अंसारी, ग्राम + पो0-मोदीकोला, जिला- साहेबगंज ।	02.11.15	20.09.18
3	मौजा- गोपालाडीह के प्लॉट संख्या- 594 के कुल रकवा 3.00 एकड़ ।	गोपालाडीह	3.00 एकड़	षाहिन रब्बानी, पिता स्व0- जाहिद हुसैन, ग्राम + पो0- बरहेट, जिला- साहेबगंज ।	12.06.15	20.09.18
4	मौजा- कुसमा के प्लॉट संख्या- 1326/पी0 के कुल रकवा 3.00 एकड़ ।	कुसमा	3.00 एकड़	कैसर रब्बानी, पिता स्व0- जाहिद हुसैन, ग्राम + पो0- बरहेट, जिला- साहेबगंज ।	15.06.15	29.09.18
5	मौजा- कदमा के प्लॉट संख्या- 1 के कुल रकवा 4.00 एकड़ ।	कदमा	4.00 एकड़	शाहिन रब्बानी, पिता स्व0- जाहिद हुसैन, ग्राम + पो0- बरहेट, जिला- साहेबगंज ।	19.08.15	19.02.19

Category 1 Sand Ghat Details

क्र0	बालू घाट का नाम / मौजा / दाग स0 / रकवा	पंचायत	अंचल	नदी का नाम	अभियुक्ति
1	मौजा- शिवपहाड़ के प्लॉट संख्या- 1/पी0 अठगांवा के प्लॉट संख्या- 1/पी0 कवरपुर एवं चुटिया के प्लॉट संख्या- 719, /पी0 655/पी0 कुल रकवा 16.50 एकड़ ।	शिवपहाड़	पतना	गुमानी	
2	मौजा- सिंधा के प्लॉट संख्या- 1157/पी0 एवं प्लॉट संख्या- 1232/पी0 कुल रकवा 9.00 एकड़ ।	बरहेट उ0	बरहेट	गुमानी	
3	मौजा- बाबुपुर के प्लॉट संख्या- 1528/पी0 एवं बरहेट उ0 कुल रकवा 6.00 एकड़ ।	पचकठिया बजार	बरहेट	गुमानी	
4	मौजा- पेटखासा के प्लॉट संख्या- 440/पी0 कुल रकवा 2.50 एकड़ ।	खैरवा	बरहेट	गुमानी	
5	मौजा- मनोहरपुर के प्लॉट संख्या- 341/पी0 रूपसपुर के प्लॉट संख्या- 1/पी0 मौजा-फतेहपुर 252 नुराई के प्लॉट संख्या- 177, कुल रकवा 7.75 एकड़ ।	रूपसपुर_बरहरवा	बरहरवा	गुमानी	

8.3 Detail of production of sand and other minerals during last years

Details of production of last years are furnished below.

Table 8-2 : Detail of production of sand and other minerals during last years

Mineral	Production (CFT)		
	2019-2020	2020-2021	2021- 2022
Sand	Nil	Nil	Nil
Bajri	Nil	Nil	Nil

(Source: District Mining Office, Sahibganj)

9 Details of revenue generated from mineral sector during last years:

Revenue generation of last years is furnished below.

Table 9-1: District revenue generation from mineral sector in Rs.

Mineral	Royalty		
	2019-2020	2020-2021	2021-2022
Sand	Nil	Nil	Nil
Bajri	Nil	Nil	Nil

(Source: District Mining Office, Sahibganj)

10 Transport (Railway, road)

The district has good network of roadways. The river Ganges provides water link also for such purposes. No important place in the district is left unconnected by a metalled road. The Jamtara-Dumka-Sahibganj road provides a link with Assam after ferry across the Ganges. The road between Farakka and Bhagalpur is National Highway.

In sahibganj district there are five types of major roads including NH and SH. 4 Roads are SH and One Road is NH. The National Highway (NH80) crossing from Barharwa to Mirzachowki via sahibganj town and State Highway are ADB SH-18 from Sahibganj town to Barhet Border, MDR-210 from Borio to Tinpahar rajmahal, MDR-217 from Mangalhat to Taljhari and MDR-211 Barhet to Barharwa.

Sahibganj Junction railway station is an important railway junction station on Sahibganj loop line under the Malda railway division of Eastern Railway zone.

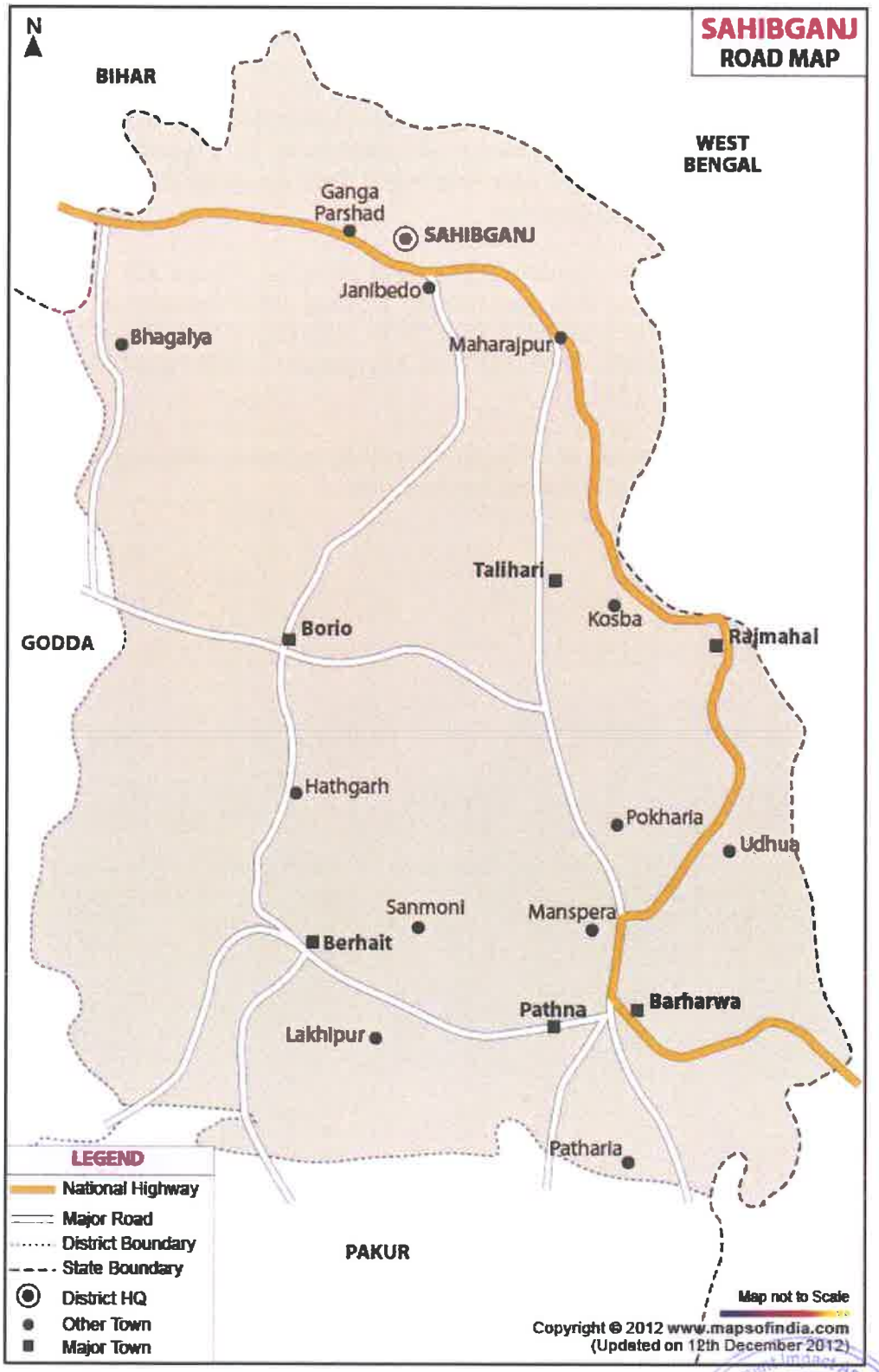


Figure 10-1 : Road map of Sahibganj District
(Source: https://www.mapsofindia.com/maps/jharkhand/districts/sahibganj.htm)

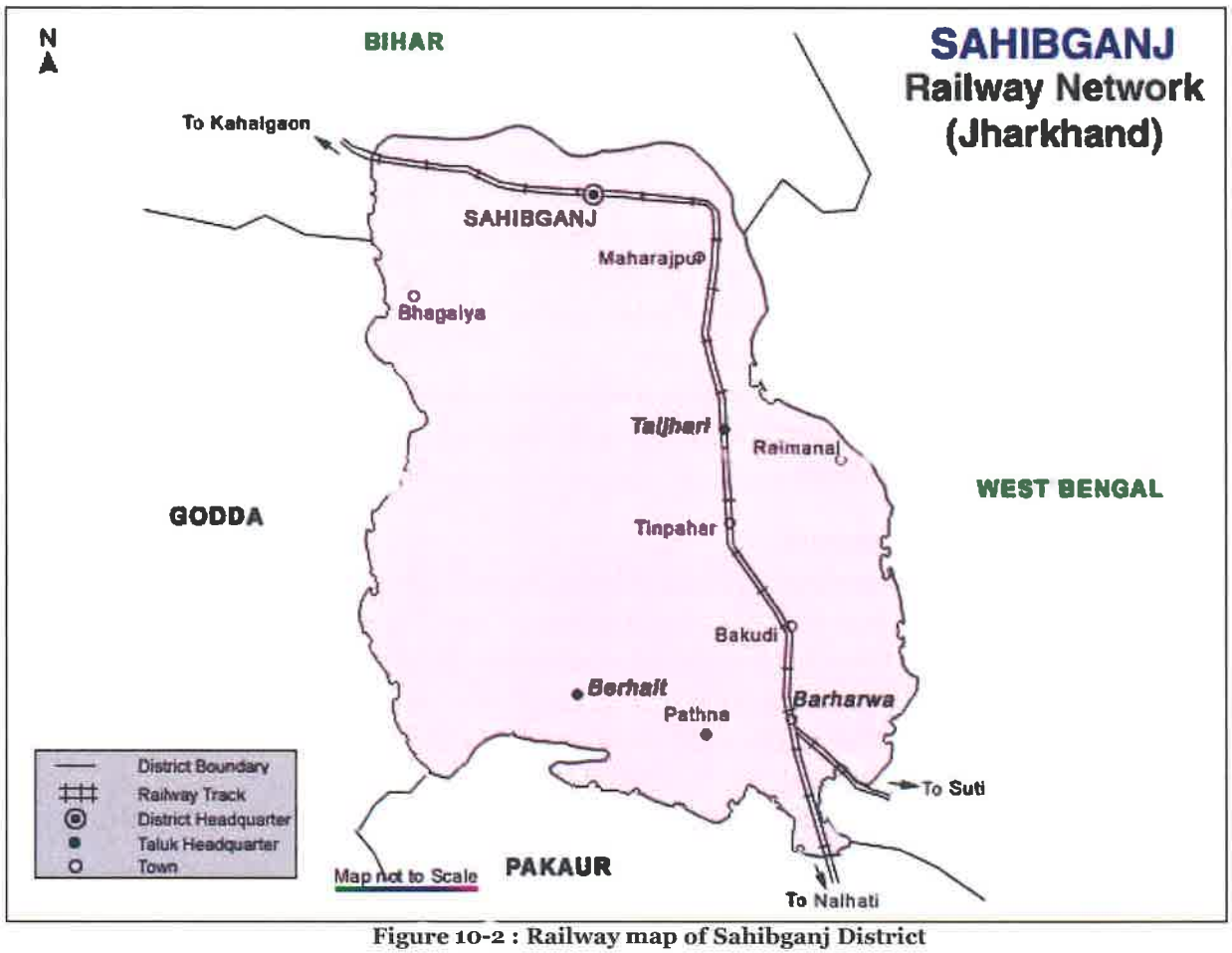


Figure 10-2 : Railway map of Sahibganj District

(Source: http://railmapindia.blogspot.com/2012/01/sahibganj-railways-map.html)

11 Environmental Sensitivity

The Sahibganj area represents a unique geo- environmental setup. As human population expands, forests are being depleted for the extension of agricultural lands, introduction of new settlements, roadways etc. The growing changes is coming in the wake of urbanization and industrialization leave deep impression on ecosystem.

Due to unprecedented growth of population during the last few, nature has started reacting sharply to the accumulated human guilt. Soil erosion and its conservation play an important role.

The adverse effect of unscientific mining is realized in the form of landslide, removal of soil cover, siltation of river beds leading to frequent floods, endangering the lives and properties of local inhabitants.

11.1 Sand mining Impact

Another serious environmental problem around the globe in recent years is of Sand mining. Sand mining is a process of extraction of sand from an open pit, river bed, sea beaches, ocean floor, river banks, deltas and island dunes. The extracted sand could be utilized for various types of manufacturing, such as concrete used in the construction of building and other structures. The sand can also be used as an abrasive. The demand for sand increase as population grows also urbanization with time. The high level of demands has offer led to the use of unsustainable sand mining process for speedy urbanization resulted in illegal mining.

Although most jurisdictions have legal limit on the location and volume of sand that can be mined, illegal sand extraction is taking place in many parts of the country due to rapid urbanization and industrialization.

Removal or extraction of too much sand from rivers leads to erosion of river banks. Deltas can recede due to sand mining. These destructive effects of sand mining ultimately result in loss of fertile land and property. It also destabilizes the ground and causes failure of engineering structures.

In-stream mining directly alters the channel geometry and bed elevation. By removing sediment from the channel, disrupts the preexisting balance between sediment supply and transporting capacity, typically inducing incision upstream and downstream of the extraction site. The resultant incision alters the frequency of floodplain inundation along the river courses, lowers valley floor water tables and frequently leads to destruction of bridges and channelization structures.

Sand Mining in beaches disturbs the ecosystem of different fauna of the beaches. The sand mining from natural barriers, made up of sand, causes flooding of the natural habitat. The sand mining activity destroys the aesthetic beauty of beaches and river bank and makes

the ecosystem unstable. If there are popular tourist destination, tourism potential of such areas will lose.

It could be concluding that there has been little in-depth research in to the environmental and social also political effect of land use practice and calls for urgent redressed by the competent authority.

11.2 Remedial measure

11.2.1 Sustainable Mining Practices:

- The depth of mining in riverbed shall not exceed 3 meter or base flow level whichever is less, provided that where the Joint Inspection Committee certifies about excessive deposit or over accumulation of mineral in certain reaches requiring channelization, it can go above 3 meters.
- Mining shall be done in layers of 1-meter depth to avoid ponding effect and after first layer is excavated, the process will be repeated for the next layers.
- No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations.
- No blasting shall be resorted to in river mining and without permission at any other place.

11.2.2 Monitoring the Mining of Mineral and its Transportation:

- For each mining lease site, the access should be controlled in a way that vehicles carrying mineral from that area are tracked and accounted for.
- There should be regular monitoring of the mining activities in the State to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Government.

11.2.3 Noise Management:

- Noise arising out of mining and processing shall be abated and controlled at source to keep within permissible limit.
- Restricted sand mining operation has to be carried out between 6 am to 7 pm.

11.2.4 Air Pollution and Dust Management:

- The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly.

- Air pollution due to dust, exhaust emission or fumes during mining and processing phase should be controlled and kept in permissible limits specified under environmental laws.
- The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Wheel washing facility should be installed and used.

11.2.5 Bio-Diversity Protection:

- Restoration of flora affected by mining should be done immediately. Five times the number of trees destroyed by mining to be planted preferably of indigenous species. Each EC holder shall have to undertake plantation of trees over at least 20% of the total area of lease in the same plot or plots utilized for such working.
- No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made there under.
- Protection of natural home of any wild animal shall have to be ensured.
- No felling of tree near quarry is allowed. For mining lease within 10km of the National Park / Sanctuary or in Eco-Sensitive Zone of the Protected Area, recommendation of Standing Committee of National Board of Wild Life (NBWL) has to be obtained as per the Hon'ble Supreme Court order in I.A. No. 460 of 2004.
- Spring sources should not be affected due to mining activities. Necessary protection measures are to be incorporated.

11.2.6 Management of Instability and Erosion:

- Removal, stacking and utilization of top soil should be ensured during mining. Where top soil cannot be used concurrently, it shall be stored separately for future use keeping in view that the bacterial organism should not die and should be spread nearby area.
- The EC should stipulate conditions for adequate steps to check soil erosion and control debris flow etc. by constructing engineering structures
- Use of oversize material to control erosion and movement of sediments
- No overhangs shall be allowed to be formed due to mining and mining shall not be allowed in area where subsidence of rocks is likely to occur due to steep angle of slope.
- No extraction of stone / boulder / sand in landslide prone areas.
- Controlled clearance of riparian vegetation to be undertaken.

11.2.7 Waste Management:

- Site clearance and tidiness is very much needed to have less visual impact of mining.
- Dumping of waste shall be done in earmarked places as approved in Mining Plan.
- Rubbish burial shall not be done in the rivers.

11.2.8 Pollution Prevention:

- Take all possible precautions for the protection of environment and control of pollution.
- Effluent discharge should be kept to the minimum and it should meet the standards prescribed.

11.2.9 Protection of Infrastructure:

- Mining activities shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archeological importance.
- For carrying out mining in proximity to any bridge or embankment, appropriate safety zone should be worked out on case-to-case basis, taking into account the structural parameters, location aspects and flow rate, and no mining should be carried out in the safety zone so worked out.

11.3 Suggested reclamation plan for already mined out areas

As per statute all mines/quarries are to be properly reclaimed before final closure of the mine. Reclamation plans should include:

a) A baseline survey of river cross section. The study of cross section is basis for delineating channel form. Cross-sections must be surveyed between two monumented endpoints set on the river banks, and elevations should be referenced based on benchmark set in the area;

b) The proposed mining cross-section data should be plotted over the baseline data to illustrate the vertical extent of the proposed excavation;

c) The cross-section of the replenished bar should be the same as the baseline data. This illustrates that the bar elevation after the bar is replenished will be the same as the bar before extraction;

d) A planimetric map showing the aerial extent of the excavation and extent of the riparian buffers;

e) A planting plan developed by a plant ecologist familiar with the flora of the river for any areas such as roads that need to be restored;

f) Each EC holder shall have to undertake plantation of trees over at least 20% of the total area of the plot or plots of land as subject to such working in accordance with a plan approved by the concerned Divisional Forest Officer holding jurisdiction, provided further the competent authority i.e., The Divisional Forest Officer may fix up norms for plantation of trees in a particular area regarding choice of species, spacing, nos. of trees and maintenance etc.;

g) A monitoring plan has been established.

12 Risk assessment and disaster management plan

Risk analysis is the systematic study of risks encountered during various stages of mining operation. Risk analysis seek to identify the risks involved in mining operations, to understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes. The sand mining operation in the district is mainly done manually.

12.1 Identification of risk due to river sand mining

There is no land degradation due to mining activities as mining is done only on river bed dry surface. There will be no OB or waste generation as the sand is exposed in the river bed and is completely saleable. There will be neither any stacking of soil nor creation of OB dumps. The mining activity will carry out up to a maximum depth of 3m below the surface level. So, there is no chance of slope failure, bench failure in the mines. However, there are some identified risk in the mining activity which are as below:

1. Accident during sand loading and transportation
2. Inundation/ Flooding
3. Quick Sand Condition

12.2 Mitigation measures

12.2.1 Measures to prevent accidents during loading and transportation:

- During the loading truck should be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The workers will be provided with gloves and safety shoes during loading.
- Opening of the side covers of the truck should be done carefully and with warning to prevent injury to the loaders.
- Mining operations will be takes place during daylight only.
- The truck will be covered with tarpaulin and maintained to prevent any spillage.
- To avoid danger while reversing the trackless vehicles especially at the embankment and tipping points, all areas for reversing of lorries should be made man free as far as possible.
- All transportation within the main working will be carried out directly under the supervision and control of the management.
- Overloading should not be permitted and the maximum permissible speed limit should be ensured.
- There will be regular maintenance of the trucks and the drivers will have valid driving license.

12.2.2 Measures to prevent incidents during Inundation/ Flooding:

To minimize the risk of flooding/ inundation following measures will be under taken:

- Mining will be completely closed during the monsoon months.
- Proper weather information particularly on rain should be kept during the operational period of mines so that precautionary measures will be undertaken.

12.2.3 Measures for mitigation to quick sand condition:

- Quick sand zone and deep-water zone will be clearly demarcated and all the mines' workers will have made aware of the location.
- Mining will be done strictly as per the approved mining plan.

12.3 Disaster management plan

As the depth of mining will be maximum of 3m below the surface level considering local condition, the risk related to mining activity is much less. The mining operation will be carried out under the supervision experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955 and other laws applicable to mine will strictly be complied. During heavy rainfall and during the monsoon season the mining activities will be closed. Proper coordination with Irrigation Department should be maintained so that at the time of releasing water, if any, from the dam suitable warning/information is given in advance. Special attention and requisite precautions shall be taken while working in areas of geological weakness like existence of slip, fault etc. The mining site will be supplied with first-aid facilities and the entire mines worker will have access to that.

13 Conclusion & Recommendation

I. The replenishment study has been carried out during the preparation of this DSR after analyzing datasets of consecutive calendar years.

II. Both field-based surveys coupled with satellite imagery study and empirical study was carried out to determine the rate of replenishment in each river of the district.

III. The determined values of various methods as adopted for replenishment study gives a comparable value and in all cases the values are found to be much more as compared to the capping limit (60%) as suggested in the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change (MoEF & CC) 2020.

IV. It is suggested to have a periodical review along with field data acquisition during pre and post monsoon periods to record the seasonal variance of the sedimentation rate on annual basis and update this DSR in case of any abnormal findings.

ANNEXURE- 1

(Compliance Report)

Minutes of the 99th meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand held on 7th,08th,09th, 10th and 11th December, 2022.

Sl. No	Observation by SEAC	Reply
1.	The DSR submitted was at a draft stage. The final DSR after approval by Sub divisional Committee, Deputy Commissioner and incorporation of the public comments is to be submitted for appraisal by SEAC.	This is the Final DSR after approval by Sub Divisional Committee, Deputy Commissioner and the comments of the publics are also incorporated in the DSR.
2.	The final DSR should be signed by all members of the Sub divisional Committee and the Consultants involved in the preparation of the same. All pages of the DSR should be signed by the authorized officer of the DC/ Sub divisional Committee.	Complied. The DSR has been signed by all the members of Sub divisional Committee and Consultant involved in the preparation of the report.
3.	The draft DSR submitted is based only on part survey. In the submitted draft DSR the complete area of the river / rivers has not been surveyed, only some selected Ghats / leases have been surveyed. The complete potential area should be demarcated before proposing the sand leases / Ghats as per EMGSM guideline 2020.	All the rivers have been surveyed and then the potential areas are identified and mentioned in the DSR. Kindly refer to table No. 7.4 which shows List of complete potential sand lease area as per EMGSM guideline 2020.
4.	The field survey of pre-monsoon period is to be included in final DSR.	The Pre-monsoon data provided by DMO is attached as annexure K
5.	The DSR should be placed in the public domain for at least 01 (One) month from the date of publication of the advertisement for obtaining comments of the public. The comments received shall be placed before the concerned Sub divisional Committee for consideration. The final DSR should be submitted to SEIAA, after incorporation of all replies of the comments received from the public.	The DSR was placed on public portal for one month the screenshot and the paper cutting is attached for reference as annexure G.
6.	Demand and supply of the river bed material through market survey needs to be carried out. In addition to this, future demand for the next five years also needs to	The demand and supply gap of the sand in the district is reflected in chapter 2-point no. 2.3 of

State Level Environment Impact Assessment Authority Approved Jharkhand, Ranchi

<table>
<tr><td></td><td>be considered to justify the number & area of the Sand Ghat to be included in the final DSR.</td><td>DSR.</td></tr>
<tr><td>7.</td><td>The sand Ghats / leases have not to be proposed on the confluence / meanders / concavieties / active channels of the river.</td><td>The confluence / meanders / concavities / active channels of the river are not proposed as these locations are environmentally sensitive.</td></tr>
<tr><td>8.</td><td>The Khata & Khasra (class / nature of land including "Jungle Jhari") of the lease area should be certified by the concerned Circle Officer (CO) and to be incorporated in the final DSR.</td><td>The Khata & Khasra (class / nature of land including "Jungle Jhari") of the lease area has been certified. Copy of CO Report is attached as annexure F.</td></tr>
<tr><td>9.</td><td>The distance sand leases / Ghats from the Forest / Wildlife Protected area / Birds Sanctuary / Wildlife Sanctuary / National Park / Eco Sensitive Zone should be verified and certified by the concerned DFO's of the respective Territorial and Wildlife division.</td><td>DFO Report, attached as annexure F.</td></tr>
<tr><td>10.</td><td>The undertaking regarding presence of aquatic animal in the river in proximity of the proposed sand ghats should be verified and certified by concerned Govt. Departments like Zoological survey of India.</td><td>Kindly refer to annexure J</td></tr>
<tr><td>11.</td><td>The proposed leases / ghats should meet all the siting criteria of State Pollution Control Board / SEIAA.</td><td>As per the siting criteria of JSPCB notification no. B-21, Ranchi dated 16/08/13 and also, as per 67th-MOM-of-SEIAA Jharkhand following sitting criteria has been complied.

<table>
<tr><td>Minimum Distance from</td><td>Distance (in meter)</td></tr>
<tr><td>NH</td><td>100</td></tr>
<tr><td>SH</td><td>100</td></tr>
<tr><td>Distance metal road</td><td>50</td></tr>
<tr><td>Railway line</td><td>100</td></tr>
<tr><td>River</td><td>100</td></tr>
</table>
</td></tr>
</table>

State Level Environment Impact Assessment Authority Approved Jharkhand, Ranchi

		Any other river: 100 Habitation: 200 Forest /Forest Land: 400* *As per 67th-MOM-of-SEIAA, Jharkhand minimum distance required from forest is 250 m only.
12.	Clear and high-resolution color satellite images of the proposed potential sand mining area should be submitted with final DSR including the date of photographs / Geocoded location. Details of all such satellite imageries should be including in the final DSR.	We have provided ESRI BASE MAP (Pre- Monsoon) having resolution 5 M & FCC-USGS LANDSET 8 (Post-Monsoon) having resolution 30 M in the DSR.
13.	The table of estimation of sand resources after pre-monsoon and post-monsoon survey should be including in the final DSR.	Complied., please refer table no – 7.4
14.	All primary & secondary data should be supported with relevant references and documentary evidences in the final DSR.	All primary & secondary data are supported with relevant references and documentary evidences in the final DSR.
15.	Bulk density and specific gravity of the sand should be certified by NABL accredited laboratory.	Attached as annexure D
16.	Concave side of the river should be avoided for identification of sand leases / ghats.	No any sand leases / ghats has been proposed on concave side of the river.
17.	KML files of Existing leases / ghats and proposed leases / ghats should be provided.	Complied
18.	Cluster and contiguous cluster formation should be followed as per EMGSM guidelines, 2020.	Complied
19.	Average length and width of the river should be including and mining should be restricted to 3/4th of the river width and mining should be restricted within 60% of the mineable reserve.	Complied, please refer annexure H

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

20.	Transportation routes should be defined for the proposed mining sites and duly certified from the competent Authorities.	Transportation routes maps attached as annexure I
21.	All the annexures given in the EMGSM guidelines, 2020 should be filled and including in the final DSR.	All the annexures given in the EMGSM guidelines, 2020 attached as annexure
22.	Point no. 9.3 of the EMGSM guidelines, 2020 regarding monitoring of mining near inter-district or inter-state boundary should be addressed in the final DSR, if applicable.	Complied, undertaking attached as annexure L.
23.	In addition to above any other applicable criteria as required under SSMG, 2016 & EMGSM guidelines, 2020 should be including in the final DSR.	Complied
24.	The presentation of the final DSR at the time of appraisal by SEAC should cover all the points of SSMG, 2016 & EMGSM guidelines, 2020.	Complied

ANNEXURE- A

Details of Existing Sand Ghats (As per old DSR)

List of existing mining leases of the districts

क्र0	बालू घाट का नाम / मौजा / दाग स0 / रकवा	पंचायत	रकवा	पूर्व बन्दोवस्तधारी का नाम एवं पता	बंदोबस्ती की तिथी	बंदोबस्ती की तिथी
1	मौजा- नक्सीमल के प्लॉट संख्या- 149/पी0 के कुल 3.00 एकड़ ।	विषनपुर	3.00 एकड़	मो0 सफातुल्ला, पिता- मो0 इसाहक, ग्राम- पुलियाडागा, पो0- विषनपुर, जिला- साहेबगंज ।	02.11.15	26.01.19
2	मौजा- डाहुजोर के प्लॉट संख्या- 1/पी0 एवं 490 के कुल रकवा 3.00 एकड़ ।	मोदीकोला	3.00 एकड़	मो0 नजरूल हक, पितास्व0- हिमायतुल्ला अंसारी, ग्राम + पो0-मोदीकोला, जिला- साहेबगंज ।	02.11.15	20.09.18
3	मौजा- गोपालाडीह के प्लॉट संख्या- 594 के कुल रकवा 3.00 एकड़ ।	गोपालाडीह	3.00 एकड़	षाहिन रब्बानी, पिता स्व0- जाहिद हुसैन, ग्राम + पो0- बरहेट, जिला- साहेबगंज ।	12.06.15	20.09.18
4	मौजा- कुसमा के प्लॉट संख्या- 1326/पी0 के कुल रकवा 3.00 एकड़ ।	कुसमा	3.00 एकड़	कैसर रब्बानी, पिता स्व0- जाहिद हुसैन, ग्राम + पो0- बरहेट, जिला- साहेबगंज ।	15.06.15	29.09.18
5	मौजा- कदमा के प्लॉट संख्या- 1 के कुल रकवा 4.00 एकड़ ।	कदमा	4.00 एकड़	शाहिन रब्बानी, पिता स्व0- जाहिद हुसैन, ग्राम + पो0- बरहेट, जिला- साहेबगंज ।	19.08.15	19.02.19

Category 1 Sand Ghat Details

क्र0	बालू घाट का नाम / मौजा / दाग स0 / रकवा	पंचायत	<u>अंचल</u>	नदी का नाम
1	मौजा- शिवपहाड़ के प्लॉट संख्या- 1/पी0 अठगांवा के प्लॉट संख्या- 1/पी0 कवरपुर एवं चुटिया के प्लॉट संख्या- 719, /पी0 655/पी0 कुल रकवा 16.50 एकड़ ।	शिवपहाड़	<u>पतना</u>	गुमानी
2	मौजा- सिंधा के प्लॉट संख्या- 1157/पी0 एवं प्लॉट संख्या- 1232/पी0 कुल रकवा 9.00 एकड़ ।	बरहेट उ0	<u>बरहेट</u>	गुमानी
3	मौजा- बाबुपुर के प्लॉट संख्या- 1528/पी0 एवं बरहेट उ0 कुल रकवा 6.00 एकड़ ।	पचकठिया बजार	<u>बरहेट</u>	गुमानी
4	मौजा- पेटखासा के प्लॉट संख्या- 440/पी0 कुल रकवा 2.50 एकड़ ।	खैरवा	<u>बरहेट</u>	गुमानी
5	मौजा- मनोहरपुर के प्लॉट संख्या- 341/पी0 रूपसपुर के प्लॉट संख्या- 1/पी0 मौजा-फतेहपुर 252 नुराई के प्लॉट संख्या- 177, कुल रकवा 7.75 एकड़ ।	रूपसपुर बरहरवा	बरहरवा	गुमानी

ANNEXURE- B

(Committee Involved in DSR)

उपायुक्त–सह–जिला दण्डाधिकारी का कार्यालय, साहेबगंज
(जिला खनन शाखा)

पत्रांक–494 / एम0 दिनांक–09.05.2023.

–: आदेश :–

सरकार के सचिव, खान एवं भूतत्व विभाग, झारखंड सरकार, रांची के पत्रांक–928 / एम0, रांची दिनांक–27.04.2023 से सूचित किया गया है कि माननीय NGT द्वारा वाद O-A No- 40 / 2020 / EZ में दिनांक–14.10.2020 को पारित आदेश में बालू का DSR, NABET/IQCCI Accredited Agency द्वारा तैयार किये जाने का निदेश था, जिसे माननीय उच्चतम न्यायालय में Civil Appeal No- 3661-3662 of 2020, The State of Bihar & Ors –Vrs- Pawan Kumar & Ors- में दिनांक–10.11.2021 को पारित आदेश में संशोधित कर निम्नरूपेण गठित Sub Divisional Committee द्वारा DSR तैयार करने हेतु आदेश दिया गया है।

उक्त के आलोक में अधोहस्तक्षरी के स्तर से निम्नरूपेण Sub Divisional Committee की संरचना की जाती है :–

1. अनुमंडल पदाधिकारी, साहेबगंज – अध्यक्ष
2. जिला खनन पदाधिकारी साहेबगंज – सदस्य
3. कार्यपालक अभियंता, लघु सिंचाई प्रमंडल, साहेबगंज – सदस्य
4. राज्य प्रदूषण पर्षद द्वारा नामित पदाधिकारी – सदस्य
5. वन प्रमंडल पदाधिकारी, साहेबगंज के नामित पदाधिकारी – सदस्य

उपरोक्त नामित समिति के सदस्यों को निदेश दिया जाता है कि लघु खनिजों का DSR तैयार करना सुनिश्चित करेंगे तथा अधोहस्ताक्षरी के समक्ष अनुमोदन हेतु प्रस्तुत करेंगे।

9/5/23
उपायुक्त,
साहेबगंज

State Level Environment Impact Assessment Authority * Jharkhand, Ranchi * Approved

ANNEXURE- C

(Photographs of the site Survey)


Latitude: 24.89057
Longitude: 87.67 /006
Elevation: -6.91±16 m
Accuracy: 10.5 m
Time: 11-12-2022 13:13
Note: gopaldih
ghat: gumani budhudih


Latitude: 24.892248
Longitude: 87.689766
Elevation: 31.5458 m
Accuracy: 21.0 m
Time: 11-12-2022 14:26
Note: gopaldih
ghat: gumani tegra


Latitude: 24.891209
Longitude: 87.688028
Elevation: 31.67±12 m
Accuracy: 9.8 m
Time: 11-12-2022 14:18
Note: gopaldih
ghat: gumani tegra


Latitude: 24.891175
Longitude: 87.688007
Elevation: 28.7±16 m
Accuracy: 19.2 m
Time: 11-12-2022 14:15
Note: gopaldih
ghat: gumani tegra

ANNEXURE- D

(Sp. Gravity & Bulk Density data of sand from NABL lab)

RAPPID TEST LAB PVT. LTD.

RAPPID

Our Dream is Quality only....

TC-10214

Block-A, Raut City, Commercial Complex, Garikhana, Khagaul, Near Radiant International School, Patna - 801105 (Bihar)

TEST REPORT

Issued to, District Mining Officer, Sahibganj	ULR No. : TC1021422000000351F Date of Receipt: 19.12.2022 Date of Testing: 20.12.2022 Date of Report : 21.12.2022
Description of Sample : Sand	
Mauza: Tegra	River: Gumani river
State: Jharkhand	District: Sahibganj
Ref No: Nil Dated:	

SL. No.	TEST PARAMETERS	TEST METHOD	Results
1	Specific Gravity	IS 2386 (P-3)	2.61
2	Bulk density , kg/l	IS 2386 (P-3)	1.56

End of Test Report

Rappid Test Lab Pvt. Ltd. PATNA

Authorized Signatory

State Level Environment Impact Assessment Authority * Jharkhand, Ranchi * Approved

Terms & Conditions:

1. This report shall not be reproduced except in full without the approval of the Rappid Test Lab Pvt. Ltd., 2. This report will not be valid for judicial Purpose. 3. The above results are related only to the test performed on the sample, Endorsement of the product is neither inferred not implied, 4. Total liability of hour Test Lab is limited to the invoiced amount., 5 Report refers to the sample received by Rappid Test Lab Pvt. Ltd. unless mentioned otherwise.

ANNEXURE- E

(Proposed Ghat Coordinate)

List if Category II Sand Ghat Sahibganj, Jharkhand

Sl. No	Sandbars Code	Lease Details	Area in Ha.	Village Name	Block Name	Latitude	Longitude
1	PO_SG_GM_36	Gumani 25	0.81	Juhibana	Pathna	24.80541189	87.74737211
						24.80427122	87.74674028
						24.80462461	87.74712055
						24.80507561	87.74742016
						24.80555959	87.74758729
						24.80578098	87.74758791
						24.8063797	87.74748567
						24.80673242	87.74741189
						24.80671592	87.74737394
						24.80599493	87.74732045
						24.80550476	87.74724192
						24.80497177	87.74704681
						24.80461485	87.74679934
						24.80432693	87.7463877
						24.80425323	87.7461433
						24.80417598	87.7461905
						24.80410651	87.7462698
						24.80409613	87.74637791
						24.80427122	87.74674028
2	PO_SG_GM_35	Gumani 24	1.26	Amgachhi, Bara Tola, Sibapahar	Pathna	24.80513833	87.72885821
						24.8053775	87.72824349
						24.80537969	87.72820126
						24.80503259	87.72849733
						24.80486082	87.72862126
						24.8046535	87.72883766
						24.80450327	87.72912043
						24.804497	87.72913066
						24.80447814	87.72939634
						24.80455975	87.7296697
						24.80462691	87.72997492
						24.80465593	87.73033263
						24.8047782	87.73068531
						24.80485275	87.73088553
						24.80485274	87.73089553
						24.80499196	87.73122734
						24.80509615	87.73112681
						24.80497116	87.73043247
						24.80502449	87.7302892
						24.80510385	87.73031996
						24.80513144	87.73031481
						24.80503125	87.72980523
						24.80513833	87.72885821
3	PO_SG_GM_34	Gumani 23	1.27	Chutia, Telbhita	Pathna	24.82033783	87.70607253
						24.82049995	87.70618096
						24.82051554	87.70618535
						24.82067794	87.70621417
						24.82087535	87.7061774

						24.82100879	87.70617387
						24.82124533	87.70611893
						24.82139974	87.70607892
						24.82141632	87.7060688
						24.82159875	87.70598026
						24.82169073	87.70581298
						24.82169517	87.70579089
						24.82175765	87.70562771
						24.82187136	87.70554315
						24.82185737	87.70551209
						24.82166695	87.70554382
						24.82119581	87.70559237
						24.82077893	87.70550099
						24.82043914	87.70535823
						24.82025926	87.70518119
						24.81999069	87.7047908
						24.81993088	87.70468647
						24.81993862	87.70491359
						24.82001623	87.70502659
						24.82012242	87.70510943
						24.82019188	87.7052652
						24.82012532	87.70532742
						24.82009547	87.70532926
						24.8200103	87.70528975
						24.81997847	87.70537507
						24.81991847	87.70555517
						24.81992309	87.70562533
						24.81995434	87.70567084
						24.82009799	87.7058615
						24.82015817	87.70593446
						24.82016119	87.70593757
						24.82033783	87.70607253
4	PO_SG_GM_31	Gumani 22	0.2	Dahujor	Pathna	24.83544765	87.70549148
						24.83559671	87.70549099
						24.83565577	87.70544456
						24.83577452	87.70530865
						24.83590608	87.7051141
						24.836014	87.70497418
						24.83604011	87.70482788
						24.83608405	87.70463249
						24.83607533	87.70440915
						24.83606209	87.7043975
						24.83605244	87.70441559
						24.83593823	87.70478107
						24.83576119	87.70501521
						24.8356327	87.70514941
						24.83543854	87.70545779
						24.8354142	87.70550039
						24.83544765	87.70549148
5	PO_SG_GM_30	Gumani 21	0.95	Kuchpara	Pathna	24.83577775	87.69990302
						24.83603869	87.69952525
						24.83591942	87.69962072

						24.8357667	87.69974558
						24.83574449	87.69975546
						24.83558372	87.69986836
						24.83551783	87.69994572
						24.83541256	87.70023006
						24.83541255	87.70023863
						24.83541255	87.70025004
						24.83535822	87.70048823
						24.83526027	87.70107623
						24.83518134	87.70128233
						24.83517858	87.70145041
						24.83520004	87.70161503
						24.83522167	87.70174744
						24.83530418	87.70193637
						24.83542615	87.70204747
						24.83549906	87.70222326
						24.8355917	87.70234489
						24.83566826	87.70239197
						24.83573073	87.70238915
						24.83568391	87.70209225
						24.83575618	87.70204325
						24.83578631	87.70202579
						24.83553029	87.70105468
						24.83577775	87.69990302
6	PO_SG_GM_29	Gumani 20	0.34	Amjhor, Kusumpokhhar	Pathna	24.85310975	87.7122667
						24.8535904	87.7118384
						24.85385149	87.71162023
						24.8538036	87.7116322
						24.85361884	87.71169297
						24.85347975	87.71173669
						24.85323171	87.71193612
						24.85286339	87.71228223
						24.85284895	87.71229197
						24.85283457	87.71229577
						24.85269666	87.71237036
						24.85263101	87.71247386
						24.85252165	87.71268064
						24.8524387	87.71281471
						24.85241824	87.71291158
						24.85240982	87.71306595
						24.85310975	87.7122667
7	PO_SG_GM_28	Gumani 19	0.91	Amjhor, Kusumpokhhar	Pathna	24.85657384	87.7110837
						24.85660185	87.71104973
						24.8567084	87.71092978
						24.85687311	87.71082557
						24.85712409	87.71065779
						24.85728904	87.71047839
						24.85732768	87.71041891
						24.8573731	87.71033737
						24.85738332	87.71007443

						24.85739393	87.710055
						24.85750171	87.70985124
						24.85751631	87.70984356
						24.85752729	87.70983619
						24.85758275	87.70966428
						24.85757542	87.70946962
						24.8575349	87.70928716
						24.8574121	87.70921626
						24.85724171	87.70945156
						24.85721453	87.70966024
						24.85706581	87.70979476
						24.85705611	87.70980772
						24.85704643	87.70981766
						24.85692914	87.71007022
						24.85692291	87.71008824
						24.85680965	87.7101994
						24.85680063	87.71021137
						24.85665355	87.71047229
						24.8564552	87.71065504
						24.85643074	87.71092483
						24.85652627	87.71096091
						24.85649042	87.7110275
						24.85648494	87.71102709
						24.85641073	87.71111379
						24.85657384	87.7110837
8	PO_SG_GM_26	Gumani 18	2.06	Amjhor, Kusumpokhhar	Pathna	24.86172579	87.70927526
						24.86197445	87.70974167
						24.86227176	87.71013668
						24.86245728	87.71045766
						24.86268851	87.71061334
						24.86276267	87.71081872
						24.86292938	87.71110907
						24.86307472	87.71130655
						24.86332716	87.71143894
						24.86357927	87.71150403
						24.86399939	87.71146222
						24.86401165	87.71144797
						24.86433872	87.71142005
						24.86462219	87.71139446
						24.86472401	87.7113453
						24.86471873	87.71133687
						24.864459	87.71114718
						24.86400975	87.71091113
						24.86340823	87.71065225
						24.86325594	87.71052661
						24.86258589	87.70992128
						24.86225466	87.70952153
						24.86168416	87.70884512
						24.8616646	87.70883062
						24.86150034	87.70877395
						24.86172579	87.70927526

9	PO_SG_GM_24	Gumani 17	1.17	Kusumpokhhar, TaljhariI	Pathna	24.86792732	87.71192755
						24.86800348	87.71213498
						24.86815474	87.71243607
						24.8683465	87.71267648
						24.86837776	87.71284937
						24.86848602	87.71328513
						24.86857414	87.71367062
						24.86862056	87.71397292
						24.86871864	87.71420779
						24.86893309	87.71443645
						24.86906881	87.71443374
						24.86914402	87.71440409
						24.86918982	87.71432132
						24.8691215	87.71404888
						24.86911029	87.71385321
						24.86911036	87.71371675
						24.86910287	87.71364466
						24.86895171	87.71339119
						24.86869201	87.71288024
						24.8685846	87.71268823
						24.86847679	87.71243197
						24.86836874	87.7120894
						24.86833134	87.71190523
						24.86827887	87.71183032
						24.8681108	87.71178019
						24.86800655	87.71175123
						24.86799799	87.71175281
						24.86790233	87.71175874
						24.86780099	87.71174581
						24.86792732	87.71192755
10	PO_SG_GM_22	Gumani 16	0.38	Kusumpokhhar, Manjhladih	Pathna	24.87175978	87.71359234
						24.87178496	87.71375249
						24.87178489	87.71388734
						24.87179894	87.71401466
						24.87180733	87.71403356
						24.87186942	87.71364203
						24.87231676	87.71246182
						24.87243097	87.71226194
						24.87244661	87.71224974
						24.87235425	87.71226168
						24.87220806	87.71236876
						24.87211381	87.71241424
						24.87201293	87.71251518
						24.87194424	87.71268098
						24.87187691	87.71282933
						24.87183079	87.71300412
						24.87181075	87.7131863
						24.87174871	87.71339953
						24.87175978	87.71359234

11	PO_SG_GM_21	Gumani 15	0.37	Mandalo, Manjhladih	Pathna	24.87768482	87.71155762
						24.87826541	87.71160045
						24.87853191	87.71160045
						24.87901256	87.71155286
						24.87936472	87.71159569
						24.87936886	87.71159744
						24.87937286	87.71153895
						24.87913669	87.71138797
						24.87882205	87.71132504
						24.8786333	87.71130826
						24.87836059	87.71135325
						24.87815986	87.71137623
						24.87789549	87.71145397
						24.87770013	87.7114845
						24.87757388	87.71154681
						24.87755692	87.7115739
						24.87768482	87.71155762
12	PO_SG_GM_19	Gumani 14	2.03	Amdanda, Mandalo	Pathna	24.88395708	87.70762675
						24.88411888	87.70713183
						24.88446629	87.70646558
						24.88496597	87.70574222
						24.88526103	87.7055471
						24.8856465	87.70544241
						24.88586854	87.70545025
						24.88574279	87.70538489
						24.88533901	87.70531074
						24.88509921	87.705312
						24.88486838	87.70544341
						24.8845166	87.70562035
						24.88432241	87.70579986
						24.88400128	87.70616815
						24.88375786	87.70662002
						24.88347139	87.70718328
						24.88340968	87.70743601
						24.88344016	87.70781543
						24.88343127	87.70799601
						24.88340921	87.70828109
						24.88347513	87.70840553
						24.88356888	87.70848049
						24.88364614	87.70827599
						24.88364615	87.70825799
						24.88375232	87.70822449
						24.88380848	87.70831955
						24.88382251	87.70854471
						24.88390453	87.70855945
						24.88389521	87.7081312
						24.88395708	87.70762675
13	PO_SG_GM_18	Gumani 13	2.34	Amdanda, Mandalo, Tegra	Pathna, Barhait	24.88823833	87.70574805
						24.88853619	87.70574589
						24.88872282	87.7056868

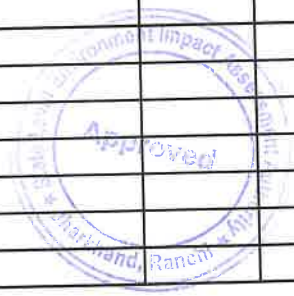
						24.88897675	87.70555721
						24.88913945	87.7054271
						24.88930666	87.7054166
						24.88944283	87.70539169
						24.89021866	87.70502279
						24.89065414	87.70456412
						24.89099557	87.70413502
						24.89111995	87.70381735
						24.89110691	87.70351935
						24.89102841	87.70337892
						24.89097799	87.70317353
						24.89095667	87.70324356
						24.8907587	87.70369661
						24.89044271	87.70410778
						24.89002773	87.70457986
						24.88962798	87.70494535
						24.88906453	87.70525373
						24.88847823	87.70531845
						24.88763685	87.70519281
						24.88743127	87.70507098
						24.88689827	87.70504053
						24.88689225	87.70503991
						24.88682911	87.7050607
						24.88660135	87.70508832
						24.88658897	87.70509334
						24.88646665	87.70520979
						24.88652335	87.70523056
						24.88660125	87.70526006
						24.88678607	87.7053245
						24.88679889	87.70533347
						24.88704845	87.70544208
						24.88724894	87.7055316
						24.88743754	87.7055025
						24.88769211	87.70557164
						24.88768706	87.70566111
						24.88823833	87.70574805
14	PO_SG_GM_15	Gumani 12	1.61	Doraisantali, Sanmoni	Barhait	24.89179937	87.68893484
						24.89175654	87.68853414
						24.8917893	87.68829429
						24.89175611	87.68815186
						24.89150473	87.6878915
						24.89128582	87.68747748
						24.89121444	87.68716339
						24.89120954	87.68700671
						24.89068817	87.68599657
						24.89057178	87.68613719
						24.89049355	87.68634854
						24.8904749	87.68670602
						24.89054308	87.68704328
						24.89064929	87.68724151
						24.89076636	87.68759439
						24.89086147	87.68780977
						24.89097245	87.68800824
						24.89098219	87.68801828

						24.89113978	87.68816072
						24.89131074	87.68846412
						24.8914753	87.68870707
						24.89155887	87.68887187
						24.89167013	87.68894161
						24.89179937	87.68893484
15	PO_SG_GM_14	Gumani 11	0.51	Sanmoni	Barhait	24.89114526	87.68481291
						24.8912858	87.68451813
						24.89131455	87.68410101
						24.89128606	87.6839374
						24.89114579	87.68363745
						24.89105571	87.6835121
						24.8909104	87.68341534
						24.89074019	87.68329665
						24.89072801	87.68328891
						24.89086911	87.68361015
						24.89097571	87.68391472
						24.89100997	87.68426117
						24.89098713	87.68459239
						24.89086911	87.6850759
						24.8908196	87.68529374
						24.89083105	87.68529443
						24.8908459	87.68529533
						24.8909171	87.68525149
						24.89098176	87.68510964
						24.89114526	87.68481291
16	PO_SG_GM_13	Gumani 10	1.01	Dudhadih	Barhait	24.88920986	87.68135324
						24.88940911	87.68147623
						24.889538	87.68154814
						24.8895525	87.68155824
						24.88970465	87.68162451
						24.88987121	87.6817074
						24.89003746	87.68179698
						24.89017074	87.68179975
						24.89017497	87.68176574
						24.89014368	87.68174774
						24.88923948	87.68059132
						24.8889825	87.67977278
						24.8889825	87.67935876
						24.88901506	87.67921897
						24.88878222	87.67958055
						24.88870284	87.68000609
						24.88871931	87.68023462
						24.88889211	87.6805662
						24.88920986	87.68135324
17	PO_SG_GM_12	Gumani 9	1.36	Goradih, Sanmoni	Barhait	24.8911546	87.67697971
						24.89135811	87.67659561
						24.89137134	87.67657944
						24.89141149	87.67631072
						24.89140749	87.67594968

						24.89140752	87.67592612
						24.89132404	87.67576265
						24.89098078	87.67584085
						24.89098332	87.67588547
						24.89094525	87.67610247
						24.89082723	87.67628902
						24.8904389	87.67685248
						24.89015337	87.67723319
						24.88987164	87.67754538
						24.88969066	87.67768794
						24.8897772	87.67772989
						24.88992618	87.67776791
						24.89018153	87.67761507
						24.89053669	87.67747947
						24.89095426	87.67724837
						24.8911546	87.67697971
18	PO_SG_GM_11	Gumani 8	2.19	Goradih, Khutana, Sanmoni	Barhait	24.89086704	87.66977429
						24.89109546	87.6692984
						24.89152377	87.66867974
						24.89199966	87.66824192
						24.89221793	87.66816916
						24.89194765	87.66806756
						24.89169564	87.66806121
						24.89139825	87.66816608
						24.89104791	87.66844375
						24.89080574	87.66880386
						24.89066842	87.66914041
						24.89066842	87.66914417
						24.89056796	87.66955552
						24.89048399	87.67012043
						24.89043365	87.6704148
						24.89031436	87.67120253
						24.89017915	87.67173342
						24.89022603	87.67230663
						24.8903459	87.67262213
						24.89050219	87.6730019
						24.89059922	87.67340108
						24.89074202	87.67370879
						24.89087097	87.67401343
						24.89098027	87.67422297
						24.89109747	87.67433656
						24.8907433	87.67347197
						24.89064337	87.6729818
						24.89048156	87.67187773
						24.89060529	87.67074035
						24.89086704	87.66977429
19	PO_SG_GM_09	Gumani 7	0.77	Sanmoni, Sirjam Ghutu	Barhait	24.89369384	87.66857504
						24.89414593	87.6688225
						24.89489308	87.66934123
						24.89490401	87.66934994

						24.89490565	87.66934784
						24.89497138	87.66926745
						24.89503869	87.66918865
						24.89510756	87.66911148
						24.89517794	87.66903597
						24.89520658	87.66900657
						24.89514959	87.66894215
						24.89500662	87.66879544
						24.89468134	87.66860433
						24.89439623	87.66849192
						24.89424809	87.66842931
						24.89413922	87.66836586
						24.89404005	87.6683116
						24.89392687	87.66832785
						24.89374394	87.66836547
						24.89360288	87.66842055
						24.89345725	87.66848861
						24.89369384	87.66857504
20	PO_SG_GM_07	Gumani 6	1.33	Rohra, Sirjam Ghutu	Barhait	24.90120836	87.66632237
						24.90118642	87.66596622
						24.90104328	87.66555501
						24.90084391	87.66540044
						24.90075619	87.66551356
						24.90079051	87.66578513
						24.90084	87.6659831
						24.90077909	87.66674453
						24.90064584	87.66778769
						24.90058493	87.66828261
						24.90058678	87.6683447
						24.90064092	87.66837984
						24.90072455	87.66843685
						24.90080702	87.66849585
						24.9008883	87.66855681
						24.90096834	87.66861969
						24.90099101	87.66863833
						24.90104582	87.6681087
						24.90106256	87.6678444
						24.90115701	87.66733111
						24.90112978	87.66689095
						24.90120836	87.66632237
21	PO_SG_GM_06	Gumani 5	2.38	Dariapur, Dumaria	Barhait	24.90039167	87.6494458
						24.90047641	87.6495008
						24.90056003	87.64955781
						24.9006425	87.64961681
						24.90072378	87.64967776
						24.90080383	87.64974065
						24.90085055	87.64977908
						24.9013404	87.64930039
						24.90194939	87.64852007
						24.90250689	87.64756263
						24.90290276	87.64651057

						24.9024707	87.64611714
						24.90245042	87.64620502
						24.90228672	87.64676467
						24.90221819	87.64699691
						24.9021192	87.64723295
						24.90163189	87.64798296
						24.90113315	87.64863398
						24.90111453	87.64865131
						24.90109007	87.64869894
						24.9003839	87.64944101
						24.90039167	87.6494458
22	PO_SG_GM_05	Gumani 4	1.06	Kherwa, Petakhasa	Barhait	24.9020373	87.64116671
						24.90204874	87.64118239
						24.90236758	87.64180322
						24.90252828	87.64184737
						24.90257254	87.64171282
						24.90239314	87.64078769
						24.90236459	87.64039746
						24.90225989	87.63983115
						24.90208496	87.63918387
						24.90180297	87.63991315
						24.9020373	87.64116671
23	PO_SG_GM_04	Gumani 3	1.2	Gopaladih	Barhait	24.8826424	87.57016327
						24.88312781	87.56885933
						24.88327058	87.56854524
						24.88341811	87.56830729
						24.88342613	87.56830307
						24.88327564	87.56830567
						24.88305	87.56836877
						24.88287016	87.56842626
						24.88272081	87.56861499
						24.88255652	87.56887707
						24.88239813	87.56922392
						24.88232879	87.56943578
						24.88236909	87.56957146
						24.88248678	87.56956651
						24.8825417	87.56969228
						24.88249903	87.56988776
						24.88245981	87.57016377
						24.88239918	87.57025018
						24.88238652	87.57026855
						24.88228968	87.57043232
						24.88222821	87.57062279
						24.88224306	87.57079392
						24.88216721	87.57103988
						24.88203425	87.57141598
						24.88216951	87.57138907
						24.88240095	87.57092388
						24.88240728	87.57092149
						24.8824154	87.57091611
						24.8826424	87.57016327



24	PO_SG_GM_02	Gumani 2	1.83	Baragarhi, Kushuma	Barhait	24.83467517	87.54788495
						24.83468015	87.54811376
						24.83484937	87.54810417
						24.83517774	87.54807324
						24.83552038	87.5479614
						24.83568456	87.54786384
						24.8357845	87.54766159
						24.8360391	87.54748313
						24.83638209	87.54743589
						24.83638591	87.5474318
						24.83652904	87.54735758
						24.83665965	87.54726841
						24.83669739	87.54711476
						24.8366976	87.54700676
						24.83661313	87.546896
						24.83654332	87.54679912
						24.83644831	87.54679526
						24.83637428	87.54679934
						24.83626693	87.5468068
						24.83613155	87.54685211
						24.83605334	87.54691006
						24.83595185	87.54687531
						24.83595186	87.54687194
						24.83585287	87.54681174
						24.83566848	87.54681105
						24.83542682	87.5468816
						24.83541259	87.54689094
						24.83525573	87.54698611
						24.83503911	87.54711484
						24.83488602	87.54730774
						24.83462293	87.54755411
						24.83457612	87.54775228
						24.83467517	87.54788495
25	PO_SG_GM_01	Gumani 1	0.53	Mugdi	Barhait	24.79820161	87.5157478
						24.79825402	87.51598665
						24.79840113	87.51597743
						24.79841184	87.51585231
						24.79841197	87.51584173
						24.79841302	87.51583859
						24.7984305	87.51563433
						24.79862733	87.51513903
						24.79871474	87.51494093
						24.79885634	87.51460309
						24.79913342	87.51394197
						24.79930684	87.51366032
						24.79918697	87.51363251
						24.79918072	87.5136337
						24.79910207	87.51365114
						24.7990092	87.51381513
						24.79892258	87.51398359
						24.79877601	87.51427865
						24.79867131	87.51453943
						24.79862848	87.51463461

						24.7985057	87.51491729
						24.79838958	87.51523138
						24.79832772	87.51538652
						24.79830773	87.51541698
						24.79829155	87.51549598
						24.79821446	87.5156968
						24.79820085	87.51573234
						24.79820161	87.5157478

ANNEXURE- F

(DFO & CO Letter)

SL NO.	Sandbars Code	Lease Details	Area in Ha.	Village Name	Block Name	Thana No.	Khata no.	Plot No.	Distance from Forest
1	PO_SG_GM_01	Gumani 1	0.53	Mugdi	Barhait	33		667	
2	PO_SG_GM_02	Gumani 2	1.83	Baragarhi, Kushuma	Barhait	36, 27		1, 1326	
3	PO_SG_GM_04	Gumani 3	1.2	Gopaladih	Barhait	33		1	
4	PO_SG_GM_05	Gumani 4	1.06	Kherwa, Petakhasa	Barhait	1, 28		982, 1	
5	PO_SG_GM_06	Gumani 5	2.38	Dariapur, Dumaria	Barhait	27, 2		471, 825	
6	PO_SG_GM_07	Gumani 6	1.33	Rohra, Sirjam Ghutu	Barhait	4, 3		2002, 489	
7	PO_SG_GM_09	Gumani 7	0.77	Sanmoni, Sirjam Ghutu	Barhait	20, 3		2252, 490	
8	PO_SG_GM_11	Gumani 8	2.19	Goradih, Khutana, Sanmoni	Barhait	25, 26, 20		1, 881, 2252, 2347	
9	PO_SG_GM_12	Gumani 9	1.36	Goradih, Sanmoni	Barhait	25, 20		1, 2347	
10	PO_SG_GM_13	Gumani 10	1.01	Dudhadih	Barhait	23		229	
11	PO_SG_GM_14	Gumani 11	0.51	Sanmoni	Barhait	20		2852	
12	PO_SG_GM_15	Gumani 12	1.61	Doraisantali, Sanmoni	Barhait	22, 20		1, 2851	
13	PO_SG_GM_18	Gumani 13	2.34	Amdanda, Mandalo, Tegra	Pathna, Barhait	41, 1, 21		878, 147, 148, 1242	
14	PO_SG_GM_19	Gumani 14	2.03	Amdanda, Mandalo	Pathna	41, 1		878, 148	
15	PO_SG_GM_21	Gumani 15	0.37	Mandalo, Manjhladih	Pathna	1, 42		679, 62	
16	PO_SG_GM_22	Gumani 16	0.38	Kusumpokhhar, Manjhladih	Pathna	2, 42		2189, 1059	
17	PO_SG_GM_24	Gumani 17	1.17	Kusumpokhhar, TaljhariI	Pathna	2, 43		2599, 916	
18	PO_SG_GM_26	Gumani 18	2.06	Amjhor, Kusumpokhhar	Pathna	44, 2		1, 2466	
19	PO_SG_GM_28	Gumani 19	0.91	Amjhor, Kusumpokhhar	Pathna	44, 2		1, 2466	
20	PO_SG_GM_29	Gumani 20	0.34	Amjhor, Kusumpokhhar	Pathna	44, 2		246, 2487	
21	PO_SG_GM_30	Gumani 21	0.95	Kuchpara	Pathna	7		282	
22	PO_SG_GM_31	Gumani 22	0.2	Dahujor	Pathna	45		389	
23	PO_SG_GM_34	Gumani 23	1.27	Chutia, Telbhita	Pathna	8, 46		717, 1470	
24	PO_SG_GM_35	Gumani 24	1.26	Amgachhi, Bara Tola, Sibapahar	Pathna	54, 39, 40		463, 376, 1	
25	PO_SG_GM_36	Gumani 25	0.81	Juhibana	Pathna	81		1	

कार्यालय :– वन प्रमंडल पदाधिकारी, साहेबगंज वन प्रमंडल, साहेबगंज।
E-Mail – dfo-sahebganj@gov.in, Ph. No. – 06436-222065
पत्रांक :– 2020 साहेबगंज / दिनांक :– 9-10-2023

सत्यमेव जयते

प्रेषक,

वन प्रमंडल पदाधिकारी,
साहेबगंज वन प्रमंडल,
साहेबगंज।

सेवा में,

जिला खनन पदाधिकारी,
साहेबगंज।

विषय :– बालू खनिज से संबंधित घाटो का DSR तैयार करने के संबंध में।

प्रसंग :– आपका पत्रांक– 970 दिनांक– 26.09.2023

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में सूचित करना है कि आपके द्वारा बालू खनिज से संबंधित घाटो का DSR तैयार करने हेतु साहेबगंज जिले के प्रखण्ड– बरहेट, बड़हरवा एवं पतना के निम्नलिखित ग्रामों के बालू घाट स्थल का नक्सा उपलब्ध कराते हुए अनापत्ति प्रमाण पत्र निर्गत करने का अनुरोध किया है।

क्र0 सं0	प्रखण्ड	मौजा का नाम	थाना नं0	दाग नं0	किस्म
1	बरहेट	खैरवा	01	982	नदी गुमानी
2	बरहेट	पेटखासा	28	01	नदी गुमानी
3	बरहेट	दरियापुर	27	471	नदी गुमानी
4	बरहेट	डुमरिया	27	825	नदी गुमानी
5	बरहेट	सरजमघुटू	03	490, 489	नदी गुमानी
6	बरहेट	खुटोना	26	88	नदी गुमानी
7	बरहेट	गोराडीह	25	01	नदी गुमानी
8	बरहेट	बुधुडीह	23	229	नदी गुमानी
9	बरहेट	डोरल संथाली	22	01	नदी गुमानी
10	बरहेट	गोपालडीह	33	01	नदी गुमानी
11	बरहेट	बराहगढ़ी	36	01	नदी गुमानी
12	बरहेट	सनमनी	20	2851, 2252, 2852	नदी गुमानी
13	बरहेट	तेगड़ा	21	1242	नदी गुमानी
14	बरहेट	कुसमा	27	1326	नदी गुमानी
15	पतना	आमडंडा	41	878	नदी गुमानी
16	पतना	मडालो	01	879, 147, 148	नदी गुमानी
17	पतना	मंझलाडीह	42	62, 1069	नदी गुमानी
18	पतना	कुसुम पोखर	2	2466	नदी गुमानी
19	पतना	तालझारी	43	24, 65/916	नदी गुमानी
20	पतना	आमझोर	44	01, 246	नदी गुमानी

21	पतना	कोचपाड़ा	7	282	नदी गुमानी
22	पतना	डाहुजोर	45	01, 363, 389	नदी गुमानी
23	पतना	चुटिया	8	717	नदी गुमानी
24	पतना	तिलभीठा	46	1470	नदी गुमानी
25	पतना	आमगाछी	54	463	नदी गुमानी
26	पतना	बड़तल्ला	39	01, 376	नदी गुमानी
27	पतना	शिवापहाड़	40	01	नदी गुमानी
28	बड़हरवा	जुही बोना	81	01	नदी गुमानी

उपरोक्त भूमि इस कार्यालय के अभिलेख में वनभूमि के रूप में दर्ज नहीं है। मौजा मुगदी, थाना नं0– 33, प्लॉट नं0– 667 वन भूमि से सटा रहने के कारण सूची में शामिल नहीं किया गया है।

अतः यह आपके सूचनार्थ पेषित।

विश्वासभाजन,

वन प्रमंडल पदाधिकारी,
साहेबगंज वन प्रमंडल,
साहेबगंज।
04/10/2023

अंचल कार्यालय, बरहेट।

पत्रांक...405.../रा0

प्रेषक,

अंचल अधिकारी,
बरहेट।

सेवा में,

जिला खनन पदाधिकारी,
साहेबगंज।

बरहेट, दिनांक...14.8.23

विषय :— बालू घाट से संबंधित बालू की निलामी हेतु अनापत्ति प्रमाण पत्र का जाँच प्रतिवेदन का प्रेषण।

प्रसंग :— आपका पत्रांक— 580/एम0, दिनांक— 02.06.2023

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में बरहेट अंचल अन्तर्गत बालू घाटों की निलामी से संबंधित अनापत्ति प्रमाण–पत्र के जाँच प्रतिवेदन मूल रूप में संलग्न कर भेजी जा रही है।

कृप्या प्राप्ति स्वीकार की जाय।

अनुलग्न— यथोक्त।

विश्वासभाजन

अंचल अधिकारी,
बरहेट।

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

CD: General Section 895

अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन की सूची।

क्र0	मौजा का नाम	थाना नं0	दाग नं0	रकवा	किस्म
1	2	3	4	5	6
1	खैरवा	01	982	69–11–10	नदी गुमानी
2	पेटखासा	28	01	68–01–05	नदी गुमानी
3	दरियापुर	27	471	49–18–05	नदी गुमानी
4	डुमरिया	02	825	59–02–15	नदी गुमानी
5	सररजघुटू	03	490	25–15–00	नदी गुमानी
6	सररजघुटू	03	489	39–08–00	नदी गुमानी
7	गोराडीह	25	01	29–12–18	नदी गुमानी
8	खुटोना	26	881	15–08–00	नदी गुमानी
9	बुधुडीह	23	229	29–10–03	नदी गुमानी
10	डोराय संथाली	22	01	34–15–15	नदी गुमानी
11	गोपलाडीह	33	01	14–10–08	नदी गुमानी
12	बराहगढ़ी	36	01	77–09–08	नदी गुमानी
13	सनमनी	20	2851	73–05–06	नदी गुमानी
14	सनमनी	20	2252	24–13–01	नदी गुमानी
15	सनमनी	20	2852	10–05–14	नदी गुमानी
16	तैगड़ा	21	1242	22–17–08	नदी गुमानी
17	कुशमा	27	1326	94–07–12	नदी गुमानी
18	मुगदी	33	667	86–04–05	नदी गुमानी

अंचल अधिकारी
बरहेट

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– पेटरवासा थाना नं0– 28 दाग संख्या– 1

रकवा– 68-1-5 [illegible] किस्म– नदी गुमानी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?		उपलब्ध सूची में क्रमांक 4 में लि. डीटेल्स गुमानी 4 में अंकित रकबा 1.06 हे० [illegible] हुआ नहीं है।
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?		
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?		
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?		
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?		
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?		
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?		
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?		

राजस्व उप निरीक्षक,
हल्का संख्या– 03

प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– इतरवा थाना नं0– 01 दाग संख्या– 982

रकवा– 6.9 – 11 – 10 ध्र किस्म– नदी नगामी

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतरज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– दरियापुर थाना नं0– 27 दाग संख्या– 471

रकवा– 49–18 – 5.42 किस्म– नदी गुमानी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– डुमरिया थाना नं0– 02 दाग संख्या– 825

रकवा– 52-2-15 ½ किस्म– नदी खुमार

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	हाँ	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority
Approved

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– आरजफपुटु थाना नं0– 03 दाग संख्या– 490

रकवा– 8.60 एकड़ किस्म– नदी खुमानी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority Jharkhand, Ranchi Approved

CO: General Section 893

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– शिउलपुर थाना नं0– 03 दाग संख्या– 489

रकवा– 15.30 एकड़ किस्म– नदी झरना

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi
Approved

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– गोरडीह   थाना नं0– 25   दाग संख्या– 1

रकवा– 29–12–18 ½   किस्म– नदी गुमानी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/9/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi
Approved

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– रेलुटना थाना नं0– 26 दाग संख्या– 881

रकवा– 1.80 किस्म– नदी खुमारी

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority * Jharkhand, Ranchi * Approved

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– कुच्चुडीह थाना नं0– 28 दाग संख्या– 229

रकवा– 23–10–3 धूर किस्म– नदी गुआनी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटरं की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्त्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23

प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi
Approved

CO: General Section 893

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– डोराडीहा थाना नं0– 22

रकवा– 34.15.154 किस्म– नदी गुमानी दाग संख्या– 1

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 03

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority
Approved

CC: General Section 893

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– गोपालडीह थाना नं0– 33

रकबा– 14.10.8-96 किस्म– नदी गुमानी दाग संख्या– 1

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 05

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– बरहागढ़ी

रकवा– 77-9-84 थाना नं0– 36

किस्म– नदी गंगा दाग संख्या– 1

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

राजस्व उप निरीक्षक,
हल्का संख्या– 05

12/4/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi — Approved

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– सनमनी थाना नं0– 20 दाग संख्या– 2851

रकवा– 73-5-637 किस्म– सुखाती नदी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	SL No-12 Page Detail - 1.61 Hec P.
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

12/12/23
राजस्व उप निरीक्षक,
हल्का संख्या–

12/12/23
प्रभारी अंचल निरीक्षक,
बरहेट।

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

CO: General Section 993

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– रेवड़ा थाना नं0– 04 दाग संख्या– 2001

रकवा– 48-8-034 किस्म– सुभाषी नदी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	SL No-6 Large detail - 1.33 Hect P.
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

12/8/23
राजस्व उप निरीक्षक,
हल्का संख्या–

28/12/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority Approved Jharkhand, Ranchi

CD: General Section 893

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– सलतमती

रकवा– 24-13-1347 थाना नं0– 20 दाग संख्या– 2252

किस्म– गुमानी नदी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नही	SL. No. 8 lease detail - 2.19 hec - P
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नही	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नही	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नही	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नही	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नही	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नही	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्त्व के स्थल स्थित है?	नही	

12/8/23
राजस्व उप निरीक्षक,
हल्का संख्या–

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– खनमनी

रकवा– 10.5.14.72 थाना नं०– 20 दाग संख्या– 2852

किस्म– गुमानी नदी

क्र०	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नही	Sl no. 11 lease detail 1.01 hec. P
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नही	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नही	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नही	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नही	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नही	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नही	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नही	

12/8/23
राजस्व उप निरीक्षक,
हल्का संख्या–

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi
Approved

CO: General Section 893

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– तेगारा

रकवा– 22.17.8 थाना नं0– 21 दाग संख्या– 1242

किस्म– गुमानी नदी

क्र0	निर्धारित बिन्दु	हाँ / नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नही	Sl No-13 lease detail-2.34 hec. p.
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नही	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नही	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नही	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नही	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नही	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नही	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नही	

12/8/23
राजस्व उप निरीक्षक,
हल्का संख्या–

12/8/23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi — Approved

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– कुशमा थाना नं0– 27

रकवा– 94-7-12 किस्म– नदी घुमानी दाग संख्या– 1326

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	SN-2 Lease detail Gumaxi 2 A-01.82 par hms.
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	हाँ	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

महाशय,
मौजा - कुशमा नं०-(27) के गैरमजरुआ आम जमीन में दाग नं०- 1326 रकवा 94 डी०..न कट्ठा 12 धूर नदी घुमानी के नाम से दर्ज है।

12.8.2023
राजस्व उप निरीक्षक,
हल्का संख्या–

8/12/2023
प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– गुमानी

रकवा– 86-4-5 धूर थाना नं0– 33 दाग संख्या– 667

किस्म– नदी गुमानी

क्र0	निर्धारित बिन्दु	हाँ / नहीं	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	SN-1 Lease detail-1 Area-0.53 Hr.
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

महाशय,

मौजा– गुमानी (33) के गैरमजरूआ आम पंजी में दाग न0 – 667 रकवा 86-4-5 धूर जमीन गुमानी नदी के नाम से दर्ज है।

12.8.23

राजस्व उप निरीक्षक,
हल्का संख्या– 01

12/8/23

प्रभारी अंचल निरीक्षक,
बरहेट।

अंचल कार्यालय, बरहेट।

पत्रांक 465 /रा0

प्रेषक,

अंचल अधिकारी,
बरहेट।

सेवा में,

जिला खनन पदाधिकारी,
साहेबगंज।

बरहेट, दिनांक 21.9.23

विषय :– बालू घाट से संबंधित बालू की निलामी हेतु मौजा के छुटे हुए दाग संख्या का अनापत्ति प्रमाण पत्र का जाँच प्रतिवेदन का प्रेषण।

प्रसंग :– आपका पत्रांक– 580/एम0, दिनांक– 02.06.2023

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में बरहेट अंचल अन्तर्गत बालू घाटों की निलामी से संबंधित मौजा के छुटे हुए दाग संख्या का अनापत्ति के संबध में जाँच प्रतिवेदन मूल रूप में संलग्न कर भेजी जा रही है।

क्र0	मौजा का नाम	थाना नं0	दाग नं0	रकवा	किस्म
1	2	3	4	5	6
1	सनमनी	20	2252	24–13–01	नदी गुमानी
2	रोहड़ा	04	2002	48–08–00	नदी गुमानी

कृप्या प्राप्ति स्वीकार की जाय।

अनुलग्न– यथोक्त।

विश्वासभाजन

अंचल अधिकारी,
बरहेट।

State Level Environment Impact Assessment Authority Jharkhand Approved

CC: General Section

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– 21833 थाना नं0– 024 दाग संख्या– 2002

रकवा– 48.08.00 किस्म– नदी खुपानी

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नही	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नही	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नही	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नही	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नही	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नही	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नही	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नही	

21/9/23
राजस्व उप निरीक्षक,
हल्का संख्या–02

25.9.23
प्रभारी अंचल निरीक्षक,
बरहेट।

बरहेट अंचल अन्तर्गत उपलब्ध कराई गयी सूची में दर्ज मौजाओं का बालू निलामी हेतु अनापत्ति के संबंध में जाँच प्रतिवेदन।

मौजा– सनमनी थाना नं0– 20 दाग संख्या– 2252

रकवा– 24.13.01 किस्म– नदी खुभानी

क्र0	निर्धारित बिन्दु	हाँ/नही	अभ्युक्ति
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है?	नहीं	
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	नहीं	
3	क्या 500 मीटर की दूरी के अंदर काई जलीय निकाय (Dam/Reservoir) स्थित है?	नहीं	
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	नहीं	
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	नहीं	
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	नहीं	
7	क्या 10 किलोमीटर की परिधि में कोई अंतर्राज्जीय (Interstate) सीमा है?	नहीं	
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/ पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	नहीं	

21/9/23
राजस्व उप निरीक्षक,
हल्का संख्या– 02

21.9.23
प्रभारी अंचल निरीक्षक,
बरहेट।

State Level Environment Impact Assessment Authority Jharkhand, Ranchi
Approved

अंचल कार्यालय, पतना

पत्रांक 416 / रा0

प्रेषक:

अंचल अधिकारी,
पतना।

सेवा में,

जिला खनन पदाधिकारी,
साहेबगंज।

पतना दिनांक 29/8/23

विषय :- बालू खनिज से संबंधित उपलब्ध कराये गये मौजा भूमि संबंधित जॉच प्रतिवेदन।

प्रसंग :- भवदीय के पत्रांक 573 / एम0 साहेबगंज दिनांक 02–06–2023

महाशय,

उपरोक्त विषयक प्रसांगिक पत्र के आलोक में कहना है, कि बालू घाट का पतना अंचल से संबंधित उपलबध कराये गये मौजा का खेसरा वार जॉच भूमि का संबंधित राजस्व उपनिरीक्षक से कराई गई। जो इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजा जाता है।

अतः प्राप्ति स्वीकार करने की कृपा की जाय।

अनुलग्नक :- यथोक्त।

विश्वासभाजन

29/8/23

अंचल अधिकारी,
पतना

o/c

State Level Environment Impact Assessment Authority Jharkhand, Ranchi
Approved

अंचल कार्यालय, पतना

पतना अंचल के अन्तर्गत बालु घाटों की सूची

अंचल – पतना　　अनुमंडल – राजमहल　　जिला – साहेबगंज

क्र0	मौजा का नाम	थाना सं0	ज0न0	दाग न0	रकवा	किस्म	अभियुक्ति
1	2	3	4	5	6	7	8
1	आमडंडा	41	97	878	54 04 18	नदी	
2	मडालो	1	0	879	32 15 16	नदी	
3	मडालो	1	0	147	03 15 12	नदी	
4	मडालो	1	0	148	62 18 08	नदी	
5	मझलाडीह	42	60	62	47 18 18	नदी गुमानी	
6	मझलाडीह	42	60	1069	13 00 03	नदी गुमानी	
7	कुरुमपोखर	2	191	2466	81 19 11	नदी	
8	तालझारी	43	61	24	23 15 10	नदी गुमानी	
9	तालझारी	43	61	65/916	89 01 02	नदी गुमानी	
10	आमझोर	44	68	1	54 15 01	नदी	
11	आमझोर	44	68	246	48 15 05	नदी	
12	कोवपाडा	7	0	282	53 04 16	नदी गुमानी	
13	डाहुजोर	45	0	1	06 12 10	नदी गुमानी	
14	डाहुजोर	45	0	363	21 01 14	नदी	
15	डाहुजोर	45	0	389	32 18 05	नदी	
16	चुटिया	8	70	717	43 12 08	गुमानी नदी	
17	तिलगीटा	46	93	1470	42 08 04	नदी	
18	आमगाछी	54	84	463	34 15 00	नदी	
19	बडतल्ला	39	0	1	10 19 00	गुमानी नदी	
20	बडतल्ला	39	0	376	44 09 07	गुमानी नदी	
21	शिवापहाड	40	150	1	62 00 05	नदी गुमानी	

अंचल अधिकारी
पतना

अंचल कार्यालय, पतना

पतना अंचल के अन्तर्गत बालु घाटों की सूची

अंचल – पतना अनुमंडल - राजमहल जिला – साहेबगंज

	मौजा का नाम	थाना सं0	ज0न0	दाग न0	रकवा	किस्म	अभ्युक्ति
1	2	3	4	5	6	7	8
1	आमडडा	41	आनावादी खाता	878	54–04–18	नदी	–
	मंडालो	1	आनावादी खाता	147	03–15–12	नदी	–
	मंडालो	1	आनावादी खाता	148	62–18–08	नदी	–
	तेगडा		–	1242	–	–	बरहैट अंचल से संबंधित है।
2	आमडडा	41	आनावादी खाता	878	54–04–18	नदी	–
	मंडालो	1	आनावादी खाता	148	62–18–08	नदी	–
3	मंडालो	1	आनावादी खाता	679	32–15–16	नदी	–
	मंझलाडीह	42	आनावादी खाता	62	47–18–18	नदी गुमानी	–
4	कुसुमपोखर	1	आनावादी खाता	2189	19–13–06	नदी	–
	मंझलाडीह	42	आनावादी खाता	1059	13–00–03	नदी गुमानी	–
5	कुसुमपोखर	2	आनावादी खाता	2599	– – –	नदी	–
	तालझारी	43	आनावादी खाता	916	89–01–02	नदी गुमानी	–
6	आमझोर	44	आनावादी खाता	1	54–15–01	नदी	–
	कुसुमपोखर	2	आनावादी खाता	2466	81–19–11	नदी	–
7	आमझोर	44	आनावादी खाता	1	54–15–01	नदी	–
	कुसुमपोखर	2	आनावादी खाता	2466	81–19–11	नदी	–
8	आमझोर	44	आनावादी खाता	246	48–15–05	नदी	–
	कुसुमपोखर	2	आनावादी खाता	2487	92–05–11	नदी	–
9	कोचपाड़ा	7	आनावादी खाता	282	53–04–16	नदी	–
10	डाहुजोर	45	आनावादी खाता	389	32–18–05	नदी	–
11	चुटिया	8	आनावादी खाता	717	43–12–08	गुमानी नदी	–
	तिलभीटा	46	आनावादी खाता	1470	42–08–04	नदी	–
12	आमगाछी	54	आनावादी खाता	463	34–15–00	नदी	–
	बडतल्ला	39	आनावादी खाता	376	44–09–07	गुमानी नदी	–
	शिवापहाड़	40	आनावादी खाता	1	62–00–05	नदी गुमानी	–
13	जुहीबोना	81	–	1	–	–	बरहरवा अंचल से संबंधित है

State Level Environment Impact Assessment Authority Jharkhand, Ranchi Approved

25/9/13

अंचल अधिकारी
पतना

अंचल कार्यालय, पतना

पतना अंचल के अन्तर्गत बालु घाटों की सूची

अंचल – पतना　　अनुमंडल - राजमहल　　जिला – साहेबगंज

	मौजा का नाम	थाना सं0	ज0न0	दाग न0	रकवा	किस्म	अभ्युक्ति
1	2	3	4	5	6	7	8
1	आमडडा	41	आनावादी खाता	878	54–04–18	नदी	–
	मंडालो	1	आनावादी खाता	147	03–15–12	नदी	–
	मंडालो	1	आनावादी खाता	148	62–18–08	नदी	–
	तेगडा		–	1242	–	–	बरहैट अंचल से संबंधित है।
2	आमडडा	41	आनावादी खाता	878	54–04–18	नदी	–
	मंडालो	1	आनावादी खाता	148	62–18–08	नदी	–
3	मंडालो	1	आनावादी खाता	679	32–15–16	नदी	–
	मंझलाडीह	42	आनावादी खाता	62	47–18–18	नदी गुमानी	–
4	कुसुमपोखर	1	आनावादी खाता	2189	19–13–06	नदी	–
	मंझलाडीह	42	आनावादी खाता	1059	13–00–03	नदी गुमानी	–
5	कुसुमपोखर	2	आनावादी खाता	2599	– – –	नदी	–
	तालझारी	43	आनावादी खाता	916	89–01–02	नदी गुमानी	–
6	आमझोर	44	आनावादी खाता	1	54–15–01	नदी	–
	कुसुमपोखर	2	आनावादी खाता	2466	81–19–11	नदी	–
7	आमझोर	44	आनावादी खाता	1	54–15–01	नदी	–
	कुसुमपोखर	2	आनावादी खाता	2466	81–19–11	नदी	–
8	आमझोर	44	आनावादी खाता	246	48–15–05	नदी	–
	कुसुमपोखर	2	आनावादी खाता	2487	92–05–11	नदी	–
9	कोचपाड़ा	7	आनावादी खाता	282	53–04–16	नदी	–
10	डाहुजोर	45	आनावादी खाता	389	32–18–05	नदी	–
11	चुटिया	8	आनावादी खाता	717	43–12–08	गुमानी नदी	–
	तिलभीटा	46	आनावादी खाता	1470	42–08–04	नदी	–
12	आमगाछी	54	आनावादी खाता	463	34–15–00	नदी	–
	बडतल्ला	39	आनावादी खाता	376	44–09–07	गुमानी नदी	–
	शिवापहाड	40	आनावादी खाता	1	62–00–05	नदी गुमानी	–
13	जुहीबोना	81	–	1	–	–	बरहरवा अंचल से संबंधित है

State Level Environment Impact Assessment Authority Approved Jharkhand

अंचल अधिकारी
पतना

ANNEXURE- G

(Advertisement Copy/ Public Domain)

drive.google.com/file/d/1U0Oql5t99Hp0OymJLyAKiqctgohA8osp/view

Draft DSR SAHIB ... pressed (1).pdf | Open with Google Docs

DISTRICT SURVEY REPORT (DSR) FOR SAND MINERAL OF SAHIBGANJ DISTRICT, JHARKHAND

(As per Notification No. S.O.3611 (E) dated 25th July 2018, Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, issued by Ministry of Environment, Forest and Climate Change)

Prepared by

M/S RIAN ENVIRO PRIVATE LIMITED
202 & 402, Mangal Market, Raja Bazar, Sheikhpura, Patna, Bihar, Pin code-800014
Reg. address: 133, Ansal Chamber-II, 6 Bhikaji Cama Place, New Delhi- 110 066
(QCI NABET Accreditation No. - NABET/EIA/2124/IA 0079 Valid till 10.03.2024)

Details

General Info

Type	PDF
Size	11 MB
Modified	6:21 PM Jul 1
Created	6:18 PM Jul 1

Sharing

Anyone with the link — Can View

edm sahibganj — Owner

Description

No description

Download Permission

Viewers can download

Page 1 / 220

DISTRICT MINING OFFICE
SAHIBGANJ.

Letter no. 973. Date 27/9/23

Subject: Regarding Public consultation for District Survey Report of District Sahibganj , Jharkhand .

District Mining Office, Sahibganj has placed the District Survey Report (DSR) in the public domain (www.sahibganj.nic.in) for One Month for obtaining comments of the general public on dated 01.07.2023.

As of date the Department has not been in receipt of any comments from the general Public.

27/9/23

District Mining Officer
Sahibganj

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

ANNEXURE- H

(Annexure as prescribed in the EMGSM, 2020)

Annexure-I

Details of Sand/M-Sand Sources

a) Rivers:

River Name/M-Sand Plant	Total Stretch of River (in KM)	Type of River (Perennial or Non-Perennial)
Gumani	44	-

b) De-Siltation Location: (Lakes/Ponds/Dams etc.)

Name of Reservoir/Dams	Maintain/Controlled by State Govt./PSUetc.	Location	District	Tehsil	Village	Size (Ha)
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

c) Patta Lands/Khatedari Land:

Owner	Sy. No	Area (Ha)	District	Tehsil	Village	Agricultural Land (Yes/No)
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

d) M-Sand Plants:

Plant name	Owner	District	Tehsil	Village	Geo-location	Quantity (Tonnes)
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Note: For inclusion of M-Sand Plant/Patta Land in DSR the plant/landownersneed to submit the request to the Mining Department with complete details.Inclusion in DSR does not give them the right to operate the M-Sand Plant/Sand Mining lease.

Annexure-II

List of Potential Mining Leases (existing & proposed)

Rivers

SL NO.	Sandbars Code	Lease Details	Area in Ha.	Distance in Km from PA/BR/WC	Distance from forest Area (in Km)	Mining Lease within 500 meters (if Yes Cluster Area)	Total excavation in Tonnes (Bulk Density: 1.56, Depth:1.0 m)	Total excavation in Tonnes (Considering 60% as per EMGSM, 2020)	Mineral to be mined (Sand/ Bajri/ RBM etc.)	Existing/ Proposed
1	PO_SG_GM_01	Gumani 1	0.53			No	8268	4960.8	Sand	Proposed
2	PO_SG_GM_02	Gumani 2	1.83			No	28548	17128.8	Sand	Proposed
3	PO_SG_GM_04	Gumani 3	1.2			No	18720	11232	Sand	Proposed
4	PO_SG_GM_05	Gumani 4	1.06			Yes, 3.44	16536	9921.6	Sand	Proposed
5	PO_SG_GM_06	Gumani 5	2.38				37128	22276.8	Sand	Proposed
6	PO_SG_GM_07	Gumani 6	1.33			No	20748	12448.8	Sand	Proposed
7	PO_SG_GM_09	Gumani 7	0.77			Yes, 7.45	12012	7207.2	Sand	Proposed
8	PO_SG_GM_11	Gumani 8	2.19				34164	20498.4	Sand	Proposed
9	PO_SG_GM_12	Gumani 9	1.36				21216	12729.6	Sand	Proposed
10	PO_SG_GM_13	Gumani 10	1.01				15756	9453.6	Sand	Proposed
11	PO_SG_GM_14	Gumani 11	0.51				7956	4773.6	Sand	Proposed
12	PO_SG_GM_15	Gumani 12	1.61				25116	15069.6	Sand	Proposed
13	PO_SG_GM_18	Gumani 13	2.34			Yes, 4.37	36504	21902.4	Sand	Proposed
14	PO_SG_GM_19	Gumani 14	2.03				31668	19000.8	Sand	Proposed
15	PO_SG_GM_21	Gumani 15	0.37			No	5772	3463.2	Sand	Proposed
16	PO_SG_GM_22	Gumani 16	0.38			Yes, 4.86	5928	3556.8	Sand	Proposed
17	PO_SG_GM_24	Gumani 17	1.17				18252	10951.2	Sand	Proposed
18	PO_SG_GM_26	Gumani 18	2.06				32136	19281.6	Sand	Proposed
19	PO_SG_GM_28	Gumani 19	0.91				14196	8517.6	Sand	Proposed
20	PO_SG_GM_29	Gumani 20	0.34				5304	3182.4	Sand	Proposed
21	PO_SG_GM_30	Gumani 21	0.95				14820	8892	Sand	Proposed

22	PO_SG_GM_31	Gumani 22	0.2			Yes, 1.15	3120	1872	Sand	Proposed
23	PO_SG_GM_34	Gumani 23	1.27			No	19812	11887.2	Sand	Proposed
24	PO_SG_GM_35	Gumani 24	1.26			No	19656	11793.6	Sand	Proposed
25	PO_SG_GM_36	Gumani 25	0.81			No	12636	7581.6	Sand	Proposed

Patta Lands/Khatedari Land: (existing & proposed)

Owner	Sy.No	Area (Ha.)	District	Tehsil	Village	Total Reserve (MT) Considering	Total Mineral to be mined (MT)	Existing /Proposed
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

De-Siltation Location: (Lakes/Ponds/Dams etc.) (Existing &proposed)

Name ofReservoir /Dams	Maintain /Controlle d by StateGovt./PSU etc.	Location	District	Tehsil	Village	Size (Ha)	Quantity MT /Year	Existing /Proposed
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M-Sand Plants :(existing & proposed)

Plant name	Owner	District	Tehsil	Village	Geo-location	Quantity (Tonnes/Annum)	Existing/ Proposed
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Annexure-III

Cluster & Contiguous Cluster Details

Clusters:

River Name	Cluster No.	Lease No	Location (Riverbed/Patta/Land)	Village	Area (in Ha)	Total Excavation (Ton)	Total Mineral Excavation (Ton) (Considering 60% as per EMGSM, 2020)
Gumani River	1	Gumani 4-5	Riverbed	-	3.44	53,664	32,198.40
	2	Gumani 7-12	Riverbed	-	7.45	1,16,220	69732
	3	Gumani 14-15	Riverbed	-	4.37	68172	40,903.20
	4	Gumani 16-20	Riverbed	-	4.86	75,816	45,489.60
	5	Gumani 21-22	Riverbed	-	1.15	17,940	10764

Contiguous Clusters:

River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the cluster	Location (River bed/Patta Land)	Distance Between cluster	Village	Area of cluster (ha)	Total Mineral Excavation (Ton)
Gumani River	NA	NA	NA	NA	NA	NA	NA	NA

Annexure-IV

Transportation Routes for individual leases and leases in Cluster

Sandbar Code	Lease No	Transportation Name/Route No.	Number of tippers/days of lease	Number of tippers/days of all the lease on route	Length of Route in Km	Type of Road (Black Topped/Unpaved)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/Lease Owner	Route Map & Location
PO_SG_GM_01	Gumani 1	Road towards Kusma	2	NA	0.646	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_02	Gumani 2	Road towards Kadma & Parerbathan	7	NA	0.773	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_04	Gumani 3	Road towards Kodma & Barhat	5	NA	0.582	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_05	Gumani 4	Road towards Kherwa & Patkhasa	4	NA	1.07	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_06	Gumani 5	Road towards Ssrjamghuta & Patkhasa	9	NA	0.257	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_07	Gumani 6	Road towards Dariapur & Sanmoni	5	NA	0.504	Unpaved	Unpaved	Lease Owner	Route Map attached

PO_SG_GM_09	Gumani 7	Road towards Dariapur & Sanmoni	3	NA	0.591	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_11	Gumani 8	Road towards Dariapur & Sanmoni	9	NA	0.549	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_12	Gumani 9	Road towards Dariapur & Doraissantali	5	NA	0.504	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_13	Gumani 10	Road towards Ssrjamghutu & Koirtukpahar	4	NA	1.623	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_14	Gumani 11	Road towards Goradih & Balgura	2	NA	0.298	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_15	Gumani 12	Road towards Ssrjamghutu & Chhoti Tegrapahar	6	NA	0.771	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_18	Gumani 13	Road towards Kutana & Chhoti Tegrapahar	9	NA	0.393	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_19	Gumani 14	Road towards Chamrapahar & Basko	8	NA	1.629	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_21	Gumani 15	Road towards Amdanda & Taljhari	1	NA	1.297	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_22	Gumani 16	Road towards Amdanda & Taljhari	1	NA	0.446	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_24	Gumani 17	Road towards Manjhladih & Amjhor	5	NA	1.172	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_26	Gumani 18	Road towards Bara Duraipahar & Chatiari	8	NA	1.276	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_28	Gumani 19	Road towards Borna & Barko	4	NA	0.481	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_29	Gumani 20	Road towards Borna & Barko	1	NA	0.796	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_30	Gumani 21	Road towards Chota Bichkani & Chutia	4	NA	0.118	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_31	Gumani 22	Road towards Chota Bichkani & Chutia	1	NA	0.269	Unpaved	Unpaved	Lease Owner	Route Map attached

PO_SG_GM_34	Gumani 23	Road towards Kuchpara & Kunarpur	5	NA	0.184	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_35	Gumani 24	Road towards Kundua & Mohabatpur	5	NA	0.75	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_36	Gumani 25	Road towards Talbhita & juhibana	3	NA	0.275	Unpaved	Unpaved	Lease Owner	Route Map attached

Cluster:

Cluster No	Transportation Name/Route No.	Number of tippers/days of Cluster	Number of tippers/days of all the clusters on route	Length of Route in Km	Type of Road (Black Topped/Unpaved)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/Lease Owner	Route Map & Location
Gumani 4-5	Road towards Kherwa, Ssrjamghuta & Patkhasa	13	NA	1.327	Unpaved	Unpaved	Lease Owner	Route Map attached
Gumani 7-12	Road towards Dariapur, Sanmoni, Doraissantali, Ssrjamghutu, Koirtukpahar, Goradih, Balgura & Chhoti Tegrapahar	29	NA	4.336	Unpaved	Unpaved	Lease Owner	Route Map attached
Gumani 13-14	Road towards Kutana, Chhoti Tegrapahar, Chamrapahar & Basko	17	NA	2.022	Unpaved	Unpaved	Lease Owner	Route Map attached

Gumani 16-20	Road towards Amdanda, Taljhari, Manjhladih, Amjhor, Duraipahar, Chatiari, Borna & Barko	19	NA	4.171	Unpaved	Unpaved	Lease Owner	Route Map attached
Gumani 21-22	Road towards Chota Bichkani & Chutia	5	NA	0.387	Unpaved	Unpaved	Lease Owner	Route Map attached

Annexure-V

Final List of Potential Mining Leases (existing & proposed)

Rivers

SL NO.	Sandbars Code	Lease Details	Area in Ha.	Distance in Km from PA/BR/WC	Distance from forest Area (in Km)	Mining Lease within 500 meters (if Yes Cluster Area)	Total excavation in Tonnes (Bulk Density: 1.56, Depth:1.0 m)	Total excavation in Tonnes (Considering 60% as per EMGSM, 2020)	Mineral to be mined (Sand/ Bajri/ RBM etc.)	Existing/ Proposed
1	PO_SG_GM_02	Gumani 2	1.83			No	28548	17128.8	Sand	Proposed
2	PO_SG_GM_04	Gumani 3	1.2			No	18720	11232	Sand	Proposed
3	PO_SG_GM_05	Gumani 4	1.06			Yes, 3.44	16536	9921.6	Sand	Proposed
4	PO_SG_GM_06	Gumani 5	2.38				37128	22276.8	Sand	Proposed
5	PO_SG_GM_07	Gumani 6	1.33			No	20748	12448.8	Sand	Proposed
6	PO_SG_GM_09	Gumani 7	0.77			Yes, 7.45	12012	7207.2	Sand	Proposed
7	PO_SG_GM_11	Gumani 8	2.19				34164	20498.4	Sand	Proposed
8	PO_SG_GM_12	Gumani 9	1.36				21216	12729.6	Sand	Proposed
9	PO_SG_GM_13	Gumani 10	1.01				15756	9453.6	Sand	Proposed
10	PO_SG_GM_14	Gumani 11	0.51				7956	4773.6	Sand	Proposed
11	PO_SG_GM_15	Gumani 12	1.61				25116	15069.6	Sand	Proposed
12	PO_SG_GM_18	Gumani 13	2.34			Yes, 4.37	36504	21902.4	Sand	Proposed
13	PO_SG_GM_19	Gumani 14	2.03				31668	19000.8	Sand	Proposed

14	PO_SG_GM_21	Gumani 15	0.37			No	5772	3463.2	Sand	Proposed
15	PO_SG_GM_22	Gumani 16	0.38			Yes, 4.86	5928	3556.8	Sand	Proposed
16	PO_SG_GM_24	Gumani 17	1.17				18252	10951.2	Sand	Proposed
17	PO_SG_GM_26	Gumani 18	2.06				32136	19281.6	Sand	Proposed
18	PO_SG_GM_28	Gumani 19	0.91				14196	8517.6	Sand	Proposed
19	PO_SG_GM_29	Gumani 20	0.34				5304	3182.4	Sand	Proposed
20	PO_SG_GM_30	Gumani 21	0.95			Yes, 1.15	14820	8892	Sand	Proposed
21	PO_SG_GM_31	Gumani 22	0.2				3120	1872	Sand	Proposed
22	PO_SG_GM_34	Gumani 23	1.27			No	19812	11887.2	Sand	Proposed
23	PO_SG_GM_35	Gumani 24	1.26			No	19656	11793.6	Sand	Proposed
24	PO_SG_GM_36	Gumani 25	0.81			No	12636	7581.6	Sand	Proposed

Patta Lands/Khatedari Land: (existing & proposed)

Owner	Sy.No	Area (Ha.)	District	Tehsil	Village	Total Reserve (MT) Considering	Total Mineral to be mined (MT)	Existing /Proposed
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

De-Siltation Location: (Lakes/Ponds/Dams etc.) (Existing &proposed)

Name ofReservoir /Dams	Maintain /Controlle d by StateGovt./PSU etc.	Location	District	Tehsil	Village	Size (Ha)	Quantity MT /Year	Existing /Proposed
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M-Sand Plants :(existing & proposed)

Plant name	Owner	District	Tehsil	Village	Geo-location	Quantity (Tonnes/Annum)	Existing/ Proposed
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Annexure-VI

Final Cluster & Contiguous Cluster details

Clusters:

River Name	Cluster No.	Lease No	Location (Riverbed/Patta/Land)	Village	Area (in Ha)	Total Excavation (Ton)	Total Mineral Excavation (Ton) (Considering 60% as per EMGSM, 2020)
Gumani River	1	Gumani 4-5	Riverbed	-	3.44	53,664	32,198.40
	2	Gumani 7-12	Riverbed	-	7.45	1,16,220	69732
	3	Gumani 13-14	Riverbed	-	4.37	68172	40,903.20
	4	Gumani 16-20	Riverbed	-	4.86	75,816	45,489.60
	5	Gumani 21-22	Riverbed	-	1.15	17,940	10764

Contiguous Clusters:

River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the cluster	Location (River bed/Patta Land)	Distance Between cluster	Village	Area of cluster (ha)	Total Mineral Excavation (Ton)
Gumani River	NA	NA	NA	NA	NA	NA	NA	NA

Annexure-VII

Final Transportation Routes for individual leases and leases in Cluster

Sandbar Code	Lease No	Transportation Name/Route No.	Number of tippers/days of lease	Number of tippers/days of all the lease on route	Length of Route in Km	Type of Road (Black Topped/Unpaved)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt/Lease Owner	Route Map & Location
PO_SG_GM_02	Gumani 2	Road towards Kadma & Parerbathan	7	NA	0.773	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_04	Gumani 3	Road towards Kodma & Barhat	5	NA	0.582	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_05	Gumani 4	Road towards Kherwa & Patkhasa	4	NA	1.07	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_06	Gumani 5	Road towards Ssrjamghuta & Patkhasa	9	NA	0.257	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_07	Gumani 6	Road towards Dariapur & Sanmoni	5	NA	0.504	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_09	Gumani 7	Road towards Dariapur & Sanmoni	3	NA	0.591	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_11	Gumani 8	Road towards Dariapur & Sanmoni	9	NA	0.549	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_12	Gumani 9	Road towards Dariapur & Doraissantali	5	NA	0.504	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_13	Gumani 10	Road towards Ssrjamghutu & Koirtukpahar	4	NA	1.623	Unpaved	Unpaved	Lease Owner	Route Map attached

PO_SG_GM_14	Gumani 11	Road towards Goradih & Balgura	2	NA	0.298	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_15	Gumani 12	Road towards Ssrjamghutu & Chhoti Tegrapahar	6	NA	0.771	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_18	Gumani 13	Road towards Kutana & Chhoti Tegrapahar	9	NA	0.393	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_19	Gumani 14	Road towards Chamrapahar & Basko	8	NA	1.629	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_21	Gumani 15	Road towards Amdanda & Taljhari	1	NA	1.297	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_22	Gumani 16	Road towards Amdanda & Taljhari	1	NA	0.446	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_24	Gumani 17	Road towards Manjhladih & Amjhor	5	NA	1.172	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_26	Gumani 18	Road towards Bara Duraipahar & Chatiari	8	NA	1.276	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_28	Gumani 19	Road towards Borna & Barko	4	NA	0.481	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_29	Gumani 20	Road towards Borna & Barko	1	NA	0.796	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_30	Gumani 21	Road towards Chota Bichkani & Chutia	4	NA	0.118	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_31	Gumani 22	Road towards Chota Bichkani & Chutia	1	NA	0.269	Unpaved	Unpaved	Lease Owner	Route Map attached

PO_SG_GM_34	Gumani 23	Road towards Kuchpara & Kunarpur	5	NA	0.184	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_35	Gumani 24	Road towards Kundua & Mohabatpur	5	NA	0.75	Unpaved	Unpaved	Lease Owner	Route Map attached
PO_SG_GM_36	Gumani 25	Road towards Talbhita & juhibana	3	NA	0.275	Unpaved	Unpaved	Lease Owner	Route Map attached

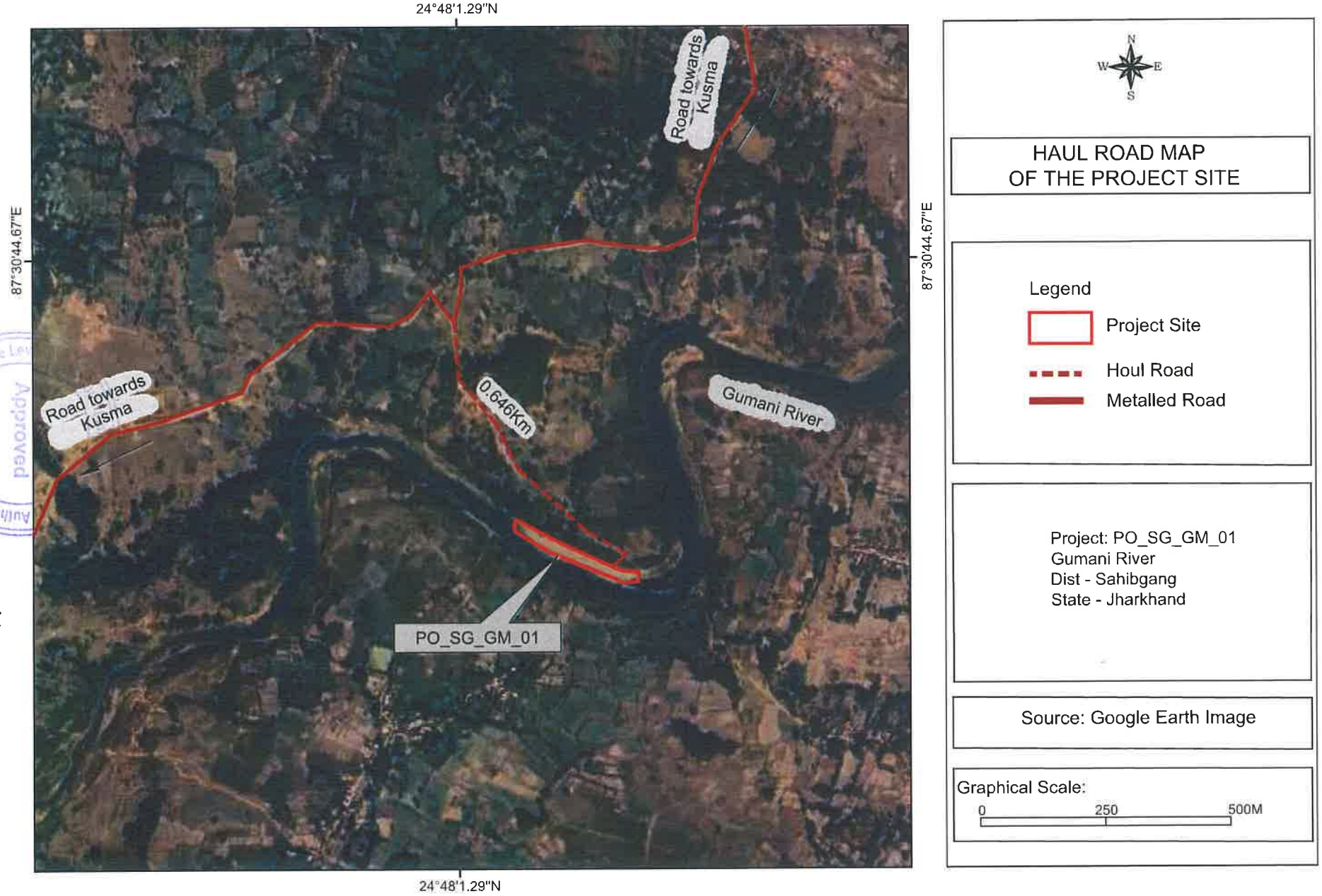
Cluster

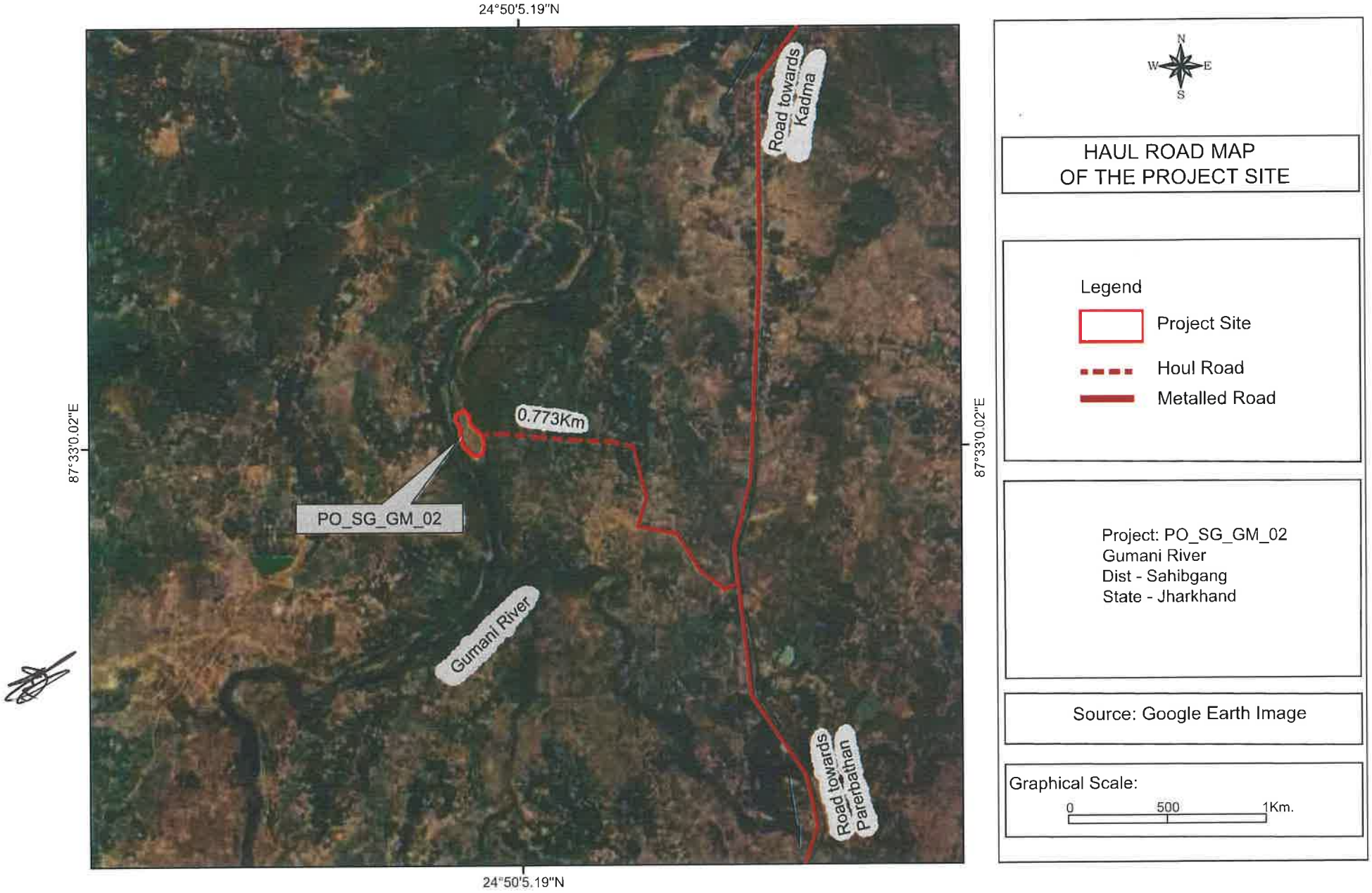
Cluster No	**Transportation Name/Route No.**	**Number of tippers/days of Cluster**	**Number of tippers/days of all the clusters on route**	**Length of Route in Km**	**Type of Road (Black Topped/Unpaved)**	**Recommendation for road (Black Topped/ unpaved)**	**The road will be Constructed by Govt/Lease Owner**	**Route Map & Location**
Gumani 4-5	Road towards Kherwa, Ssrjamghuta & Patkhasa	13	NA	1.327	Unpaved	Unpaved	Lease Owner	Route Map attached
Gumani 7-12	Road towards Dariapur, Sanmoni, Doraissantali, Ssrjamghutu, Koirtukpahar, Goradih, Balgura & Chhoti Tegrapahar	29	NA	4.336	Unpaved	Unpaved	Lease Owner	Route Map attached
Gumani 13-14	Road towards Kutana, Chhoti Tegrapahar, Chamrapahar & Basko	17	NA	2.022	Unpaved	Unpaved	Lease Owner	Route Map attached

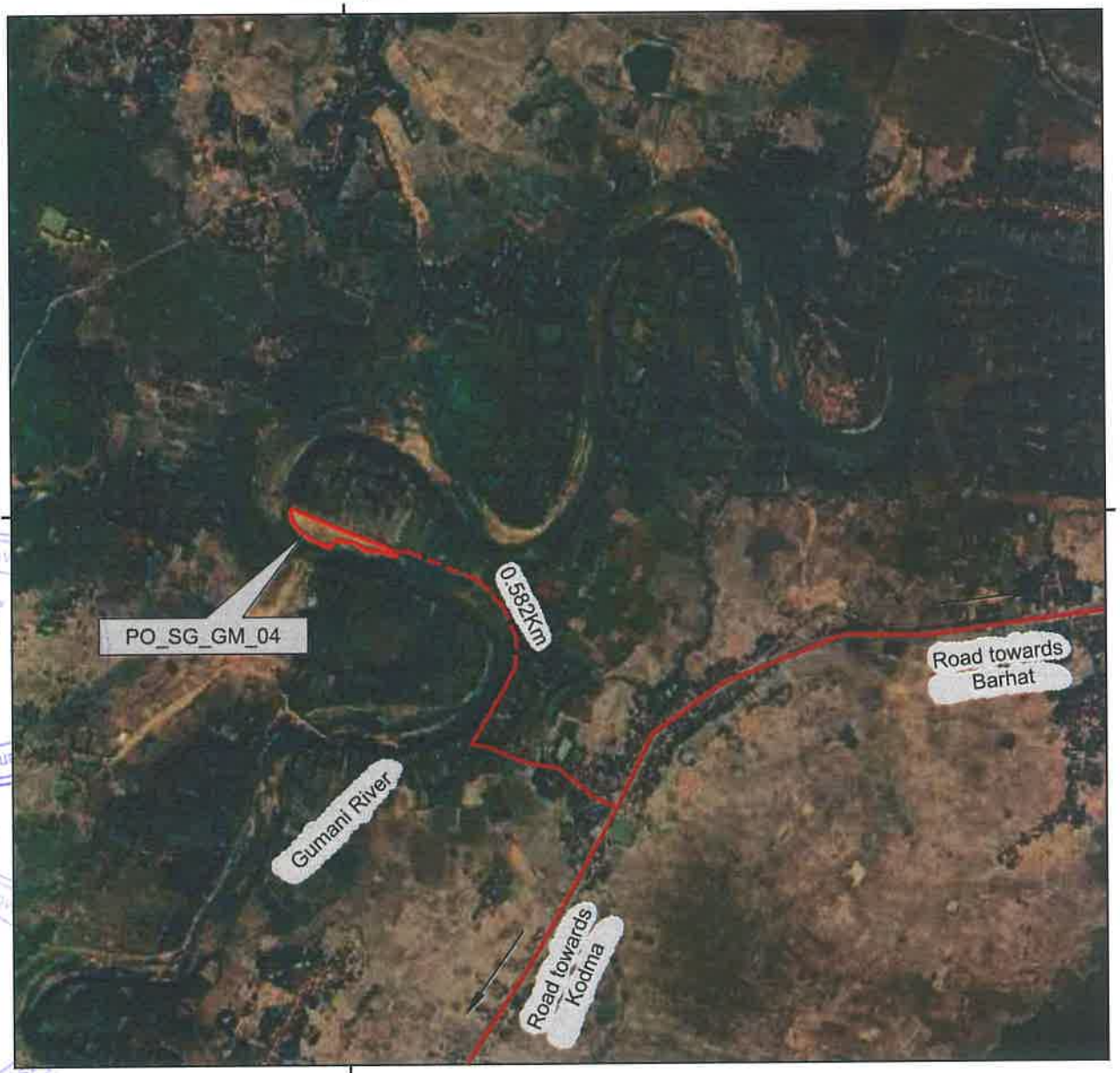
Gumani 16-20	Road towards Amdanda, Taljhari, Manjhladih, Amjhor, Duraipahar, Chatiari, Borna & Barko	19	NA	4.171	Unpaved	Unpaved	Lease Owner	Route Map attached
Gumani 21-22	Road towards Chota Bichkani & Chutia	5	NA	0.387	Unpaved	Unpaved	Lease Owner	Route Map attached

ANNEXURE- I

(Haul Road Map)


24°48'1.29"N
87°30'44.67"E
Road towards Kusma
Road towards Kusma
0.646Km
Gumani River
PO_SG_GM_01
24°48'1.29"N
87°30'44.67"E
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_01
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
250
500M


24°50'5.19"N
87°33'0.02"E
87°33'0.02"E
24°50'5.19"N
Road towards Kadma
0.773Km
PO_SG_GM_02
Gumani River
Road towards Pareibathan
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_02
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
500
1Km.



N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_04
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 500 1Km.

Approved
State Level Environment Authority * Jharkhand, Ranchi *

Approved
State Level Environment Authority * Jharkhand, Ranchi *

N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

Project Site

Houl Road

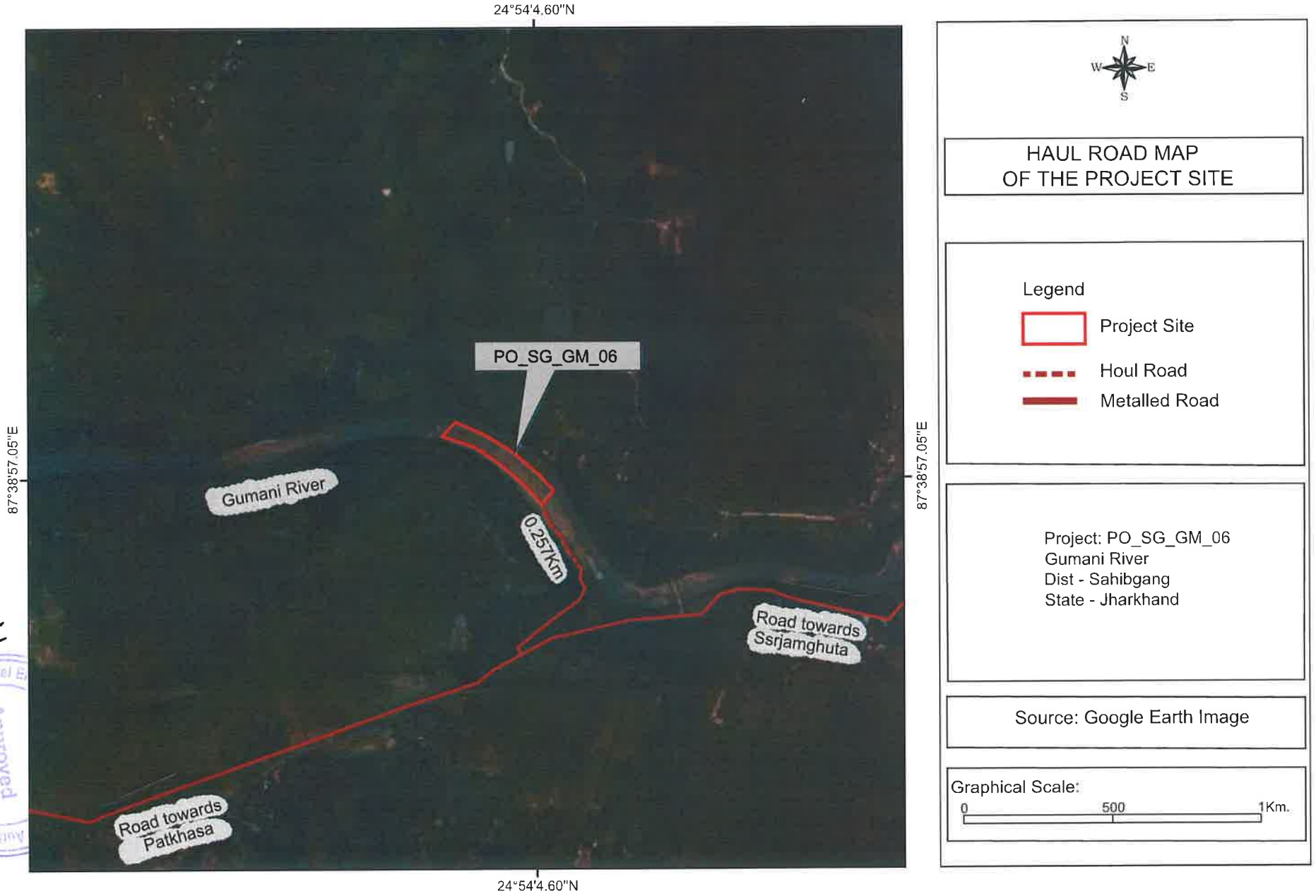
Metalled Road

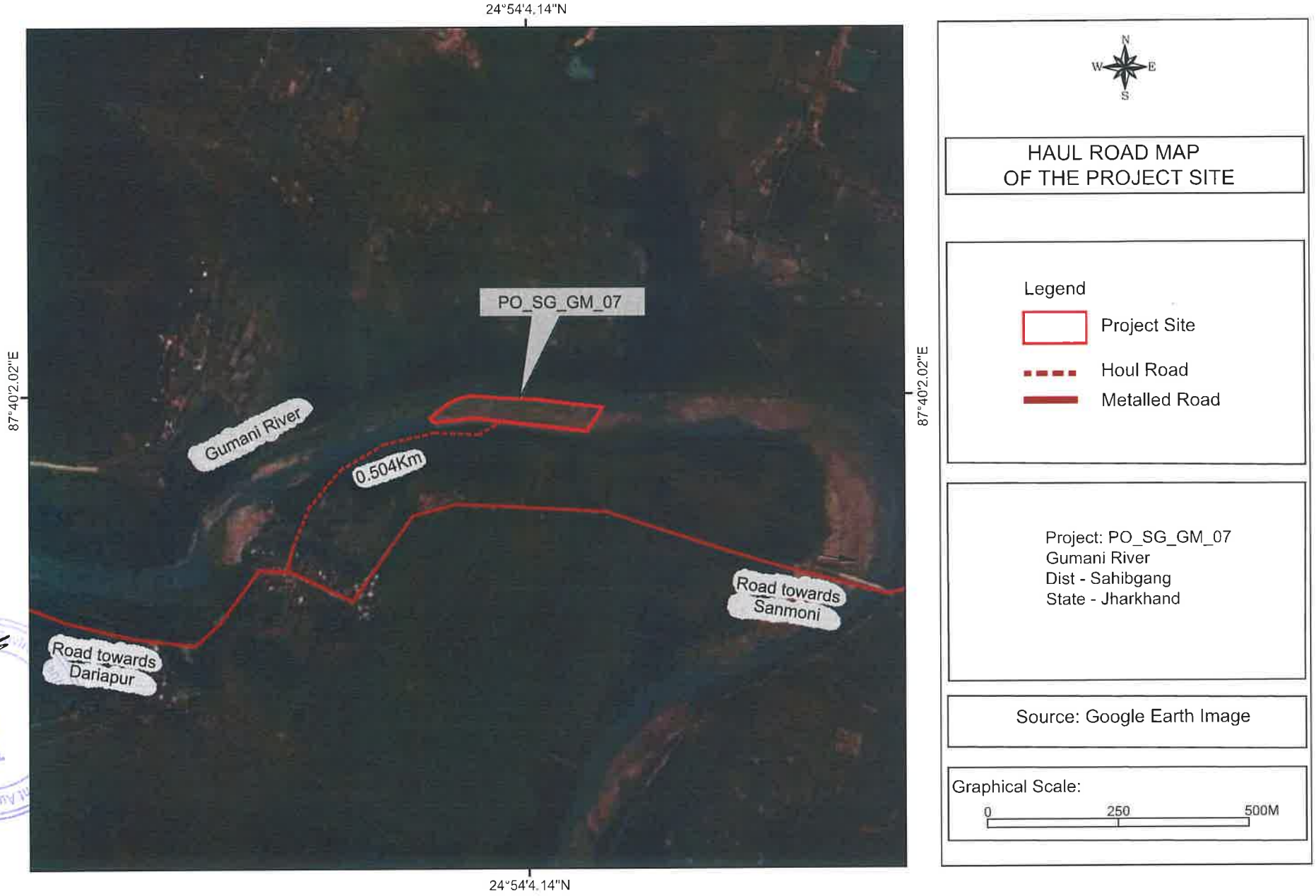
Project: PO_SG_GM_05
Gumani River
Dist - Sahibgang
State - Jharkhand

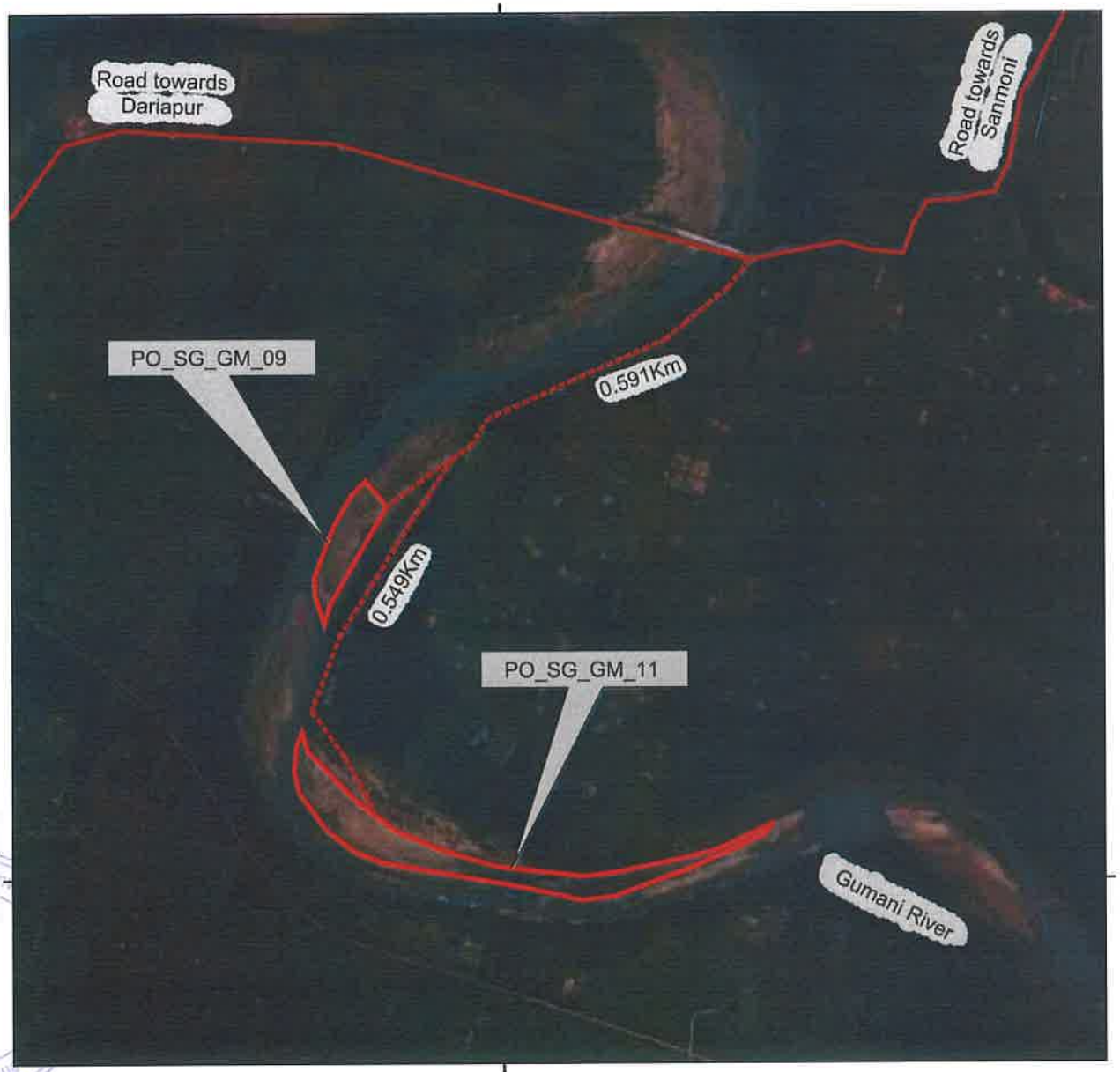
Source: Google Earth Image

Graphical Scale:

0 250 500M


24°54'4.60"N
87°38'57.05"E
PO_SG_GM_06
Gumani River
0.257Km
Road towards
Ssrjamghuta
Road towards
Patkhasa
24°54'4.60"N
87°38'57.05"E
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_06
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
500
1Km.


24°54'4.14"N
87°40'2.02"E
87°40'2.02"E
24°54'4.14"N
PO_SG_GM_07
Gumani River
0.504Km
Road towards
Sanmoni
Road towards
Dariapur
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_07
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
250
500M



N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

- Project Site
- Houl Road
- Metalled Road

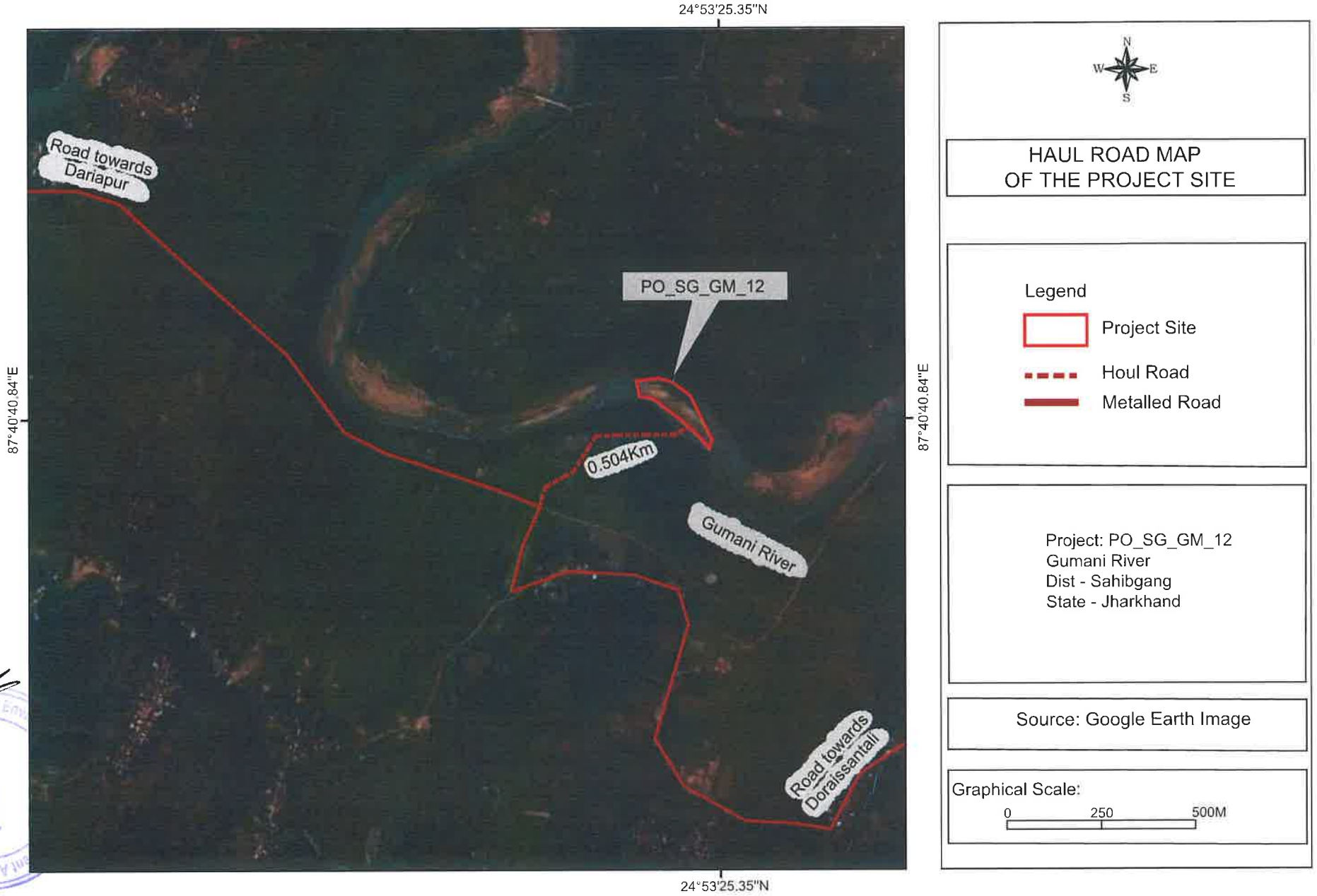
Project: PO_SG_GM_09
PO_SG_GM_11
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 100 200 300 400 500M

Approved
State Level
Jharkhand, Ranchi


24°53'25.35"N
87°40'40.84"E
Road towards Dariapur
PO_SG_GM_12
0.504Km
Gumani River
Road towards Doraissantali
24°53'25.35"N
87°40'40.84"E
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_12
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
250
500M

N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_13
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 250 500M

Approved
Jharkhand, Ranchi

N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

Project Site

Houl Road

Metalled Road

Project: PO_SG_GM_14
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 500 1Km

Approved
State Level Environment Authority * Ranchi, Jharkhand *

N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_15
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 500 1Km

N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

Project Site

Houl Road

Metalled Road

Project: PO_SG_GM_18
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 500 1Km

N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

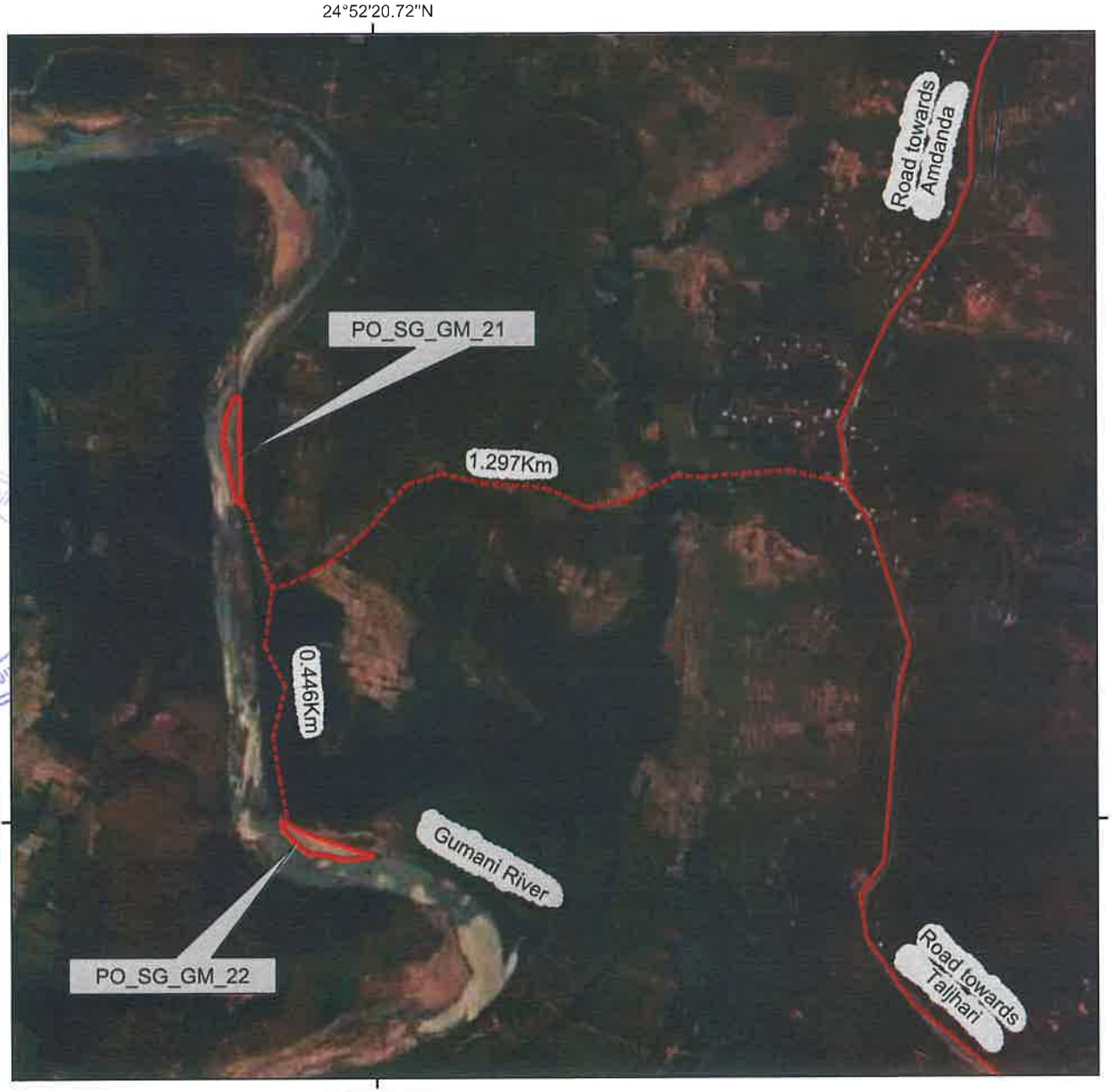
- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_19
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 500 1Km



N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_21
PO_SG_GM_22
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 250 500M

N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

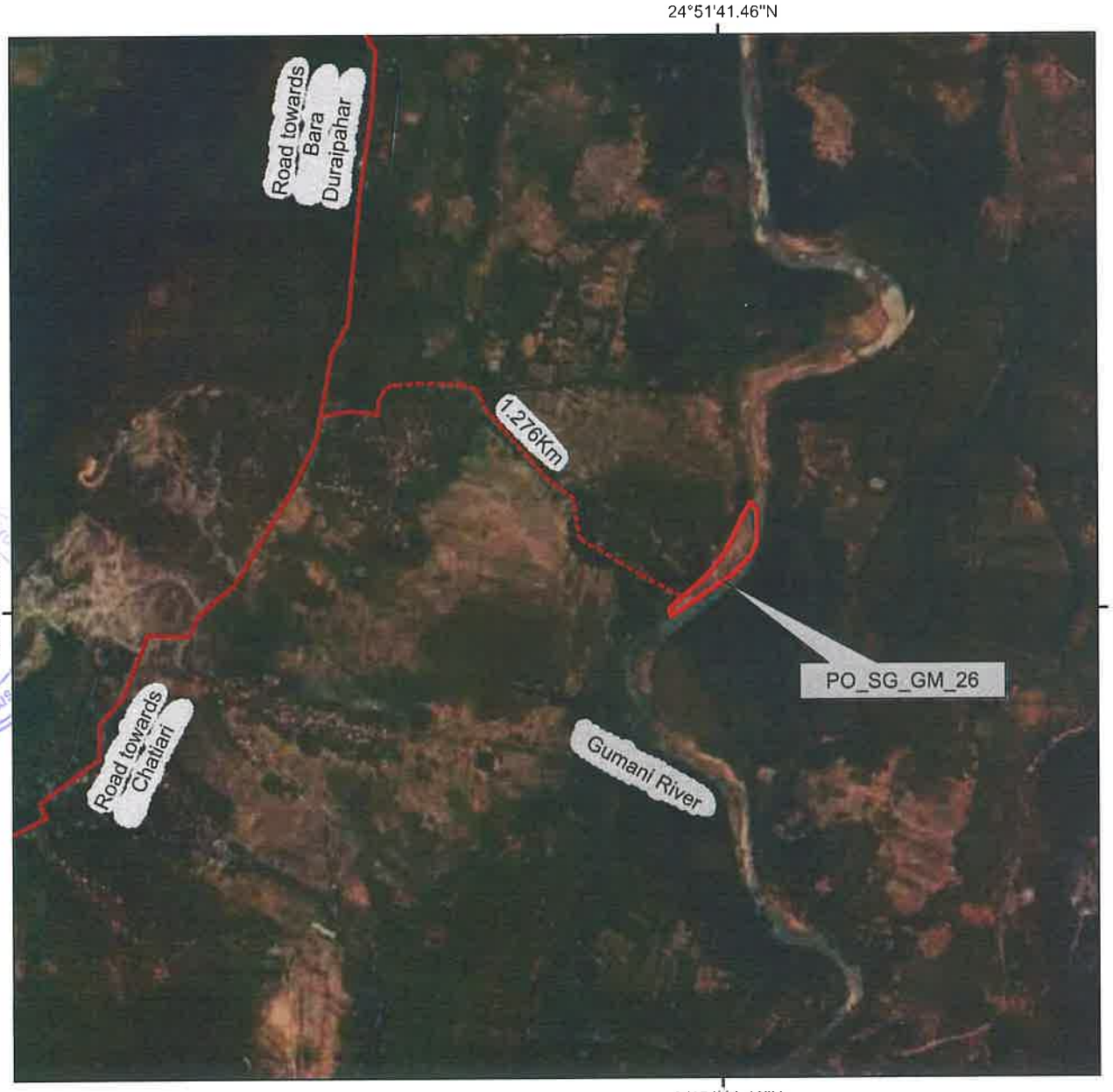
- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_24
PO_SG_GM_25
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 250 500M



N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

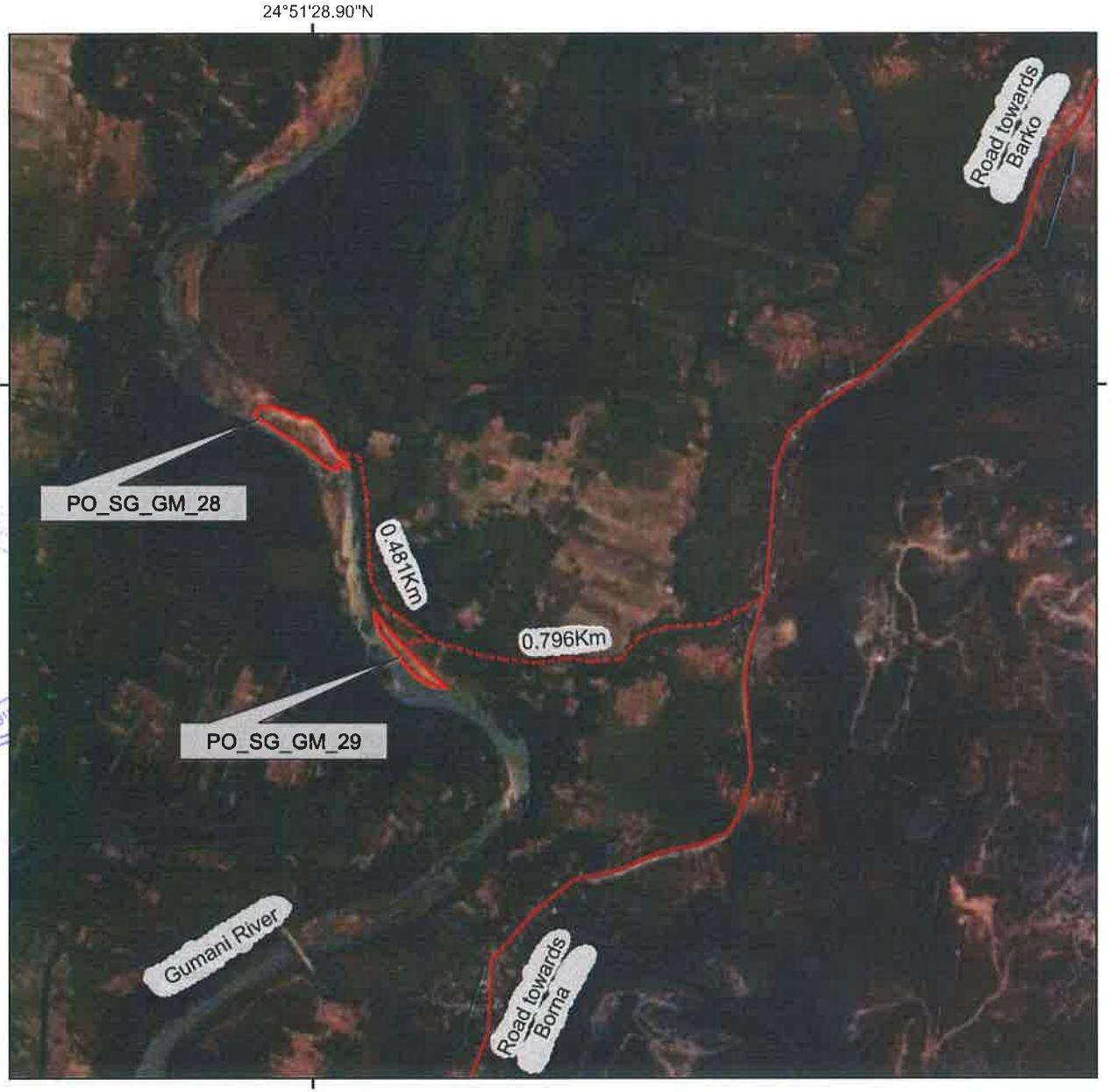
- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_26
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 500 1KM.



N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

Project Site

Houl Road

Metalled Road

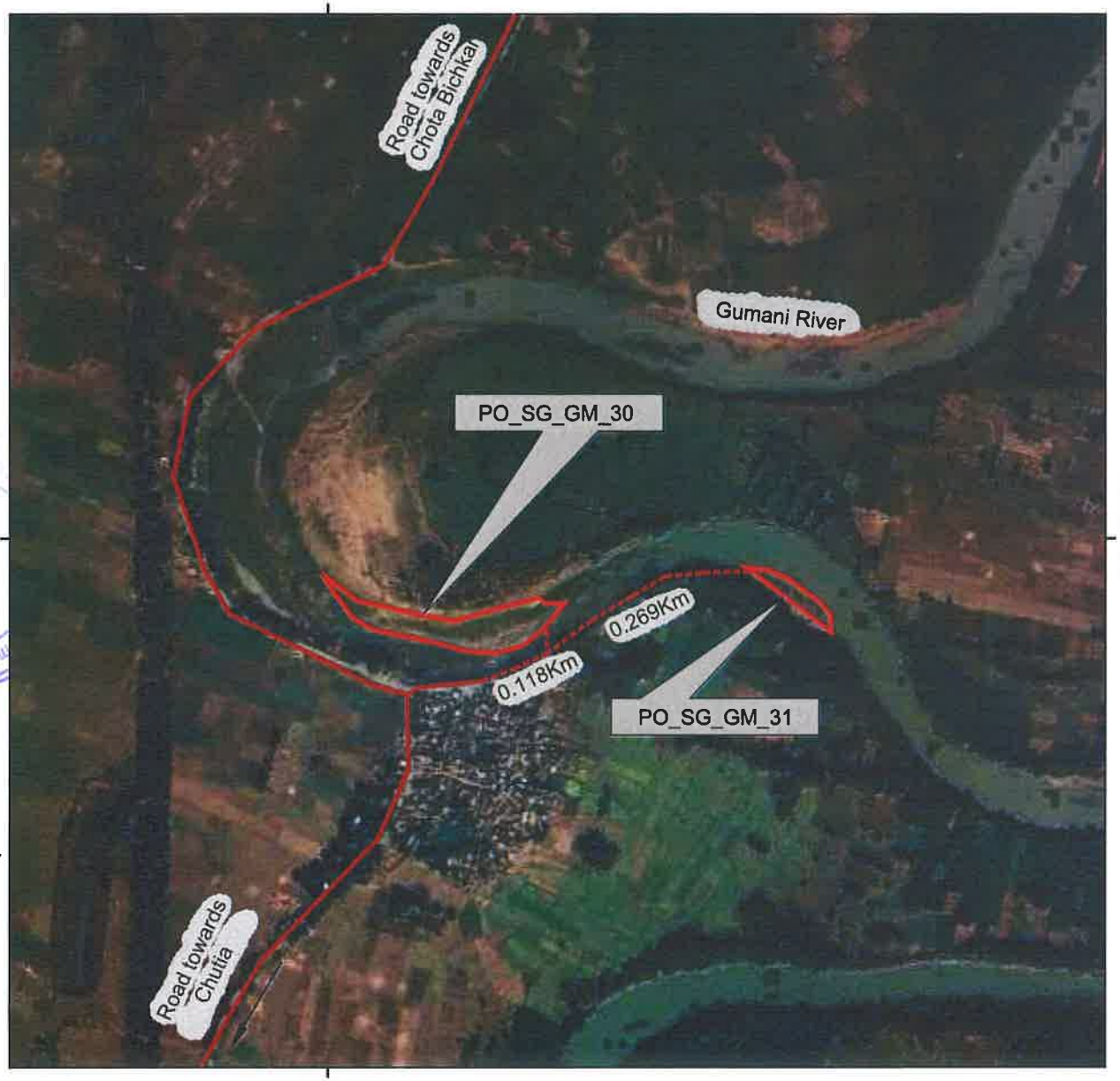
Project: PO_SG_GM_28
PO_SG_GM_29
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 250M 500M

Approved
Jharkhand, Ranchi



N
W E
S

HAUL ROAD MAP OF THE PROJECT SITE

Legend

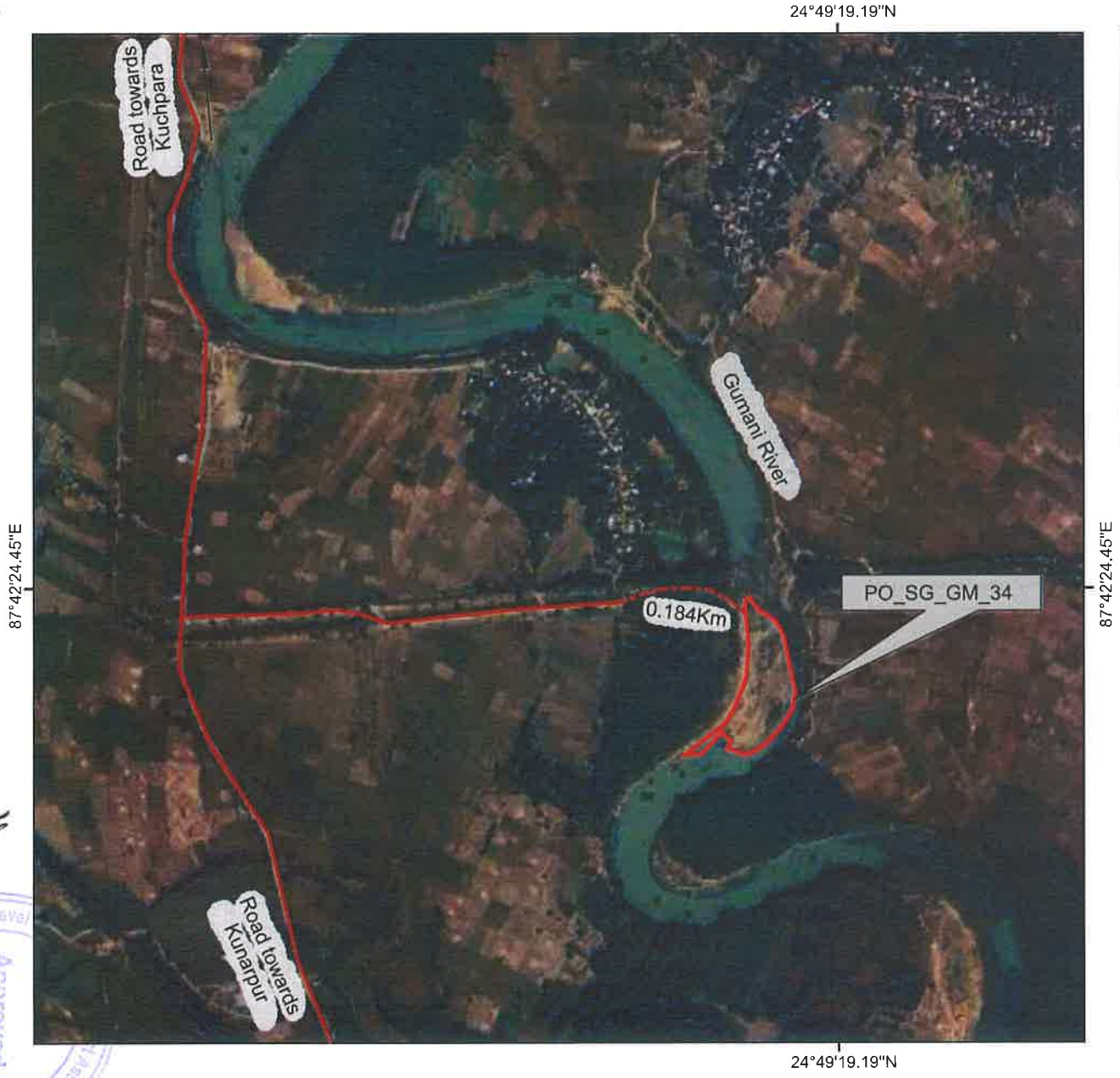
- Project Site
- Houl Road
- Metalled Road

Project: PO_SG_GM_30
PO_SG_GM_31
Gumani River
Dist - Sahibgang
State - Jharkhand

Source: Google Earth Image

Graphical Scale:

0 250 500M



N
W E
S

HAUL ROAD MAP
OF THE PROJECT SITE

Legend

Project Site

Houl Road

Metalled Road

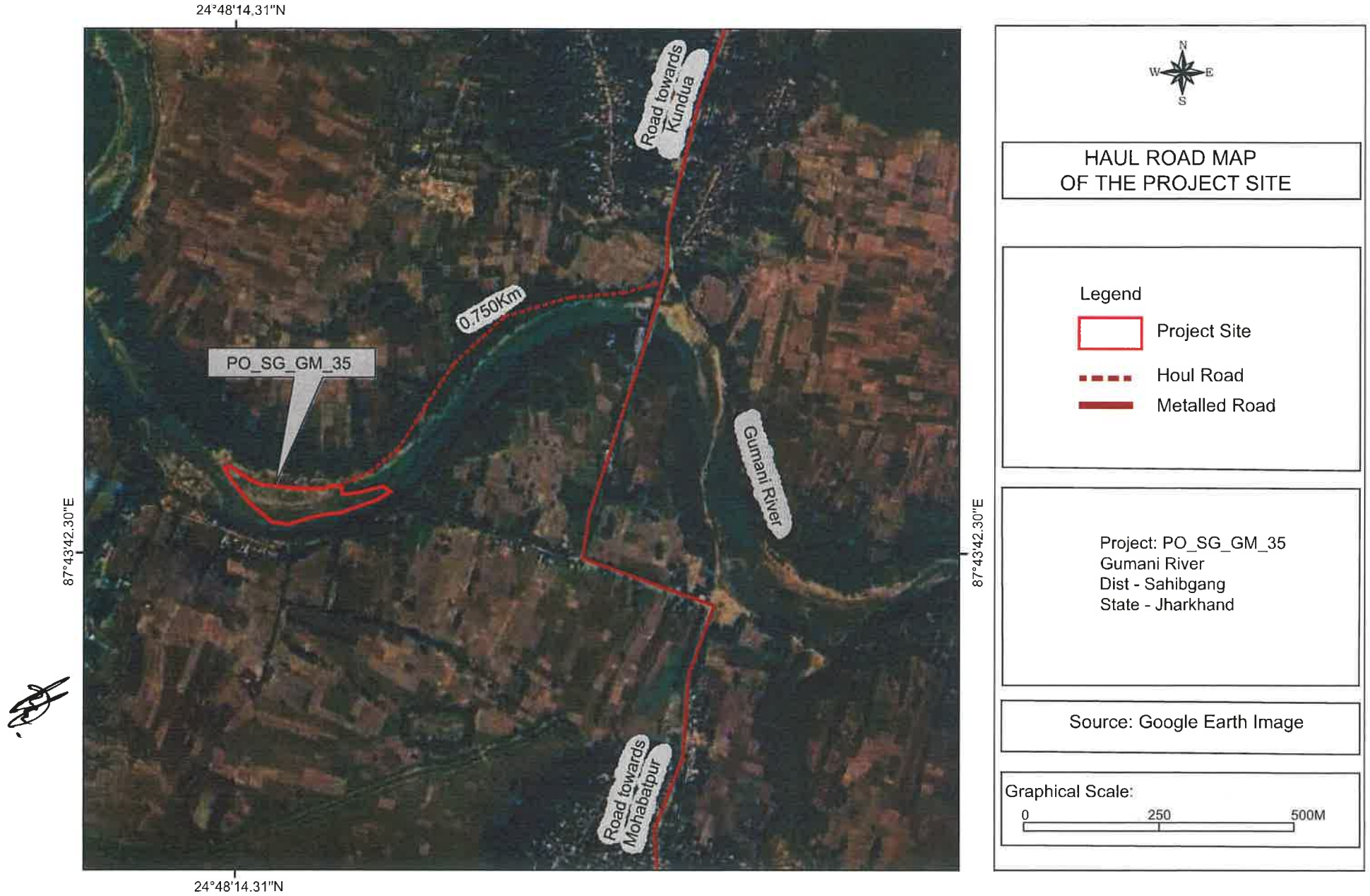
Project: PO_SG_GM_34
Gumani River
Dist - Sahibgang
State - Jharkhand

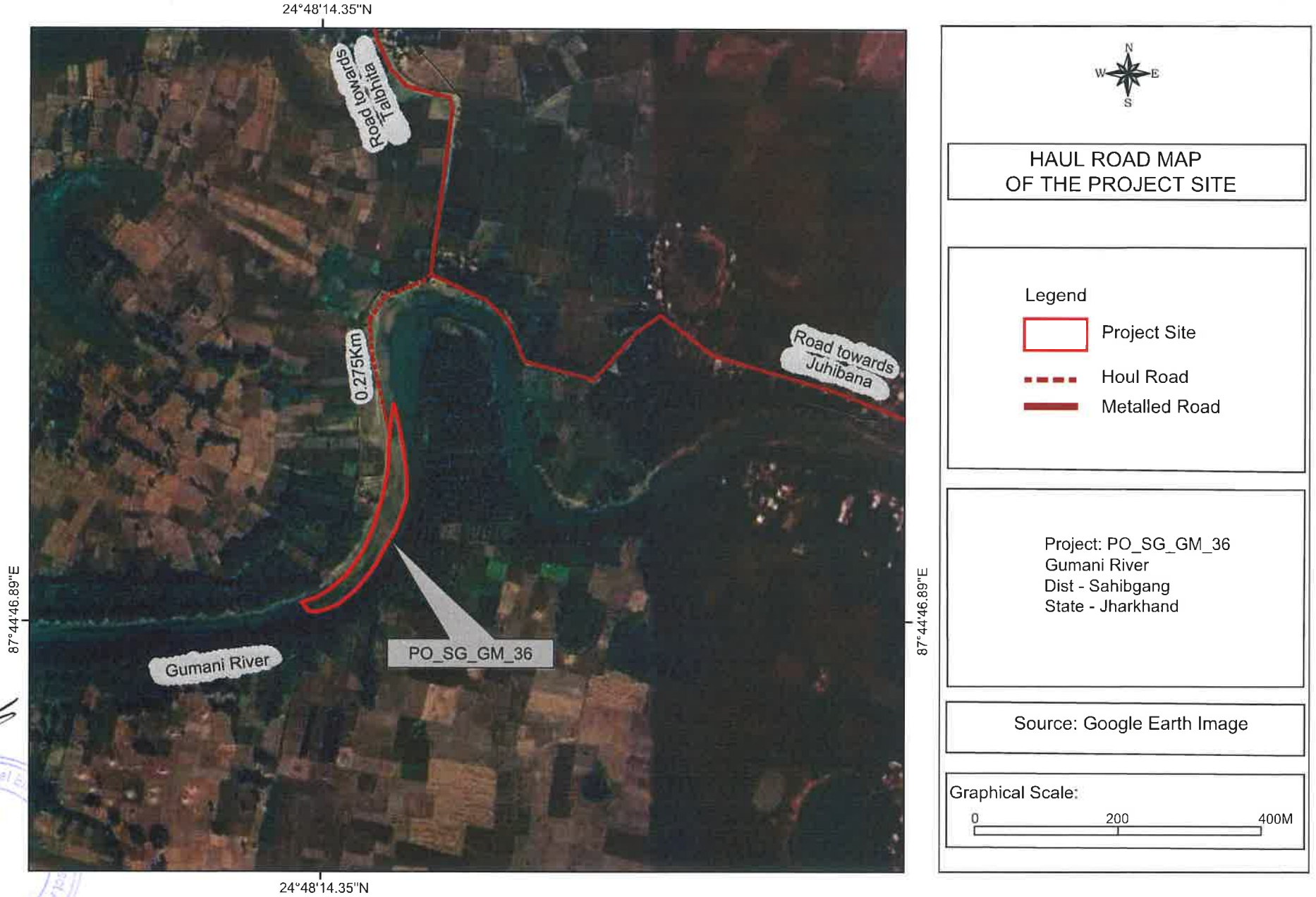
Source: Google Earth Image

Graphical Scale:

0 250 500M

Approved
State Level Environment Impact Assessment Authority * Jharkhand, Ranchi *


24°48'14.31"N
87°43'42.30"E
24°48'14.31"N
87°43'42.30"E
Road towards Kundua
0.750Km
PO_SG_GM_35
Gumani River
Road towards Mohabatpur
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_35
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
250
500M


24°48'14.35"N
87°44'46.89"E
Road towards Talbhita
0.275Km
Road towards Juhibana
Gumani River
PO_SG_GM_36
24°48'14.35"N
87°44'46.89"E
N
W
E
S
HAUL ROAD MAP
OF THE PROJECT SITE
Legend
Project Site
Houl Road
Metalled Road
Project: PO_SG_GM_36
Gumani River
Dist - Sahibgang
State - Jharkhand
Source: Google Earth Image
Graphical Scale:
0
200
400M

Approved

ANNEXURE -K
PREMONSOON DATA

District Mining Office . Sahibganj

letter No — 442 Date - 17/5/22

Pre monsoon Sahibganj District					
S L No	Sand Bar_Code	RL (m)	Area in sq.m.	Sand Thickness in m.	Sand Volume in M. Cum
Estimation of Sand Resources in Pre monsoon period of Gumani River					
1	PRE_SG_GM_01	96	6071.4683	1.5	0.009
2	PRE_SG_GM_02	80	20001.0260	1.5	0.030
3	PRE_SG_GM_03	79	7619.5550	1.5	0.011
4	PRE_SG_GM_04	75	14301.6287	1.5	0.021
5	PRE_SG_GM_05	65	11639.4138	1.5	0.017
6	PRE_SG_GM_06	64	35474.4254	1.5	0.053
7	PRE_SG_GM_07	63	10102.9263	1.5	0.015
8	PRE_SG_GM_08	63	18523.7366	1.5	0.028
9	PRE_SG_GM_09	62	10332.0567	1.5	0.015
10	PRE_SG_GM_10	62	7683.5809	1.5	0.012
11	PRE_SG_GM_11	63	27943.8634	1.5	0.042
12	PRE_SG_GM_12	61	4612.0142	1.5	0.007
13	PRE_SG_GM_13	63	13537.0229	1.5	0.020
14	PRE_SG_GM_14	64	7014.2620	1.5	0.011
15	PRE_SG_GM_15	62	12331.4807	1.5	0.018
16	PRE_SG_GM_16	60	29423.4943	1.5	0.044
17	PRE_SG_GM_17	63	8540.9150	1.5	0.013
18	PRE_SG_GM_18	63	28099.3767	1.5	0.042
19	PRE_SG_GM_19	59	25184.1352	1.5	0.038
20	PRE_SG_GM_20	62	14291.5972	1.5	0.021
21	PRE_SG_GM_21	61	5362.4516	1.5	0.008
22	PRE_SG_GM_22	60	5637.9968	1.5	0.008
23	PRE_SG_GM_23	62	10536.0576	1.5	0.016
24	PRE_SG_GM_24	62	11776.6971	1.5	0.018
25	PRE_SG_GM_25	59	9688.0979	1.5	0.015
26	PRE_SG_GM_26	57	24338.1357	1.5	0.037
27	PRE_SG_GM_27	59	7365.3868	1.5	0.011
28	PRE_SG_GM_28	58	9220.0154	1.5	0.014
29	PRE_SG_GM_29	59	5582.2161	1.5	0.008
30	PRE_SG_GM_30	57	12033.5354	1.5	0.018
31	PRE_SG_GM_31	59	3039.2440	1.5	0.005
32	PRE_SG_GM_32	57	1229.3975	1.5	0.002
33	PRE_SG_GM_33	55	5247.5565	1.5	0.008
34	PRE_SG_GM_34	55	13913.2081	1.5	0.021
35	PRE_SG_GM_35	54	14650.0090	1.5	0.022
36	PRE_SG_GM_36	53	9845.0915	1.5	0.015
37	PRE_SG_GM_37	52	9722.8539	1.5	0.015
			471915.93		0.708

17/5/22

ANNEXURE-L

UNDERTAKING 9.3 as per EMGSM 2020

District Mining Office. Sahibganj.

Letter no 972 **Undertaking** Date. 26.9.23.

For Point no. 9.3 of the EMGSM guidelines, 2020 regarding monitoring of mining near inter district or inter-state boundary should be addressed in the final DSR, if applicable. With reference to the CO report, (Attached as annexure f), it is verified that none of the identified ghats in the district Sahibganj is crossing any inter-district or inter-state boundary.

26/9/23

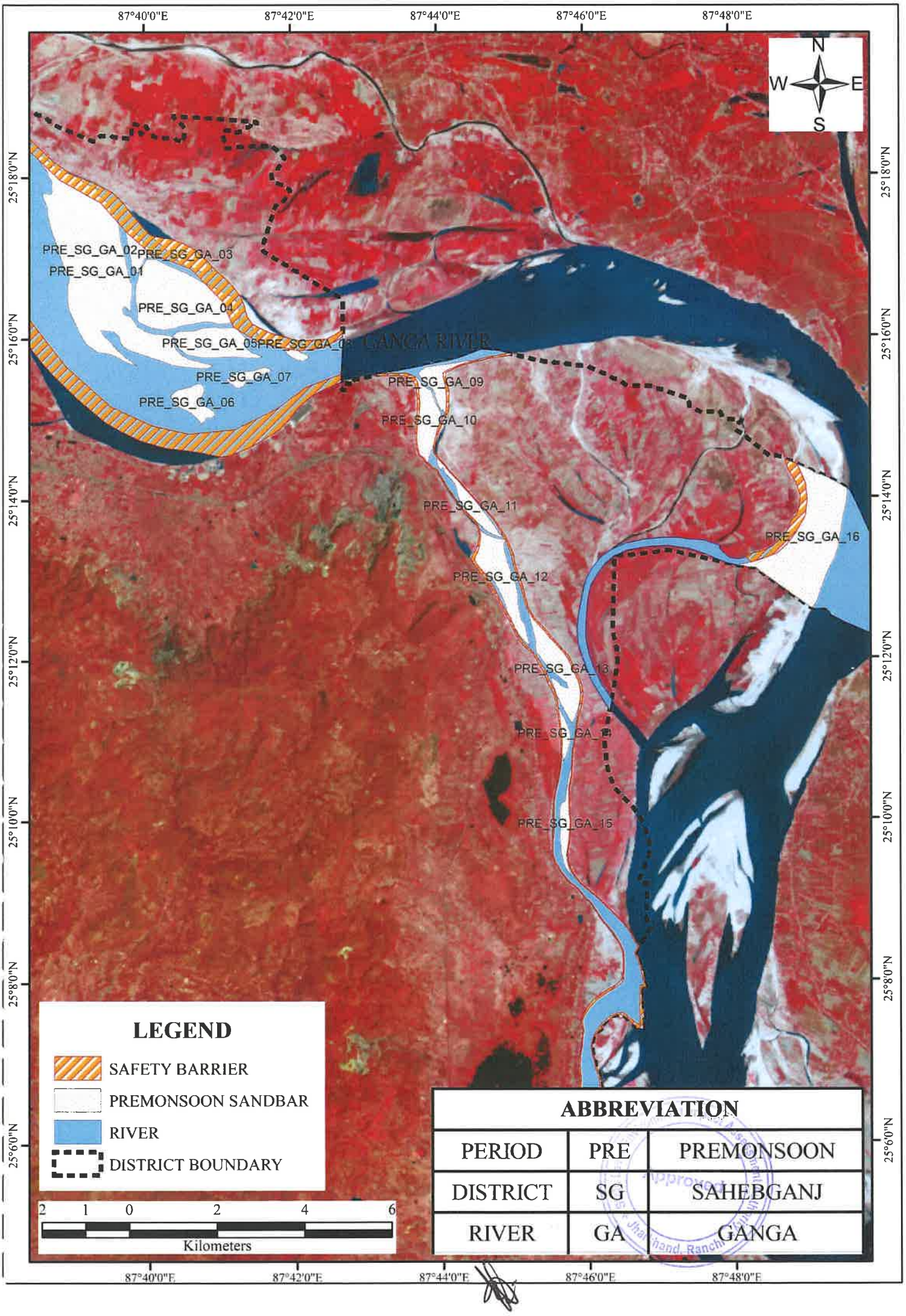
District Mining Officer

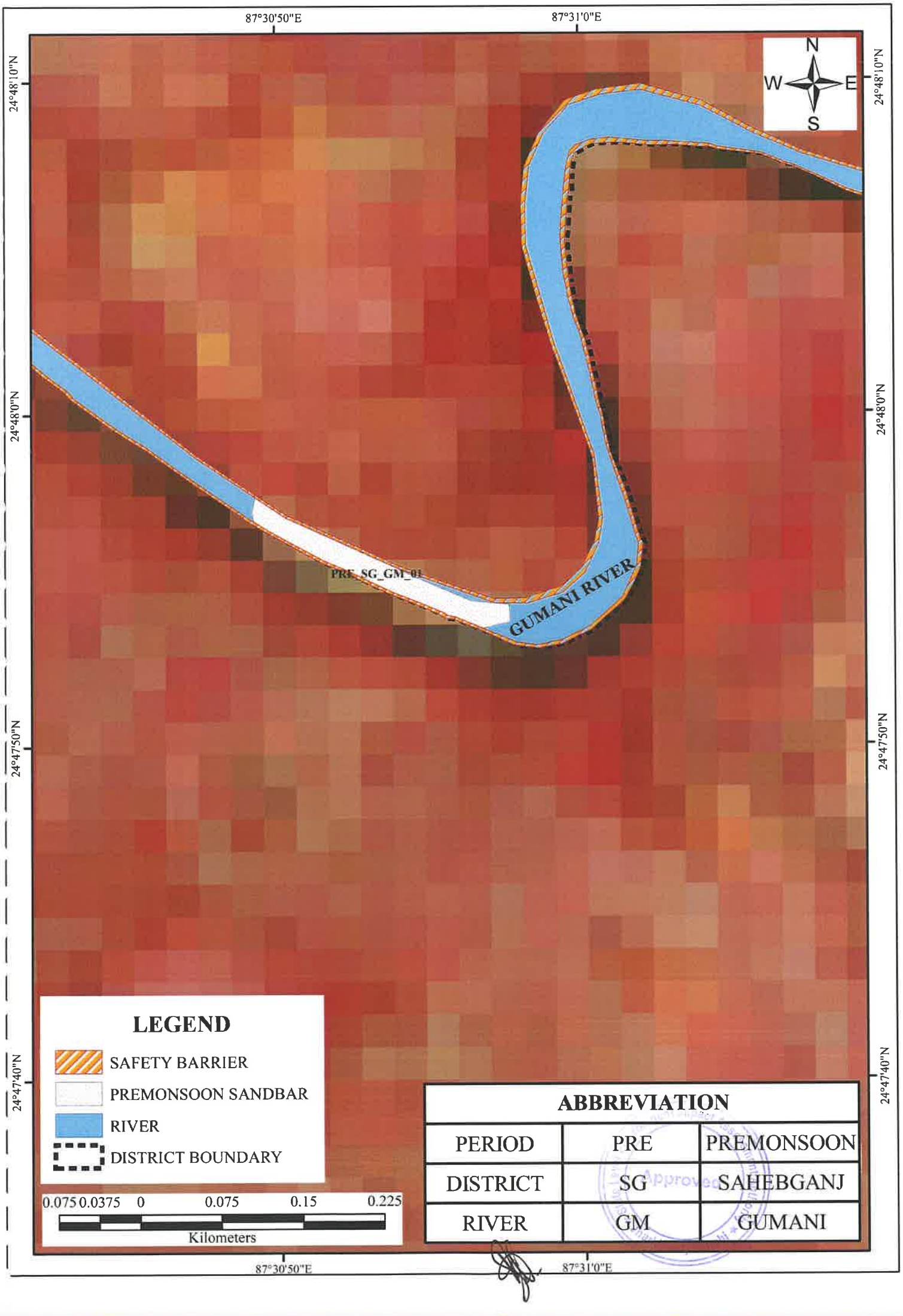
Sahibganj

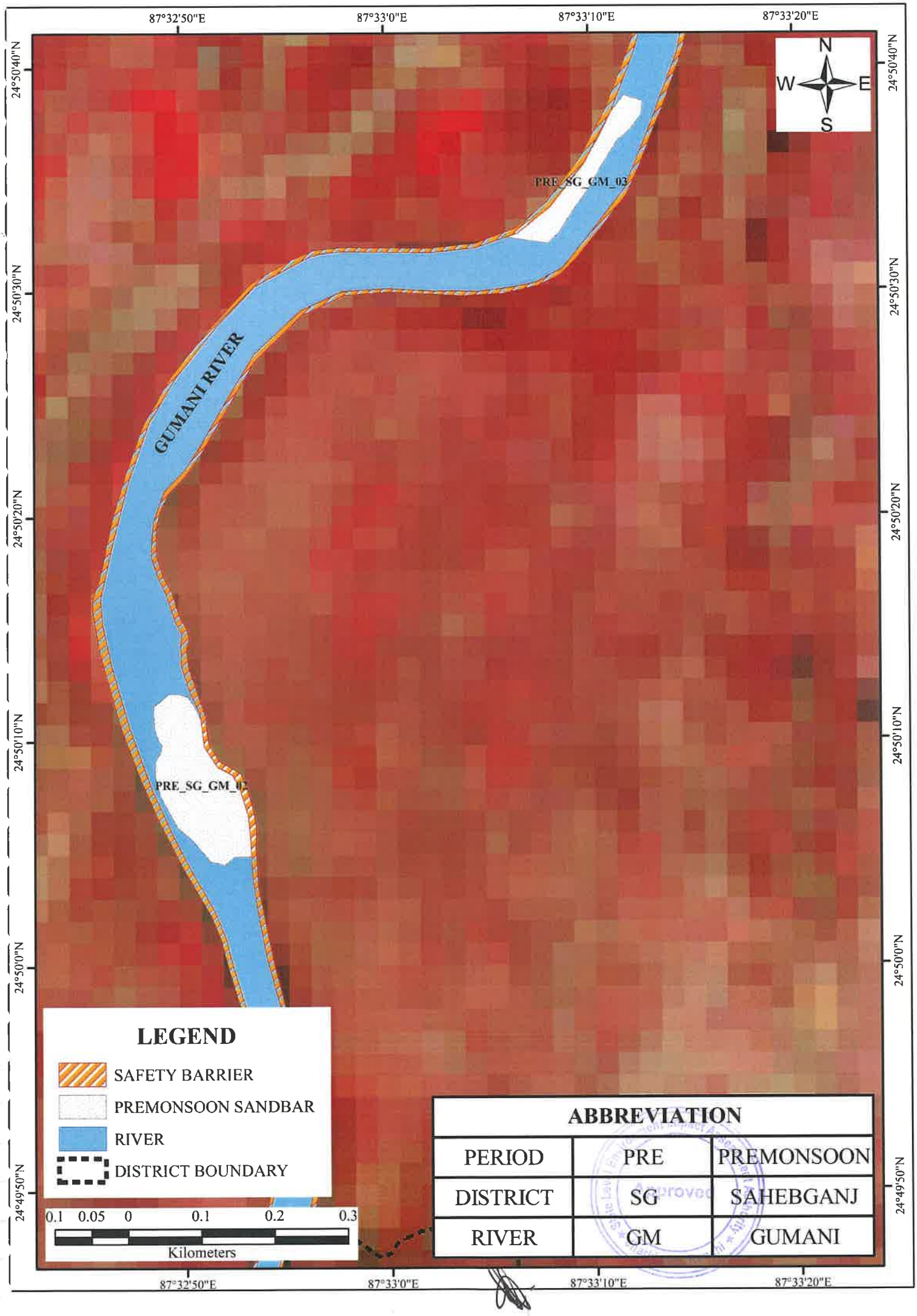
State Level Environment Impact Assessment Authority Jharkhand, Ranchi
Approved

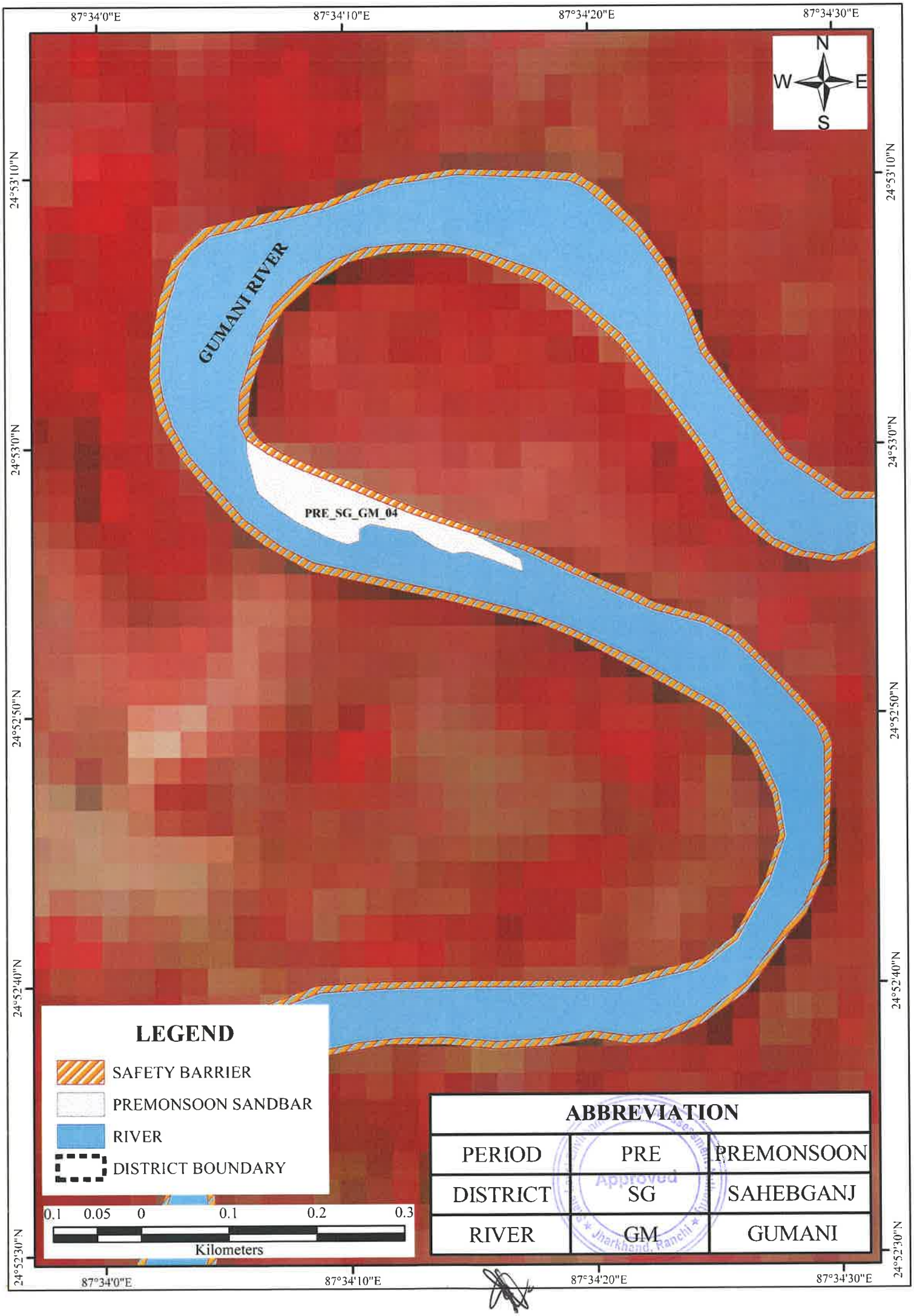
PLATE-A

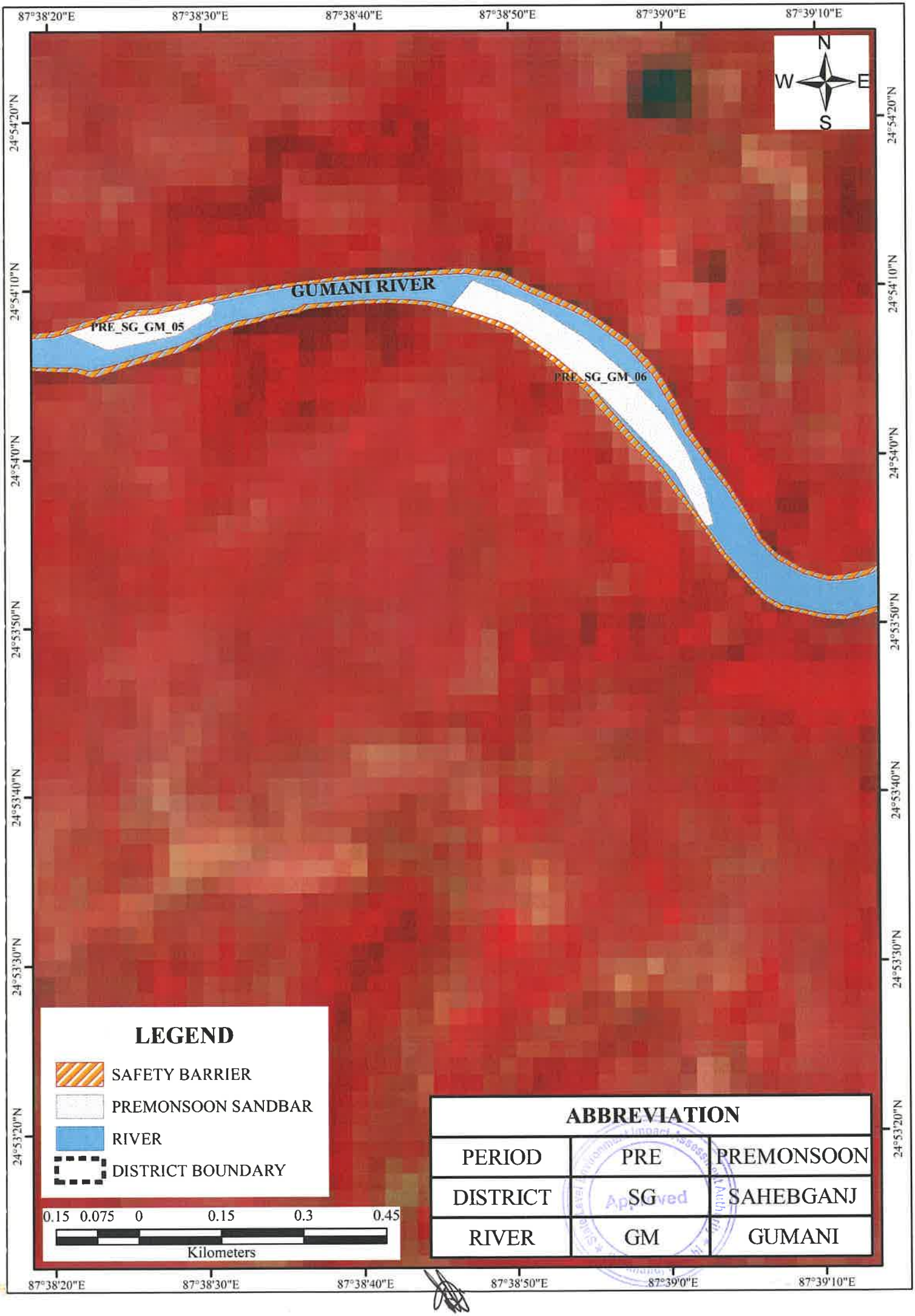
(Plate showing sandbars in pre-monsoon)

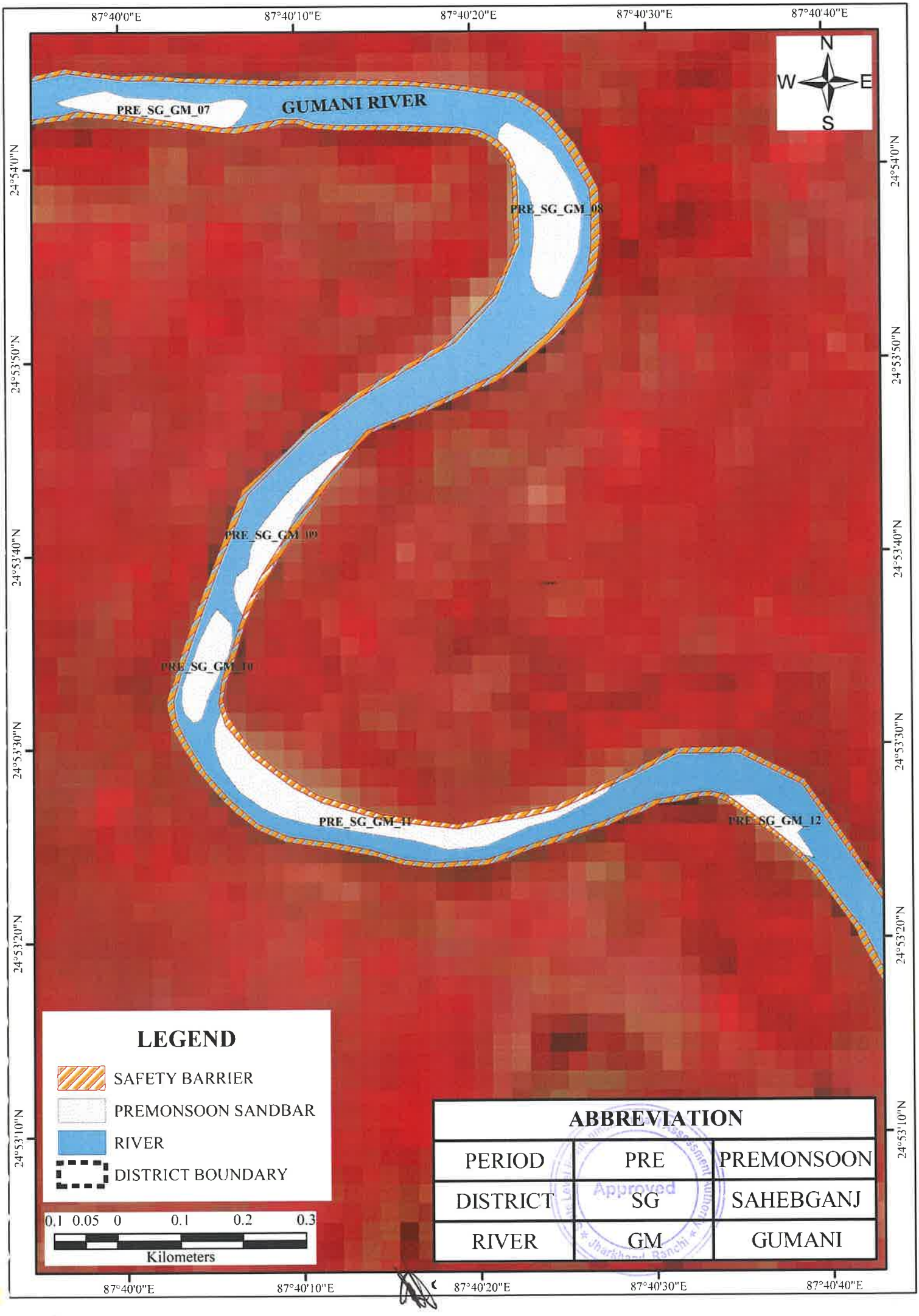

87°40'0"E
87°42'0"E
87°44'0"E
87°46'0"E
87°48'0"E
25°18'0"N
25°16'0"N
25°14'0"N
25°12'0"N
25°10'0"N
25°8'0"N
25°6'0"N
N
W
E
S
PRE_SG_GA_01
PRE_SG_GA_02
PRE_SG_GA_03
PRE_SG_GA_04
PRE_SG_GA_05
PRE_SG_GA_08
GANGA RIVER
PRE_SG_GA_07
PRE_SG_GA_06
PRE_SG_GA_09
PRE_SG_GA_10
PRE_SG_GA_11
PRE_SG_GA_16
PRE_SG_GA_12
PRE_SG_GA_13
PRE_SG_GA_14
PRE_SG_GA_15
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
2 1 0 2 4 6
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GA GANGA

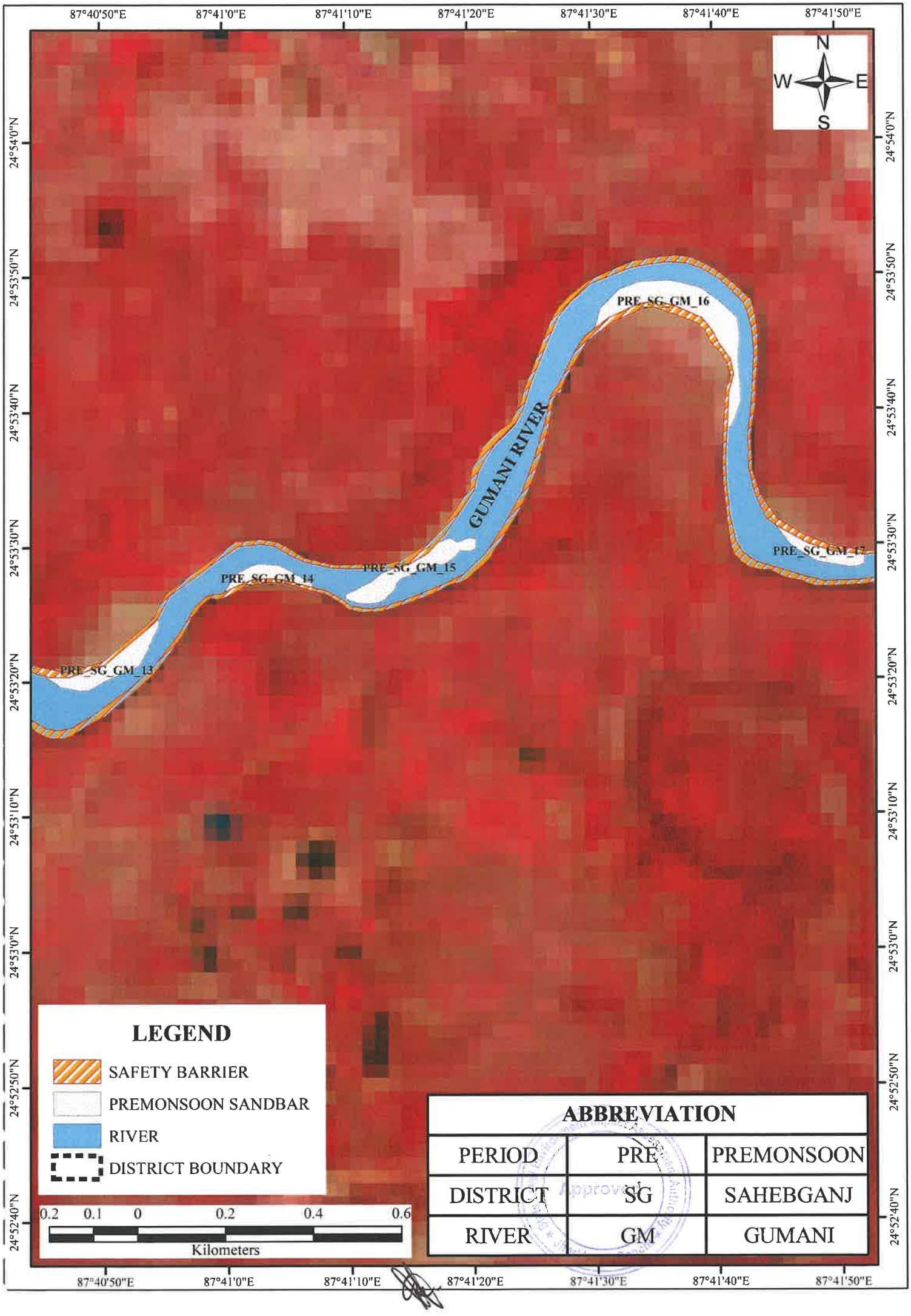

87°30'50"E
87°31'0"E
24°48'10"N
24°48'0"N
24°47'50"N
24°47'40"N
N
W
E
S
PRE_SG_GM_01
GUMANI RIVER
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.075 0.0375 0 0.075 0.15 0.225
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

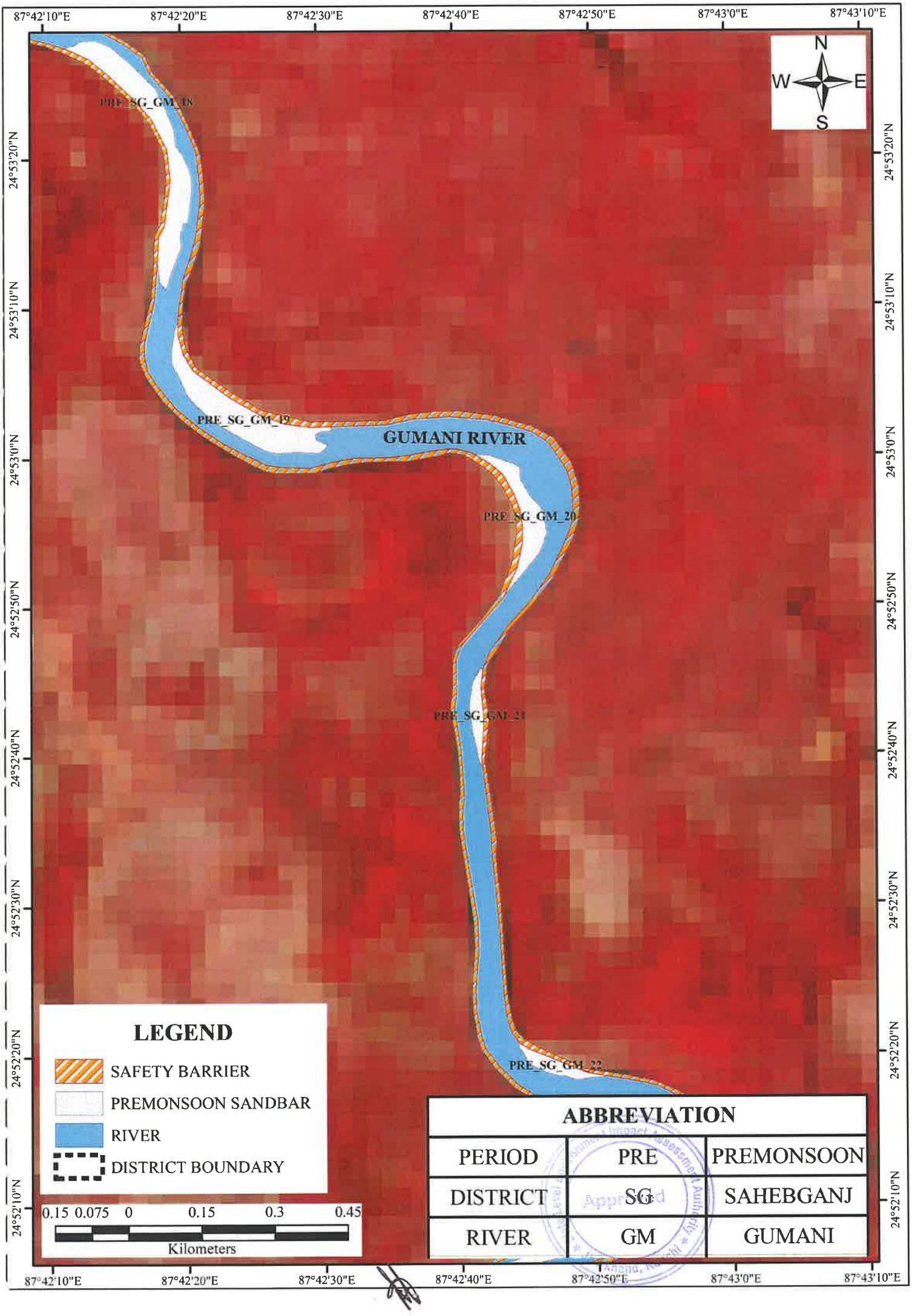

87°32'50"E
87°33'0"E
87°33'10"E
87°33'20"E
24°50'40"N
24°50'30"N
24°50'20"N
24°50'10"N
24°50'0"N
24°49'50"N
N
W
E
S
PRE_SG_GM_03
GUMANI RIVER
PRE_SG_GM_02
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

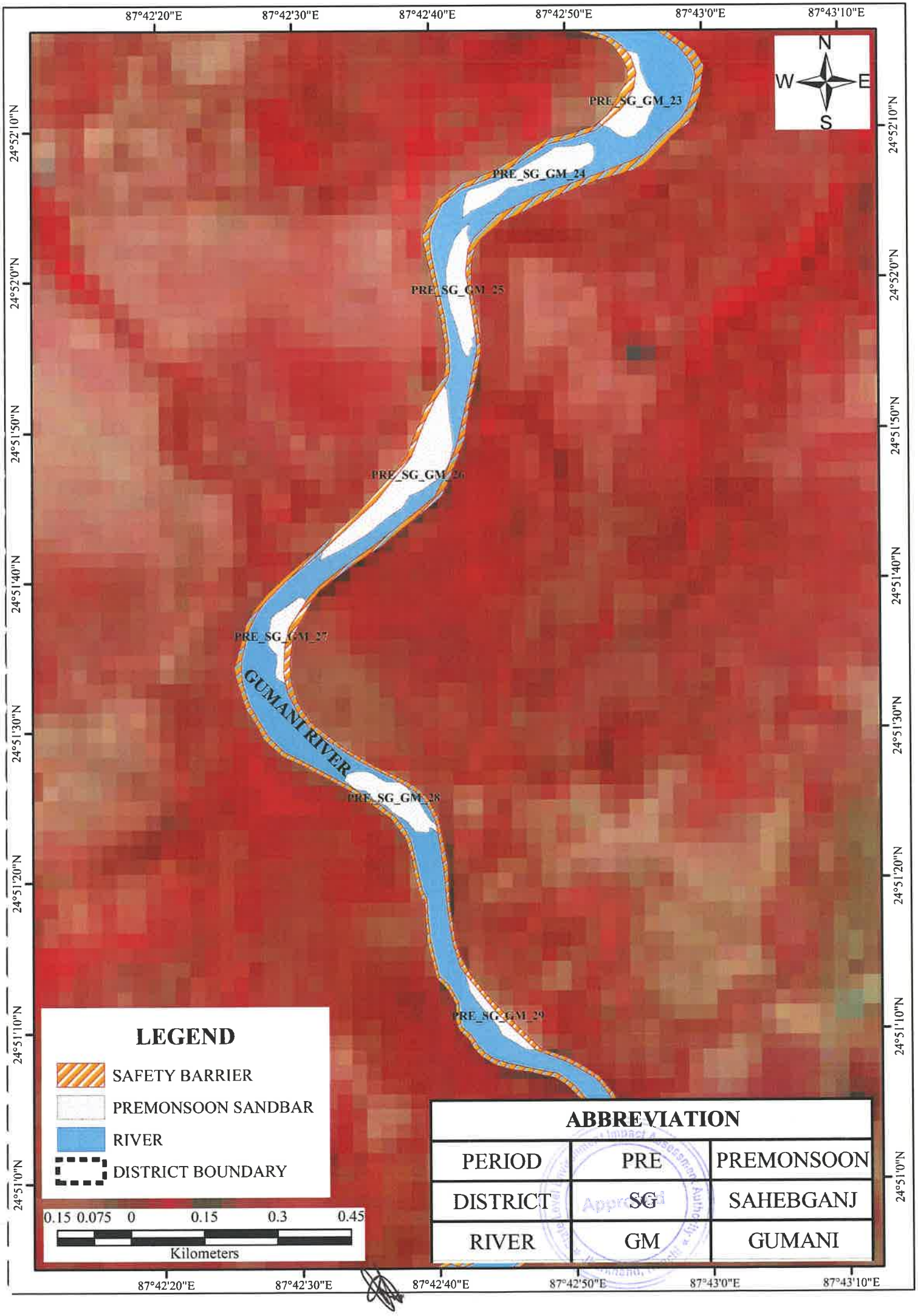

87°34'0"E
87°34'10"E
87°34'20"E
87°34'30"E
24°53'10"N
24°53'0"N
24°52'50"N
24°52'40"N
24°52'30"N
N
W
E
S
GUMANI RIVER
PRE_SG_GM_04
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

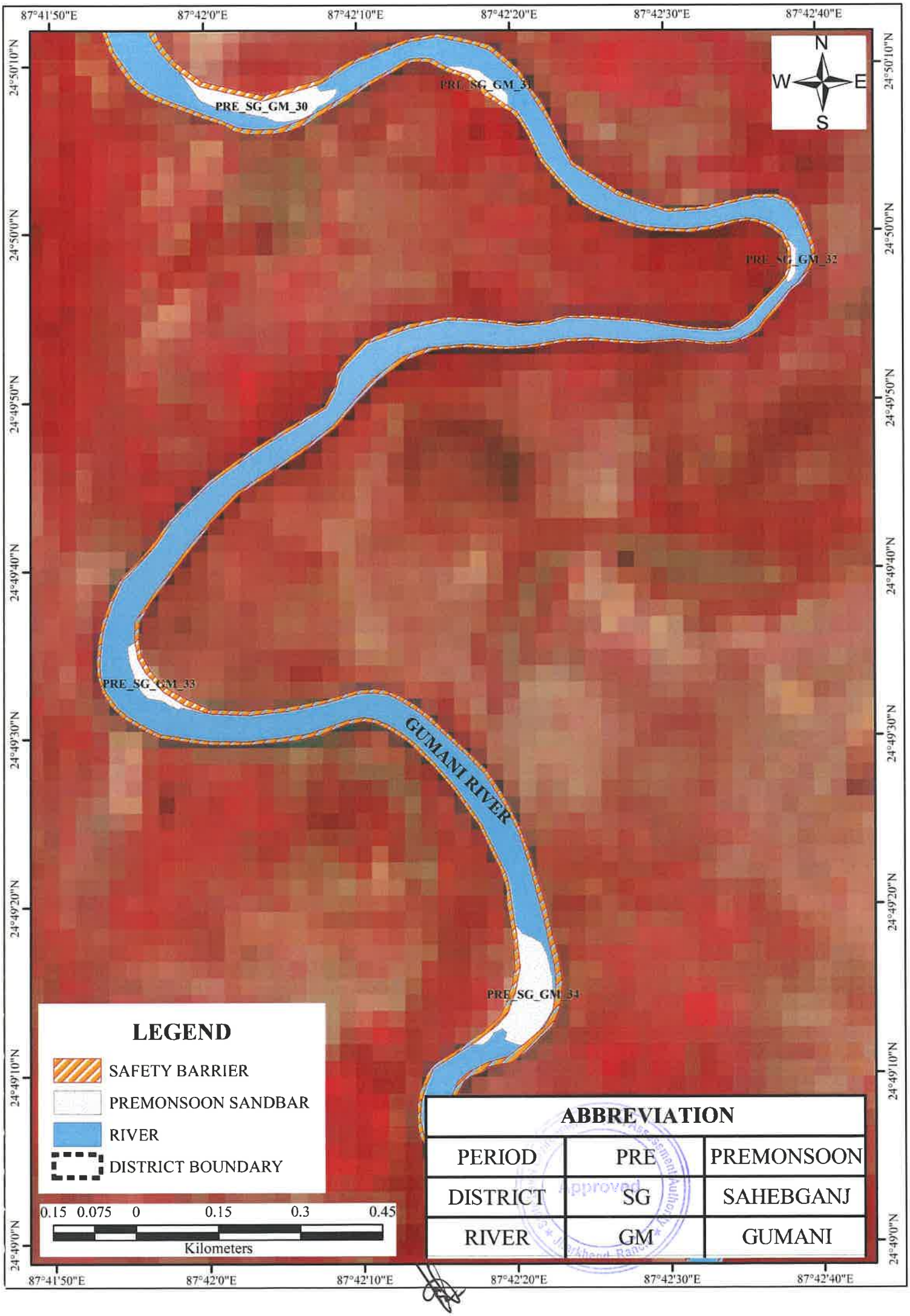

87°38'20"E
87°38'30"E
87°38'40"E
87°38'50"E
87°39'0"E
87°39'10"E
24°54'20"N
24°54'10"N
24°54'0"N
24°53'50"N
24°53'40"N
24°53'30"N
24°53'20"N
N
W
E
S
GUMANI RIVER
PRE_SG_GM_05
PRE_SG_GM_06
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.15 0.075 0 0.15 0.3 0.45
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

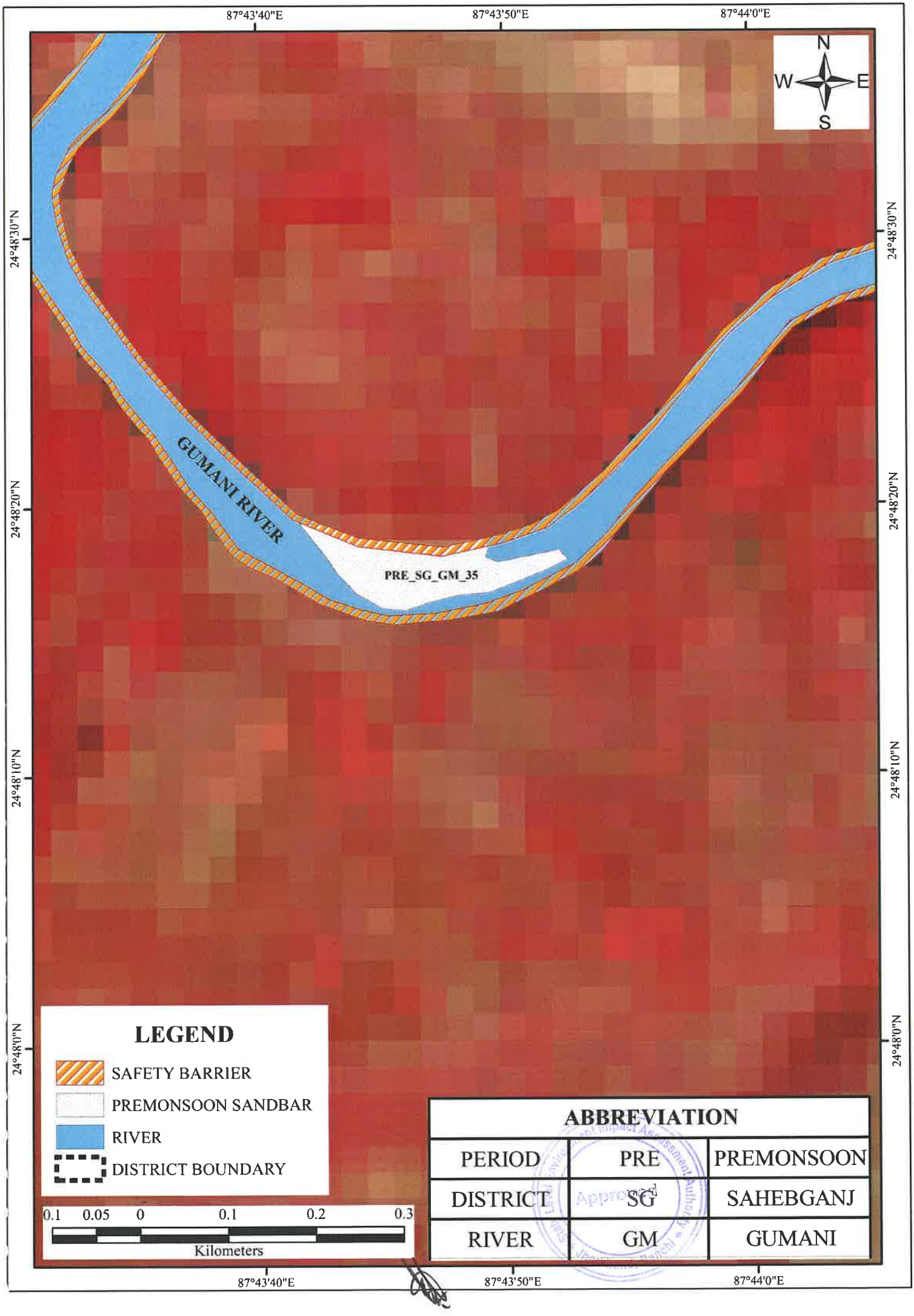

87°40'0"E
87°40'10"E
87°40'20"E
87°40'30"E
87°40'40"E
24°54'0"N
24°53'50"N
24°53'40"N
24°53'30"N
24°53'20"N
24°53'10"N
N
W
E
S
PRE_SG_GM_07
GUMANI RIVER
PRE_SG_GM_08
PRE_SG_GM_09
PRE_SG_GM_10
PRE_SG_GM_11
PRE_SG_GM_12
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI
Approved

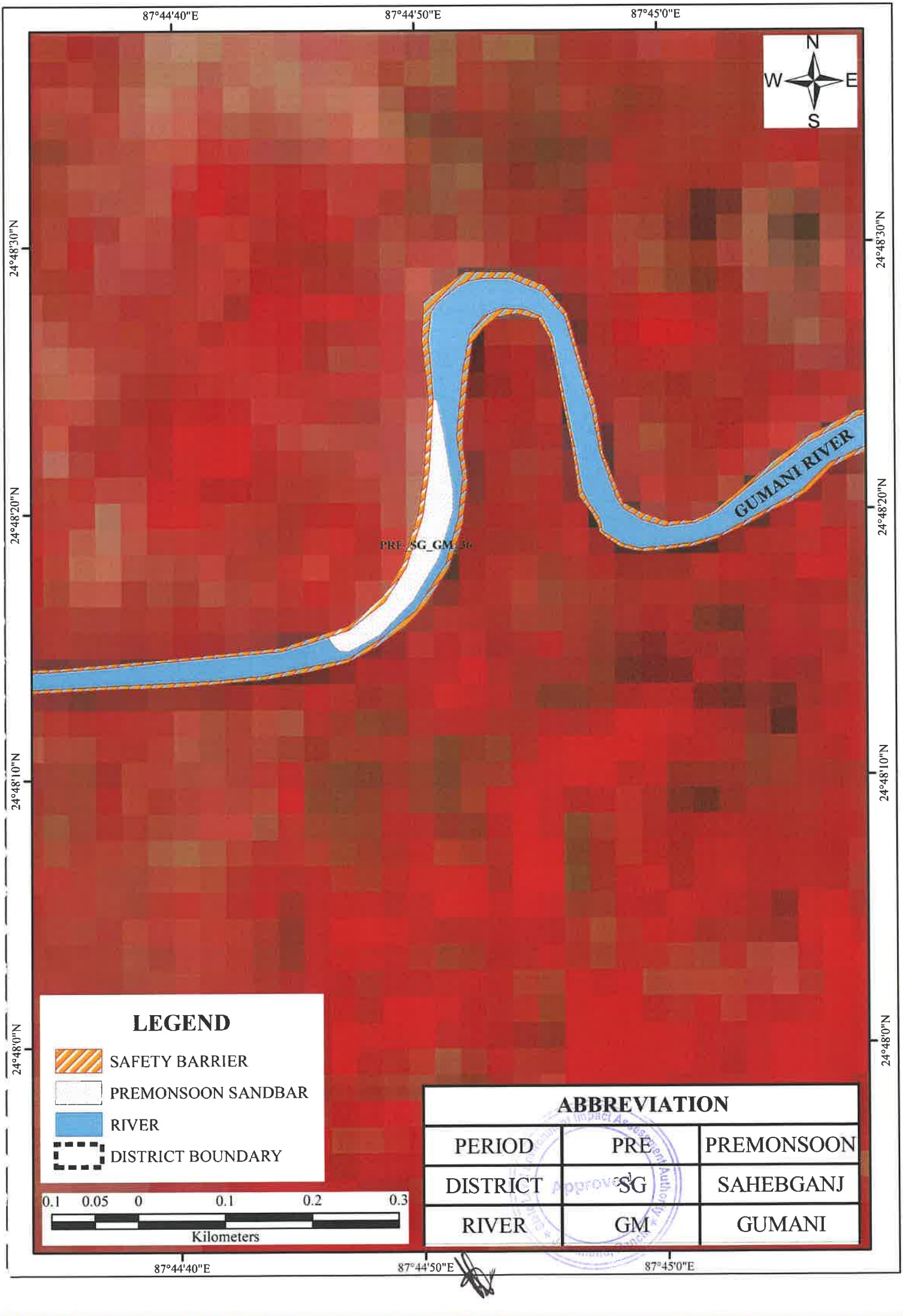

87°40'50"E
87°41'0"E
87°41'10"E
87°41'20"E
87°41'30"E
87°41'40"E
87°41'50"E
24°54'0"N
24°53'50"N
24°53'40"N
24°53'30"N
24°53'20"N
24°53'10"N
24°53'0"N
24°52'50"N
24°52'40"N
N
W
E
S
GUMANI RIVER
PRE_SG_GM_13
PRE_SG_GM_14
PRE_SG_GM_15
PRE_SG_GM_16
PRE_SG_GM_17
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.2 0.1 0 0.2 0.4 0.6
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°42'10"E
87°42'20"E
87°42'30"E
87°42'40"E
87°42'50"E
87°43'0"E
87°43'10"E
24°53'20"N
24°53'10"N
24°53'0"N
24°52'50"N
24°52'40"N
24°52'30"N
24°52'20"N
24°52'10"N
N
W
E
S
PRE_SG_GM_18
PRE_SG_GM_19
GUMANI RIVER
PRE_SG_GM_20
PRE_SG_GM_21
PRE_SG_GM_22
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.15 0.075 0 0.15 0.3 0.45
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°42'20"E
87°42'30"E
87°42'40"E
87°42'50"E
87°43'0"E
87°43'10"E
24°52'10"N
24°52'0"N
24°51'50"N
24°51'40"N
24°51'30"N
24°51'20"N
24°51'10"N
N
W
E
S
PRE_SG_GM_23
PRE_SG_GM_24
PRE_SG_GM_25
PRE_SG_GM_26
PRE_SG_GM_27
GUMANI RIVER
PRE_SG_GM_28
PRE_SG_GM_29
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.15 0.075 0 0.15 0.3 0.45
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°41'50"E
87°42'0"E
87°42'10"E
87°42'20"E
87°42'30"E
87°42'40"E
24°50'10"N
24°50'0"N
24°49'50"N
24°49'40"N
24°49'30"N
24°49'20"N
24°49'10"N
24°49'0"N
N
W
E
S
PRE_SG_GM_30
PRE_SG_GM_31
PRE_SG_GM_32
PRE_SG_GM_33
PRE_SG_GM_34
GUMANI RIVER
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.15 0.075 0 0.15 0.3 0.45
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°43'40"E
87°43'50"E
87°44'0"E
24°48'30"N
24°48'20"N
24°48'10"N
24°48'0"N
N
W
E
S
GUMANI RIVER
PRE_SG_GM_35
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°44'40"E
87°44'50"E
87°45'0"E
24°48'30"N
24°48'20"N
24°48'10"N
24°48'0"N
N
W
E
S
GUMANI RIVER
PRE_SG_GM_36
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

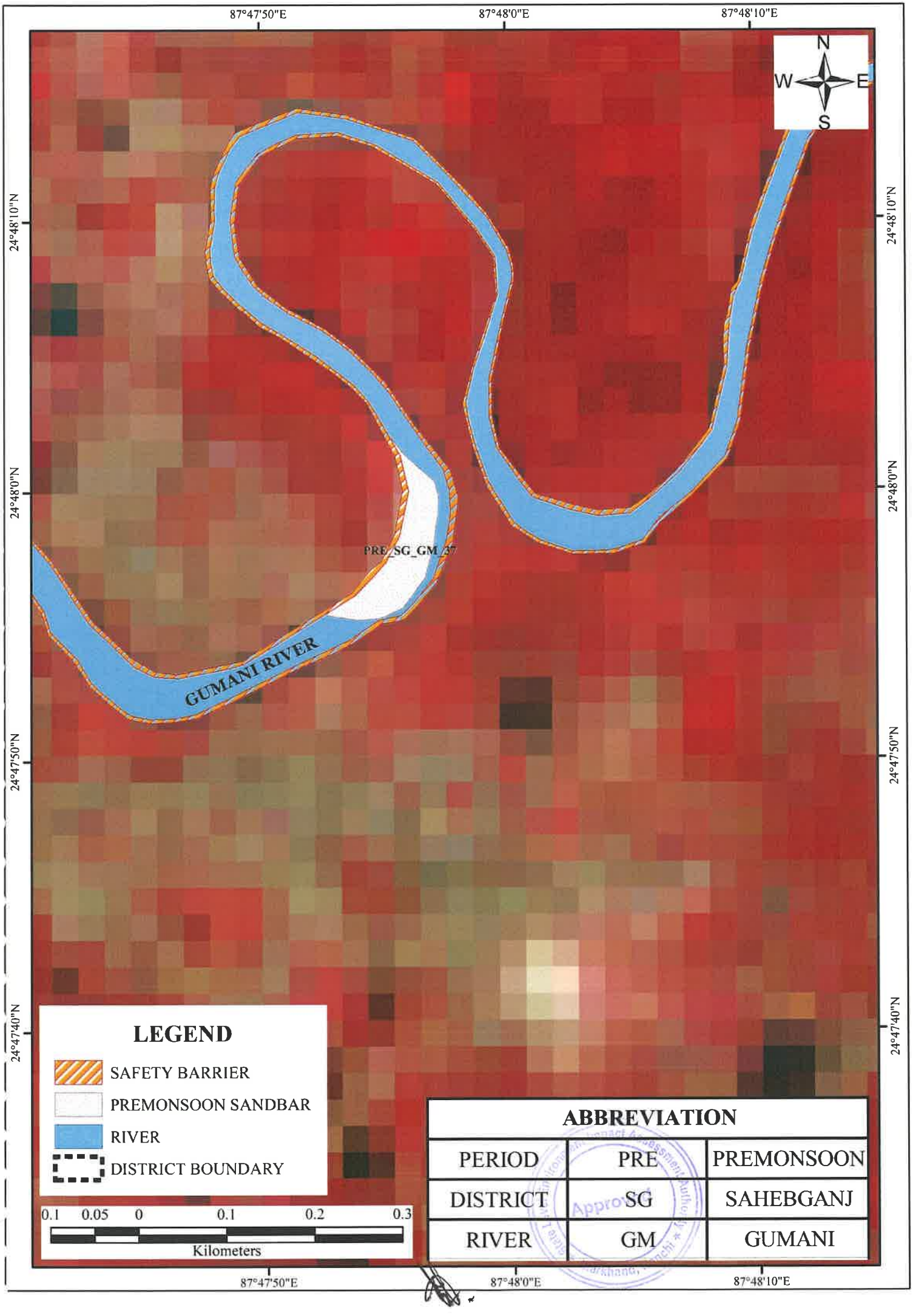
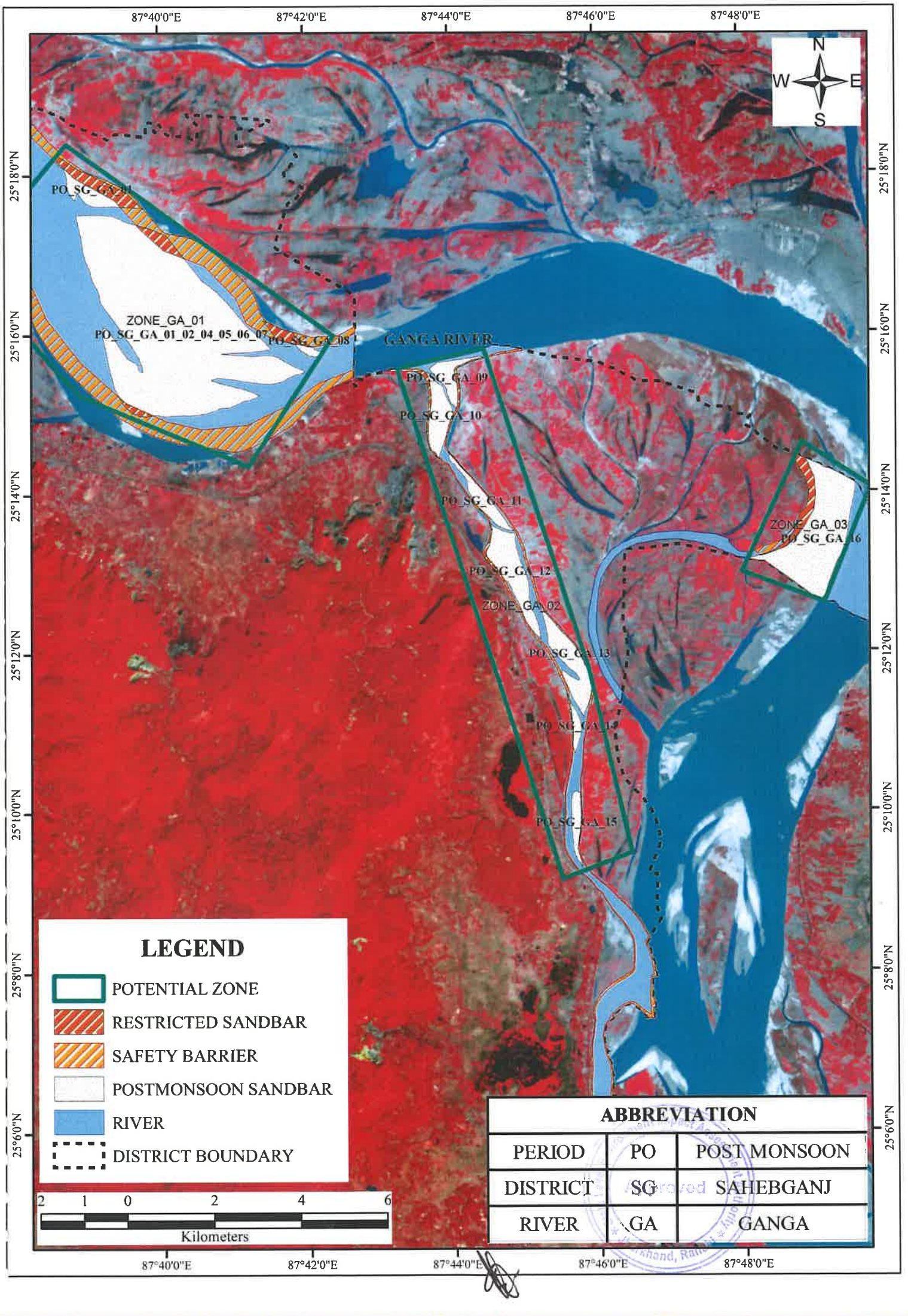
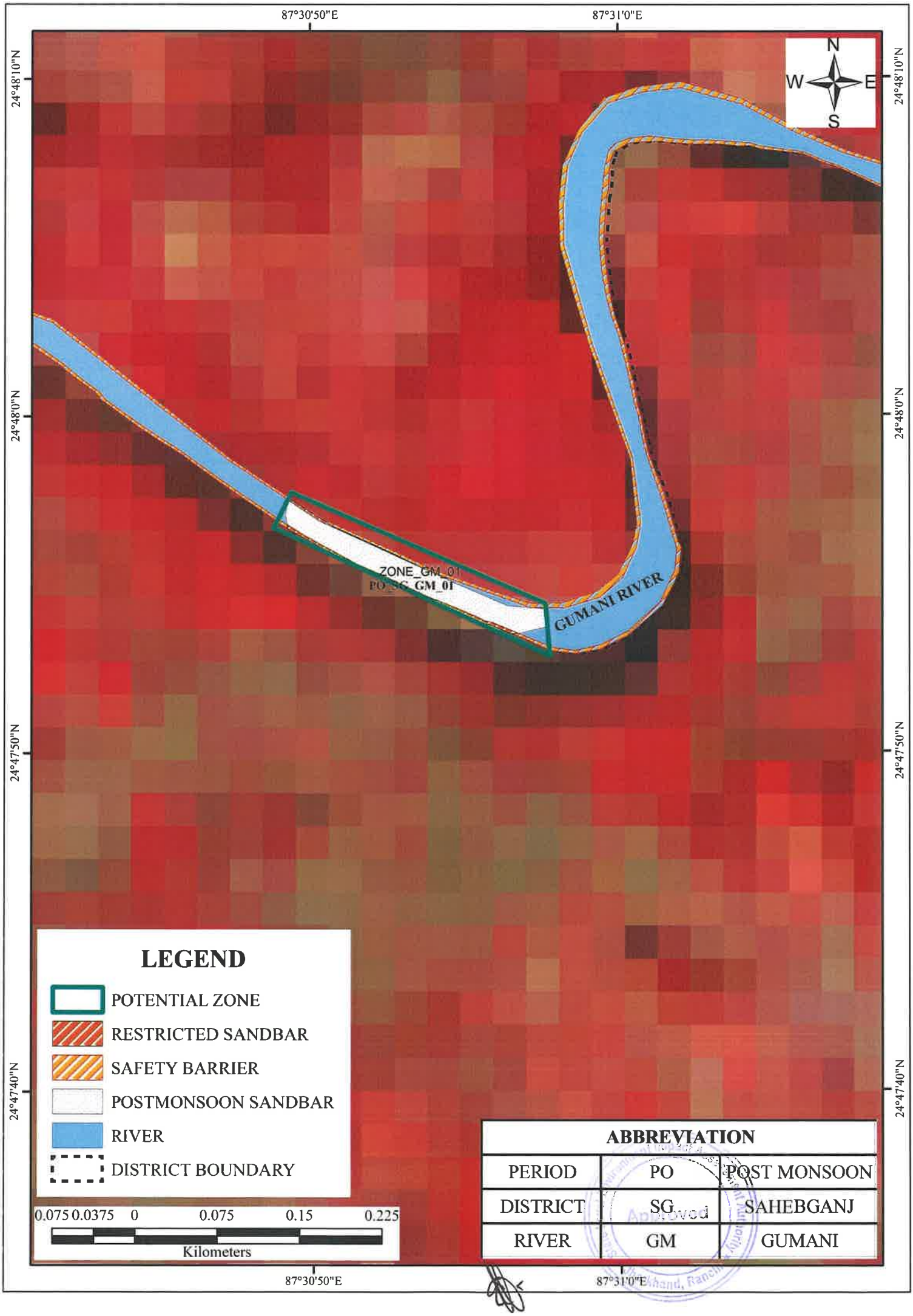
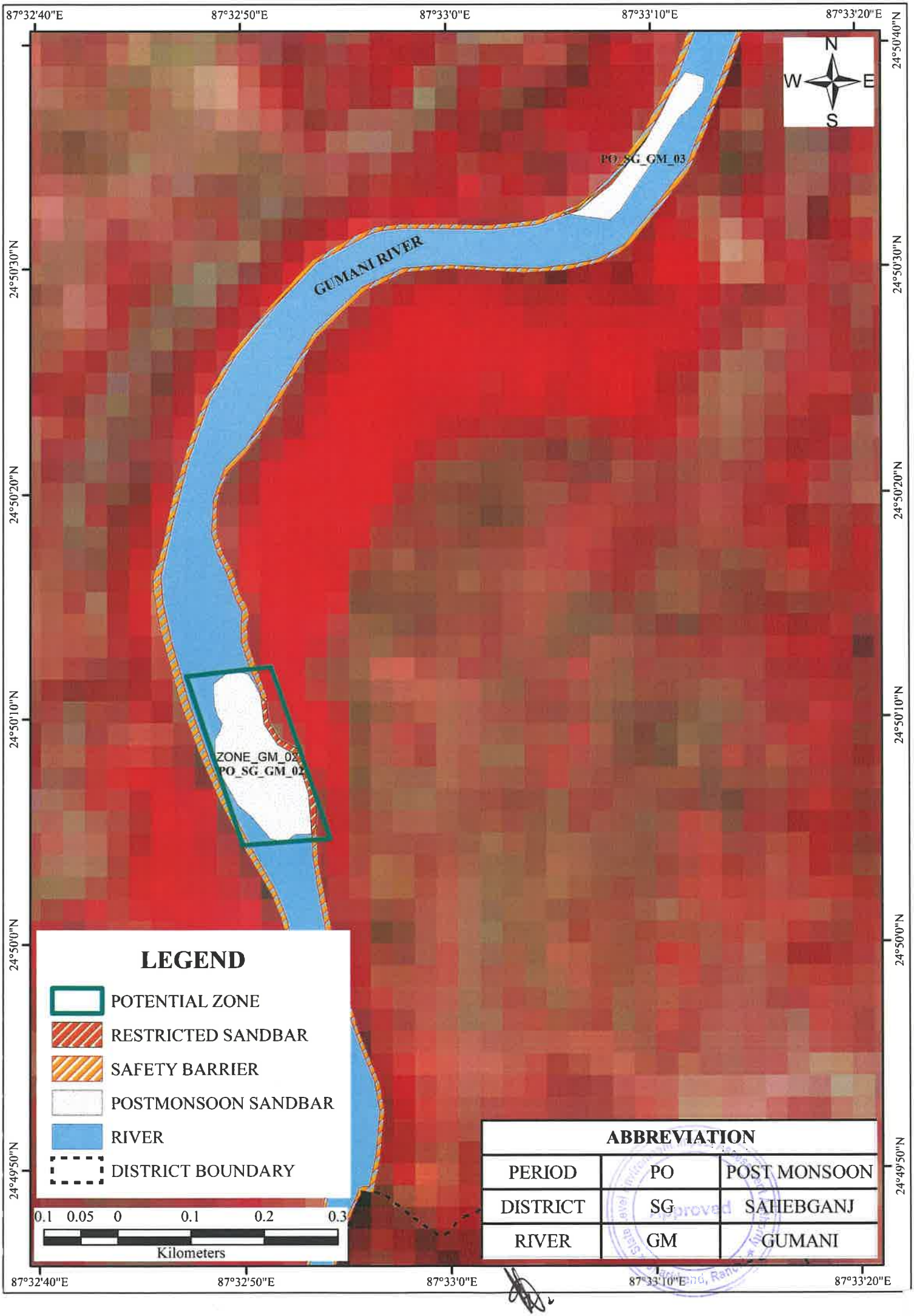

87°47'50"E
87°48'0"E
87°48'10"E
24°48'10"N
24°48'0"N
24°47'50"N
24°47'40"N
N
W
E
S
PRE_SG_GM_37
GUMANI RIVER
LEGEND
SAFETY BARRIER
PREMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PRE PREMONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

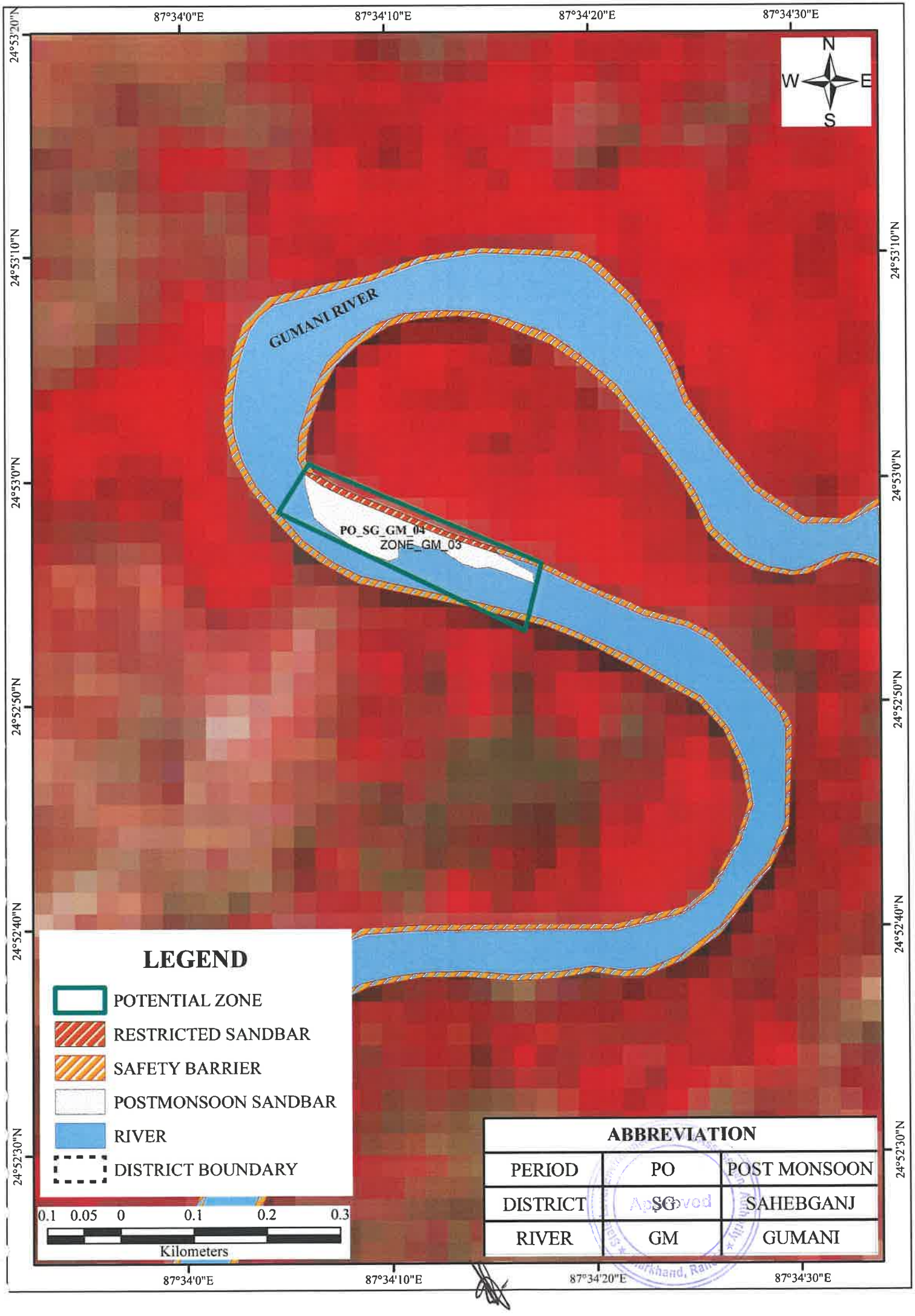
PLATE-B

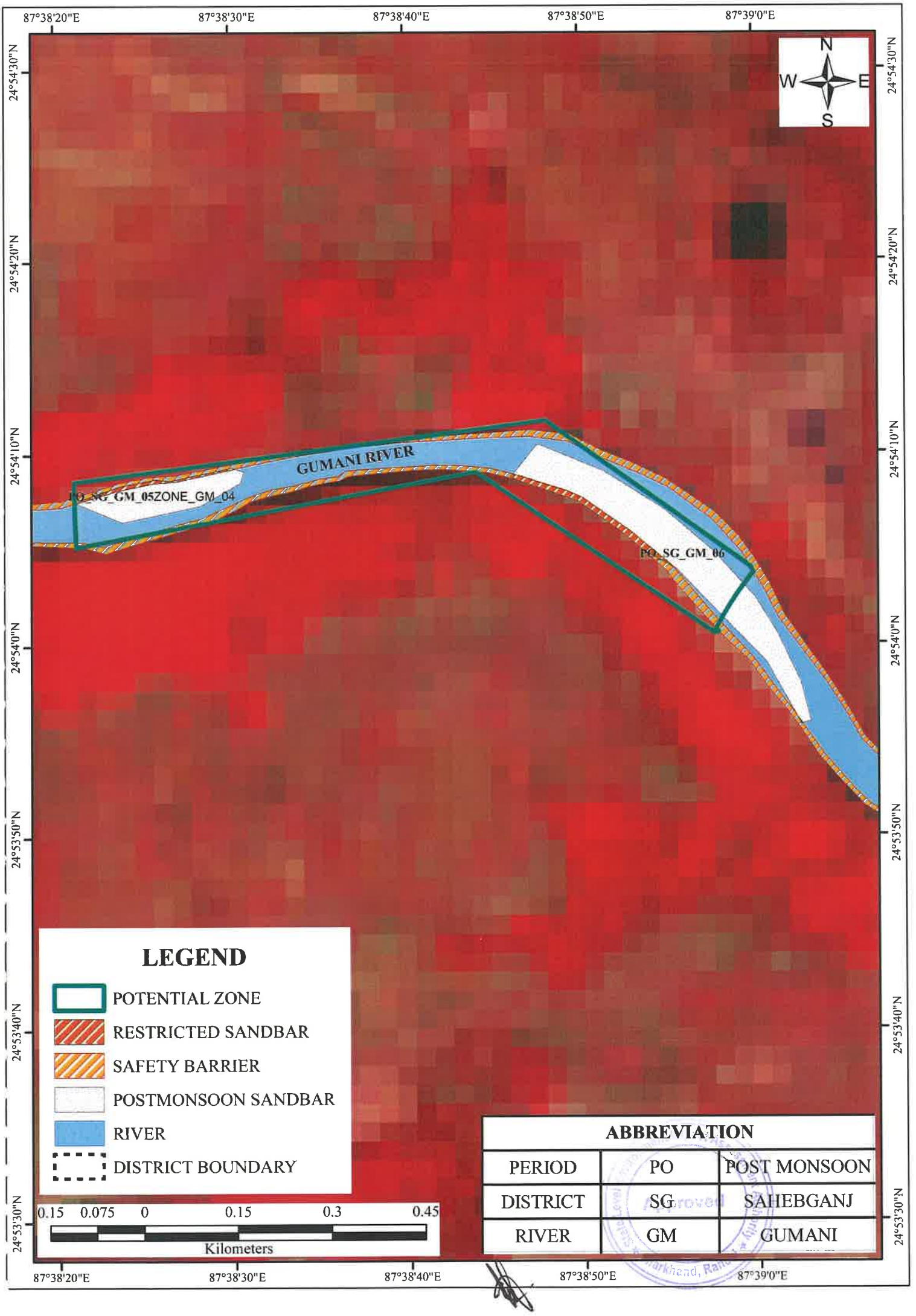
(Plate showing potential Zone in post-monsoon)

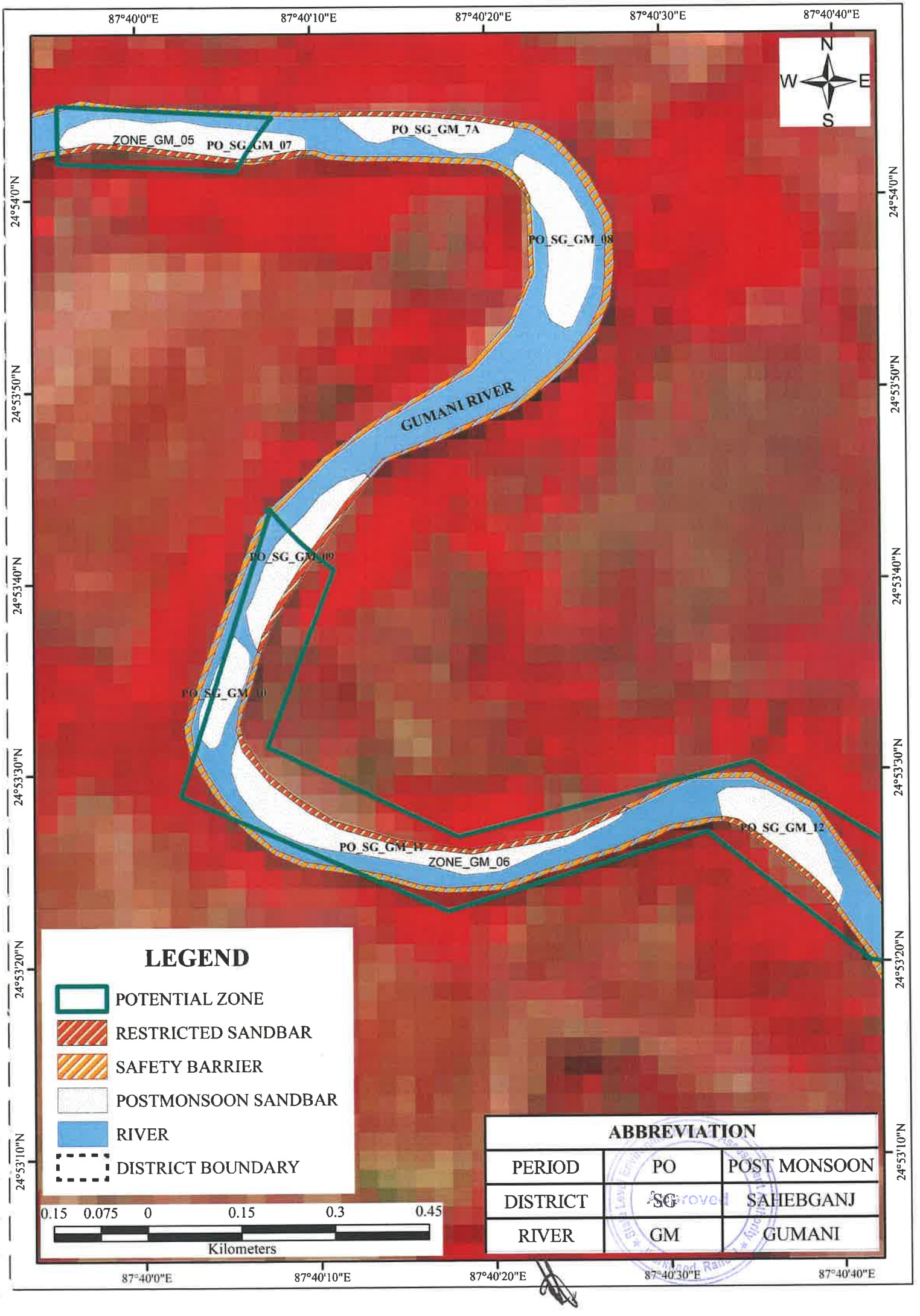

87°40'0"E
87°42'0"E
87°44'0"E
87°46'0"E
87°48'0"E
25°18'0"N
25°16'0"N
25°14'0"N
25°12'0"N
25°10'0"N
25°8'0"N
25°6'0"N
N
W
E
S
PO_SG_GA_01
ZONE_GA_01
PO_SG_GA_01_02_04_05_06_07
PO_SG_GA_08
GANGA RIVER
PO_SG_GA_09
PO_SG_GA_10
PO_SG_GA_11
ZONE_GA_03
PO_SG_GA_16
PO_SG_GA_12
ZONE_GA_02
PO_SG_GA_13
PO_SG_GA_14
PO_SG_GA_15
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
2 1 0 2 4 6
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GA GANGA

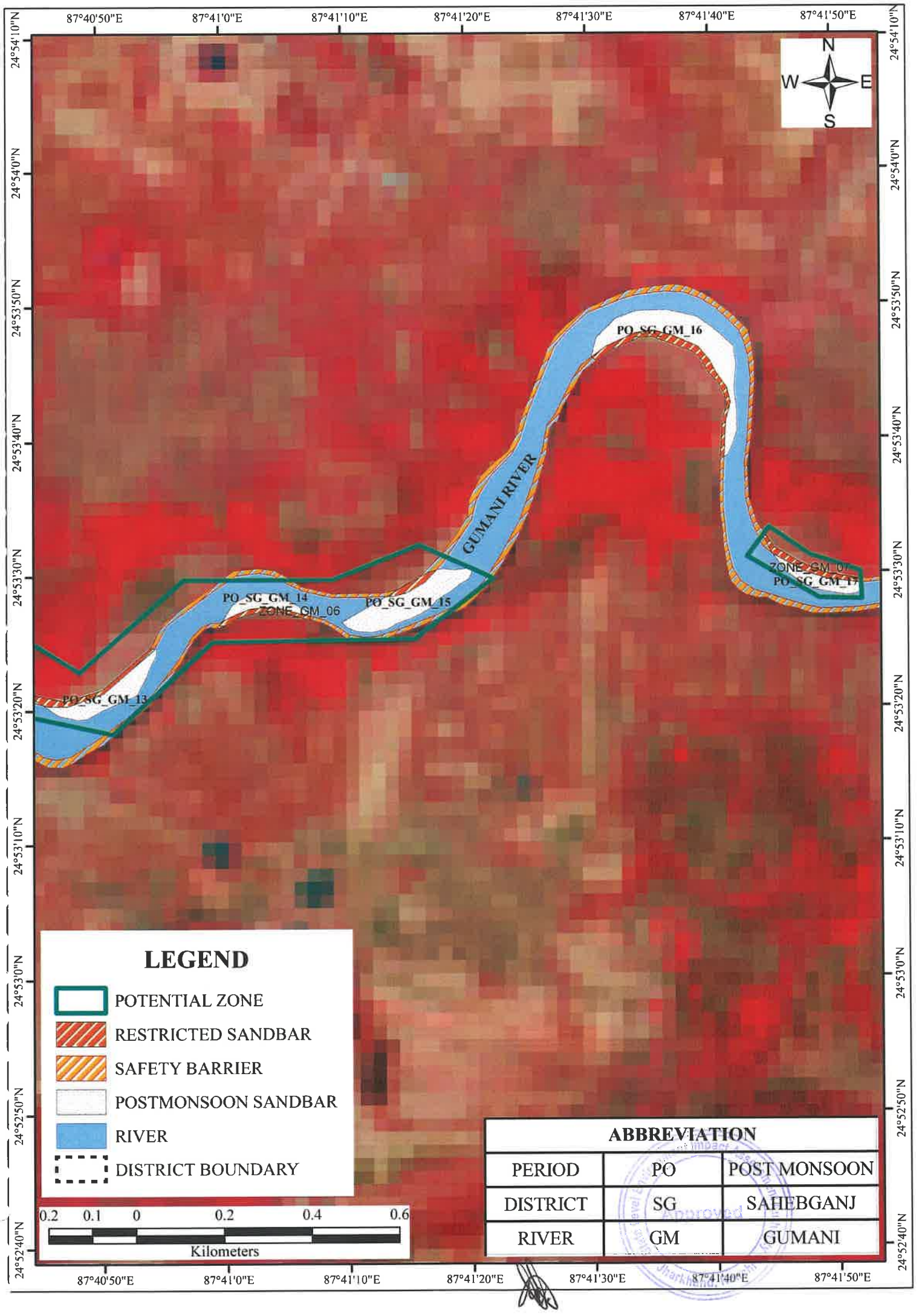

87°30'50"E
87°31'0"E
24°48'10"N
24°48'0"N
24°47'50"N
24°47'40"N
N
W
E
S
ZONE_GM_01
PO_SG_GM_01
GUMANI RIVER
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.075 0.0375 0 0.075 0.15 0.225
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

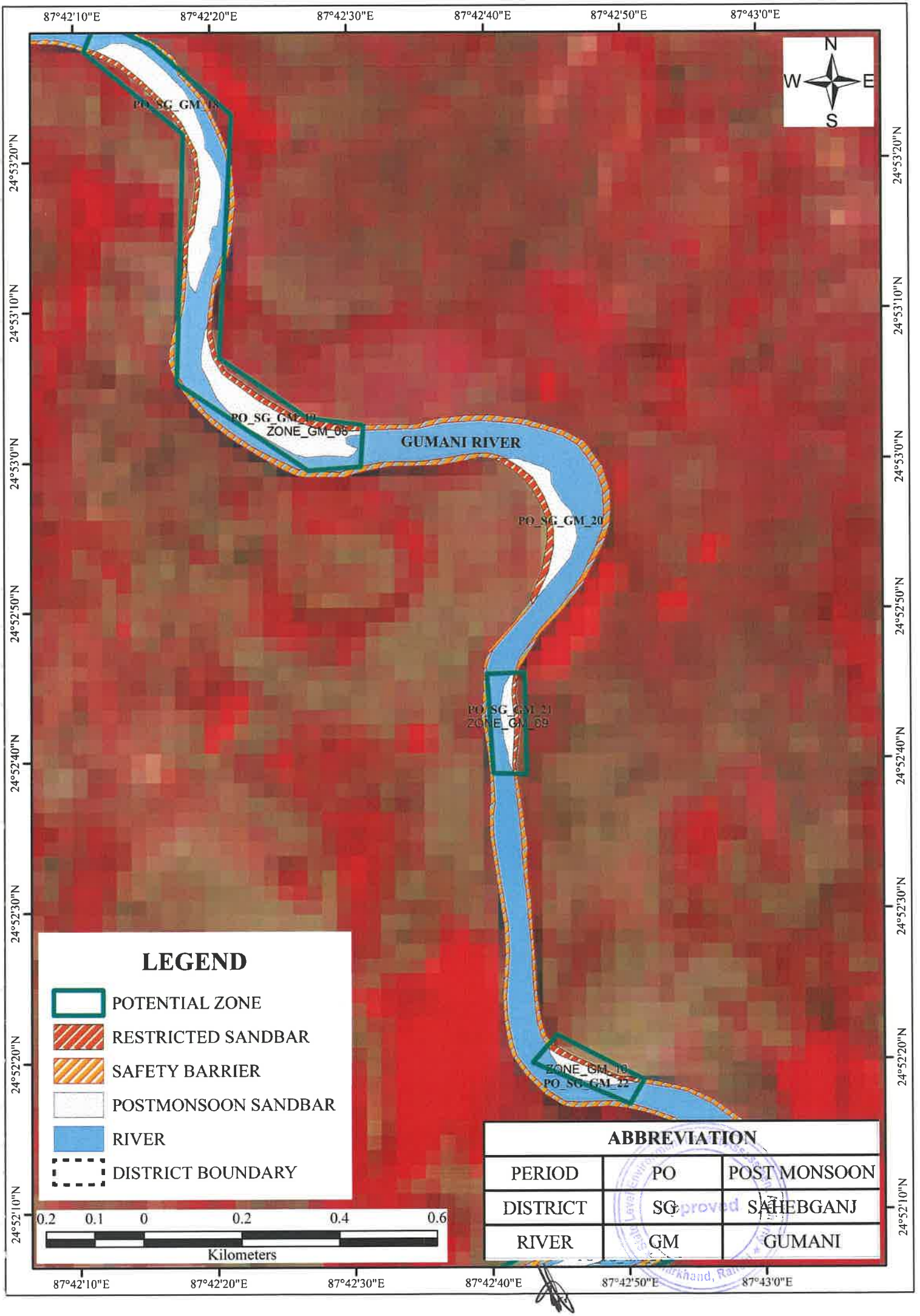

87°32'40"E
87°32'50"E
87°33'0"E
87°33'10"E
87°33'20"E
24°50'40"N
24°50'30"N
24°50'20"N
24°50'10"N
24°50'0"N
24°49'50"N
N
W
E
S
PO_SG_GM_03
GUMANI RIVER
ZONE_GM_02
PO_SG_GM_02
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

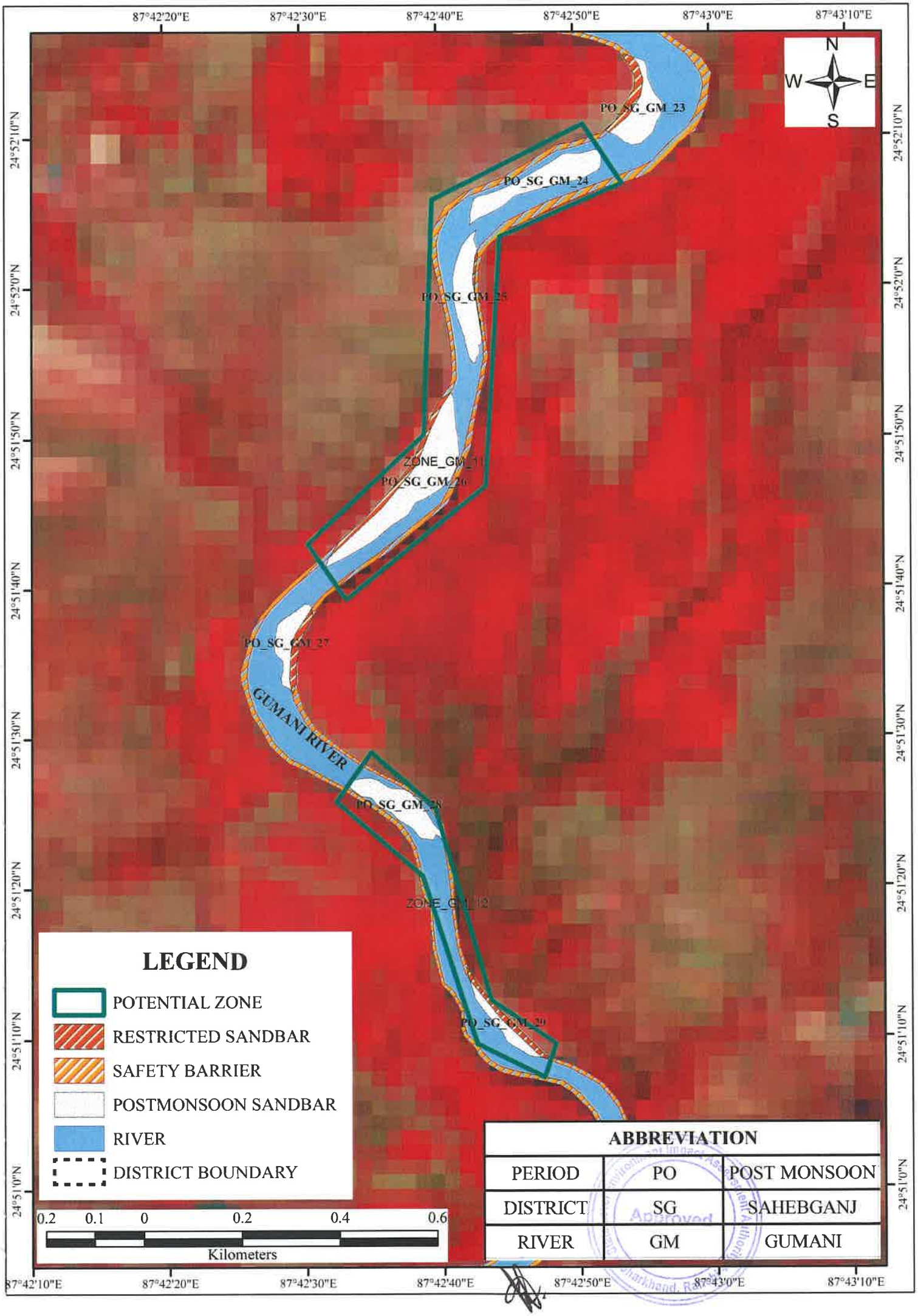

87°34'0"E
87°34'10"E
87°34'20"E
87°34'30"E
24°53'20"N
24°53'10"N
24°53'0"N
24°52'50"N
24°52'40"N
24°52'30"N
N
W
E
S
GUMANI RIVER
PO_SG_GM_04
ZONE_GM_03
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.1 0.05 0 0.1 0.2 0.3
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

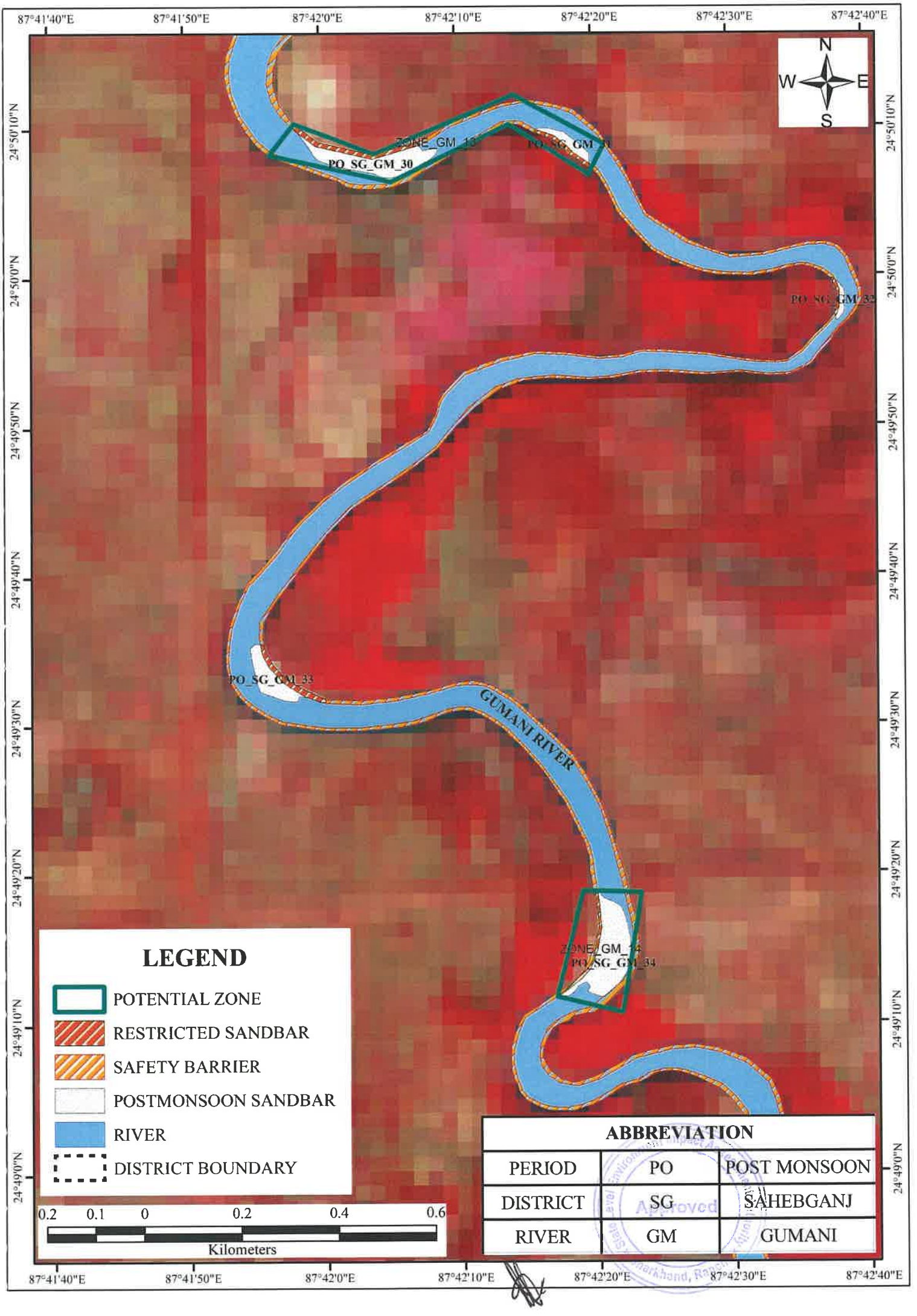

87°38'20"E
87°38'30"E
87°38'40"E
87°38'50"E
87°39'0"E
24°54'30"N
24°54'20"N
24°54'10"N
24°54'0"N
24°53'50"N
24°53'40"N
24°53'30"N
N
W
E
S
GUMANI RIVER
PO_SG_GM_05ZONE_GM_04
PO_SG_GM_06
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.15 0.075 0 0.15 0.3 0.45
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

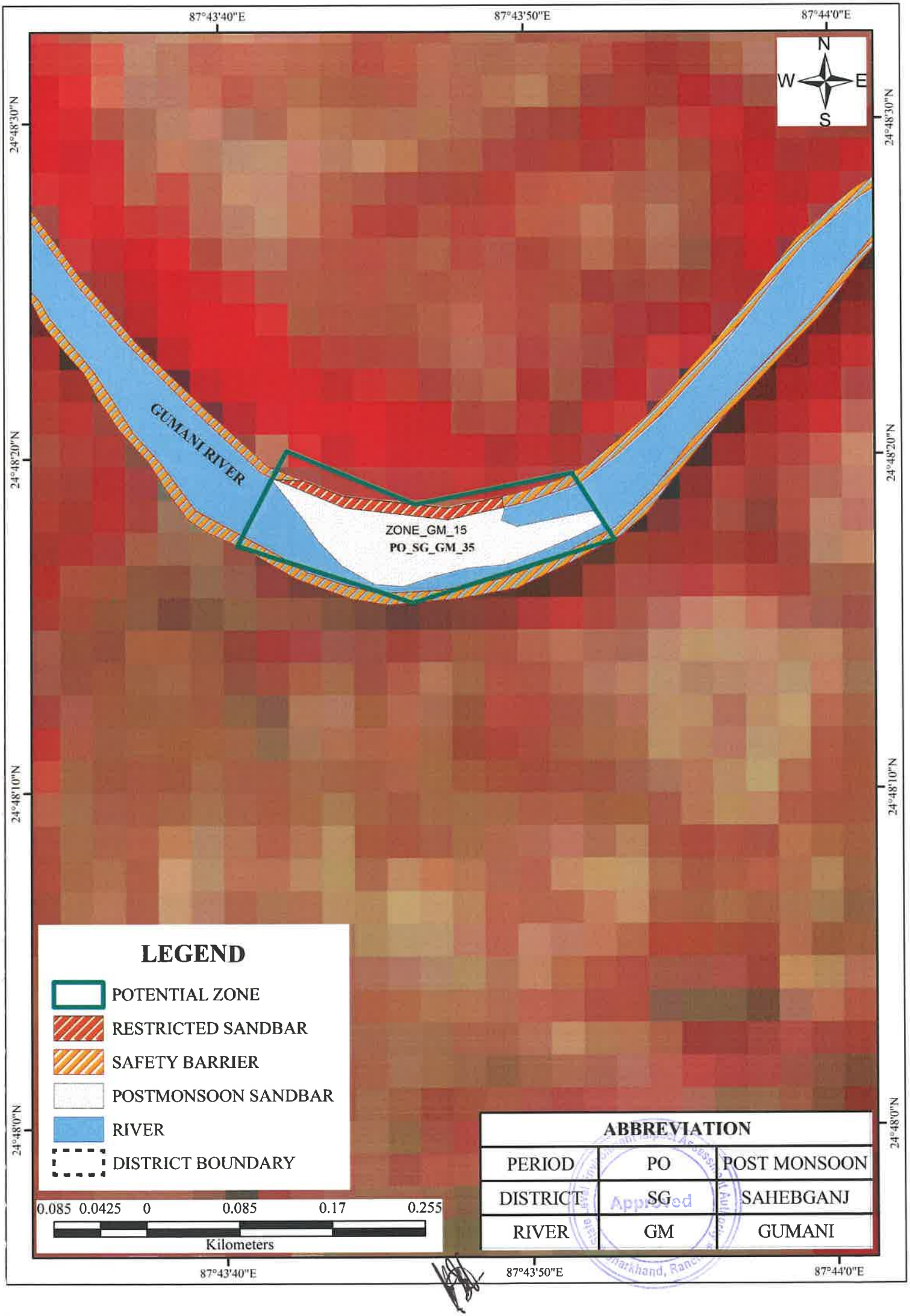

87°40'0"E
87°40'10"E
87°40'20"E
87°40'30"E
87°40'40"E
24°54'0"N
24°53'50"N
24°53'40"N
24°53'30"N
24°53'20"N
24°53'10"N
N
W
E
S
ZONE_GM_05
PO_SG_GM_07
PO_SG_GM_7A
PO_SG_GM_08
GUMANI RIVER
PO_SG_GM_09
PO_SG_GM_10
PO_SG_GM_12
PO_SG_GM_11
ZONE_GM_06
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.15 0.075 0 0.15 0.3 0.45
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

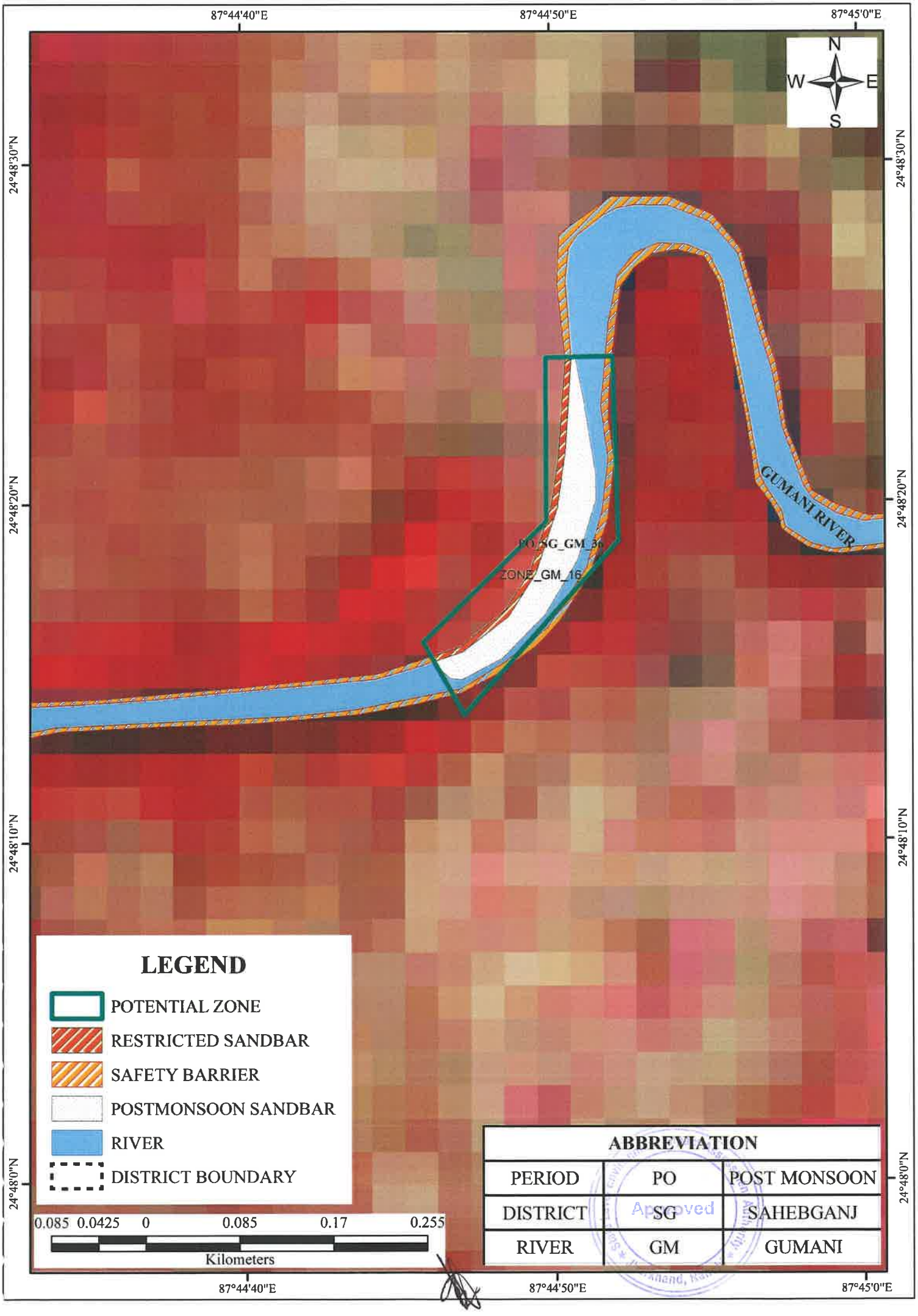

87°40'50"E
87°41'0"E
87°41'10"E
87°41'20"E
87°41'30"E
87°41'40"E
87°41'50"E
24°54'10"N
24°54'0"N
24°53'50"N
24°53'40"N
24°53'30"N
24°53'20"N
24°53'10"N
24°53'0"N
24°52'50"N
24°52'40"N
N
W
E
S
GUMANI RIVER
PO_SG_GM_16
PO_SG_GM_14
ZONE_GM_06
PO_SG_GM_15
PO_SG_GM_13
ZONE_GM_07
PO_SG_GM_17
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.2 0.1 0 0.2 0.4 0.6
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°42'10"E
87°42'20"E
87°42'30"E
87°42'40"E
87°42'50"E
87°43'0"E
24°53'20"N
24°53'10"N
24°53'0"N
24°52'50"N
24°52'40"N
24°52'30"N
24°52'20"N
24°52'10"N
N
W
E
S
PO_SG_GM_18
PO_SG_GM_19
ZONE_GM_08
GUMANI RIVER
PO_SG_GM_20
PO_SG_GM_21
ZONE_GM_09
ZONE_GM_10
PO_SG_GM_22
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.2 0.1 0 0.2 0.4 0.6
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°42'20"E
87°42'30"E
87°42'40"E
87°42'50"E
87°43'0"E
87°43'10"E
24°52'10"N
24°52'0"N
24°51'50"N
24°51'40"N
24°51'30"N
24°51'20"N
24°51'10"N
24°51'0"N
N
W
E
S
PO_SG_GM_23
PO_SG_GM_24
PO_SG_GM_25
ZONE_GM_11
PO_SG_GM_26
PO_SG_GM_27
GUMANI RIVER
PO_SG_GM_28
ZONE_GM_12
PO_SG_GM_29
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.2 0.1 0 0.2 0.4 0.6
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°41'40"E
87°41'50"E
87°42'0"E
87°42'10"E
87°42'20"E
87°42'30"E
87°42'40"E
24°50'10"N
24°50'0"N
24°49'50"N
24°49'40"N
24°49'30"N
24°49'20"N
24°49'10"N
24°49'0"N
N
W
E
S
ZONE_GM_30
PO_SG_GM_30
PO_SG_GM_33
GUMANI RIVER
ZONE_GM_34
PO_SG_GM_34
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.2 0.1 0 0.2 0.4 0.6
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI


87°43'40"E
87°43'50"E
87°44'0"E
24°48'30"N
24°48'20"N
24°48'10"N
24°48'0"N
N
W
E
S
GUMANI RIVER
ZONE_GM_15
PO_SG_GM_35
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.085 0.0425 0 0.085 0.17 0.255
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI
Approved


87°44'40"E
87°44'50"E
87°45'0"E
24°48'30"N
24°48'20"N
24°48'10"N
24°48'0"N
N
W
E
S
GUMANI RIVER
PO_SG_GM_16
ZONE_GM_16
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.085 0.0425 0 0.085 0.17 0.255
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI
Approved

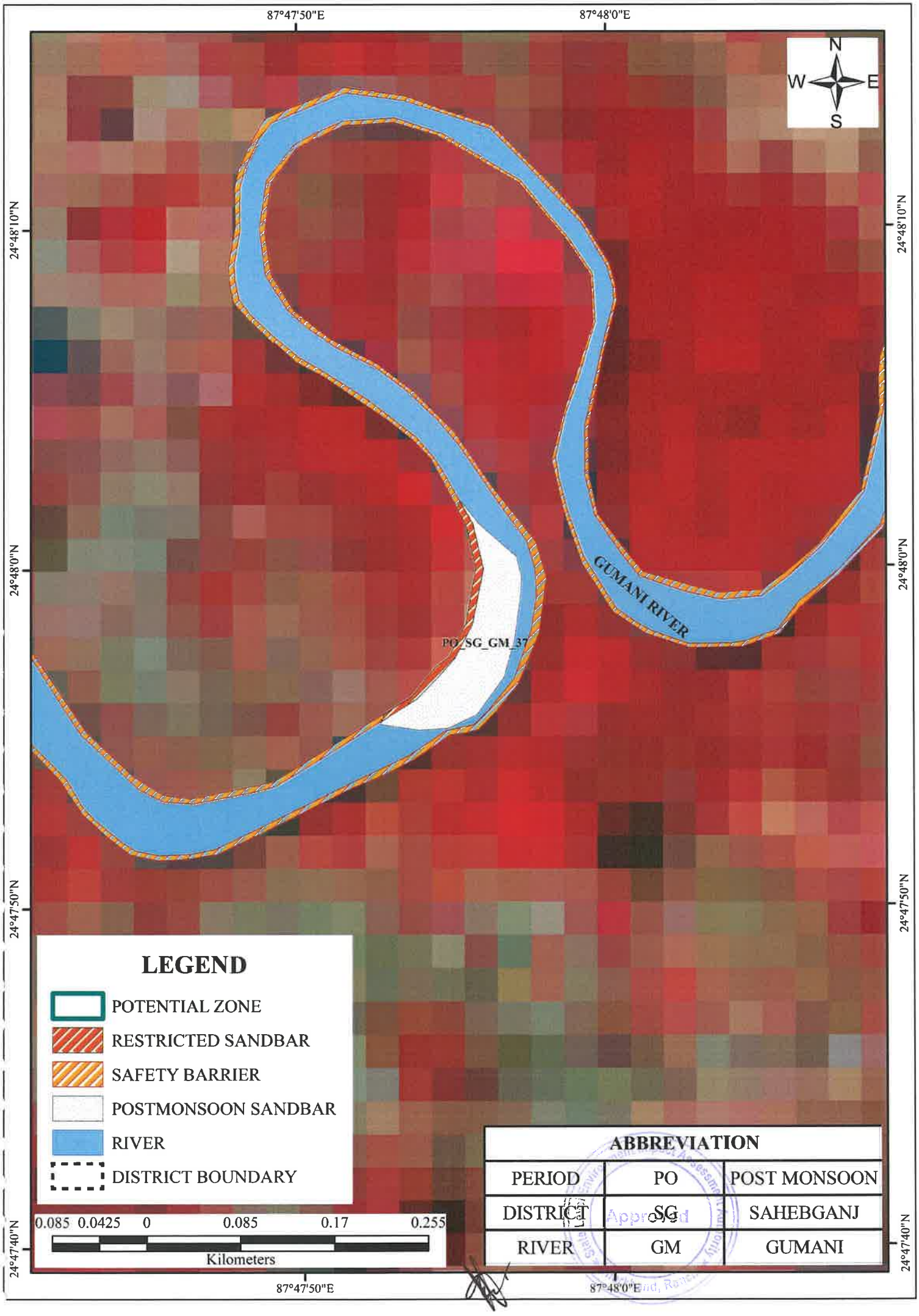
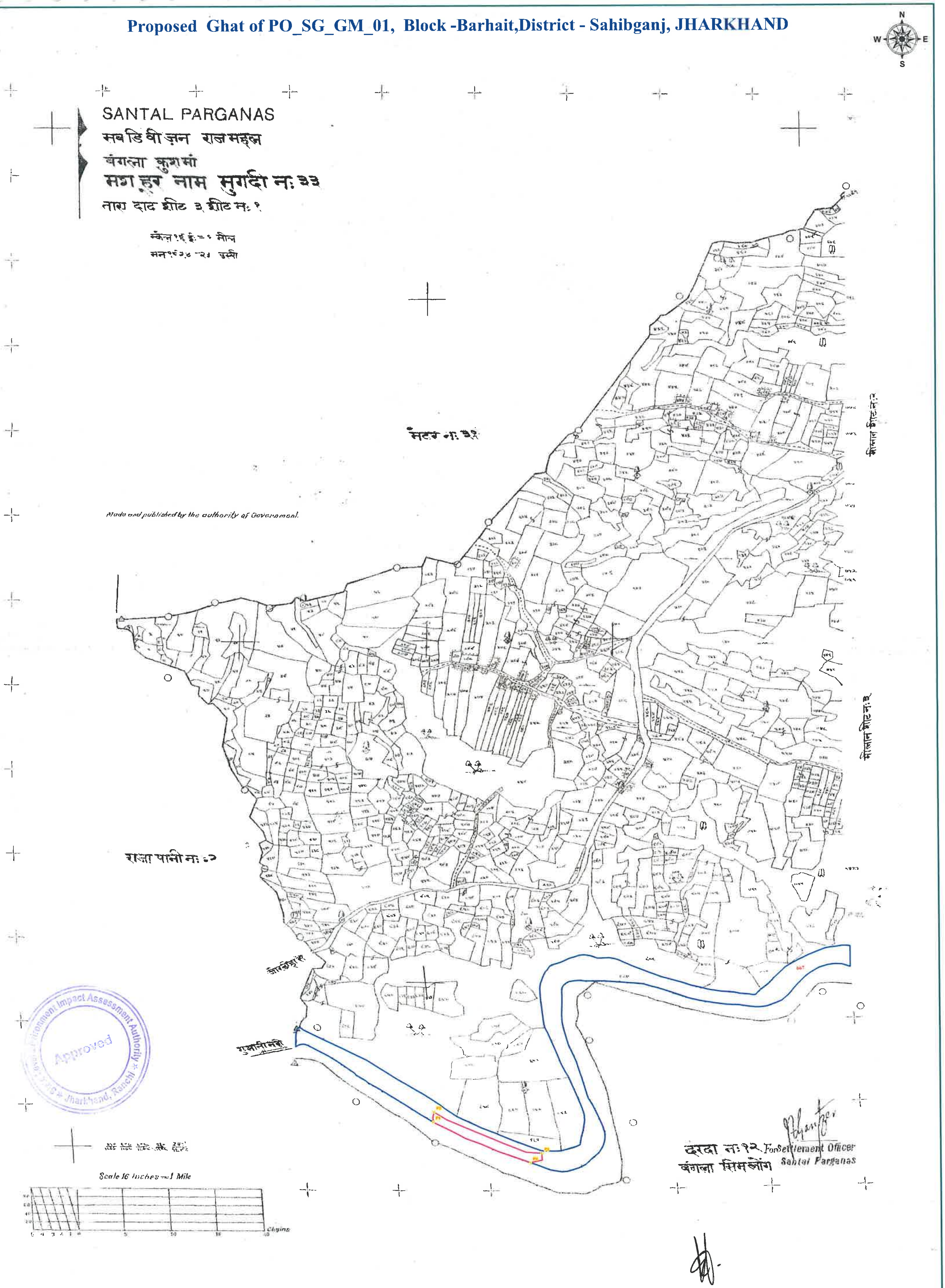

87°47'50"E
87°48'0"E
24°48'10"N
24°48'0"N
24°47'50"N
24°47'40"N
N
W
E
S
GUMANI RIVER
PO_SG_GM_37
LEGEND
POTENTIAL ZONE
RESTRICTED SANDBAR
SAFETY BARRIER
POSTMONSOON SANDBAR
RIVER
DISTRICT BOUNDARY
0.085 0.0425 0 0.085 0.17 0.255
Kilometers
ABBREVIATION
PERIOD PO POST MONSOON
DISTRICT SG SAHEBGANJ
RIVER GM GUMANI

PLATE-C

(Cadastral Map of Gumani River)

Proposed Ghat of PO_SG_GM_01, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Mugdi	33	1	667	17.659	River	
			TOTAL AREA		17.659		

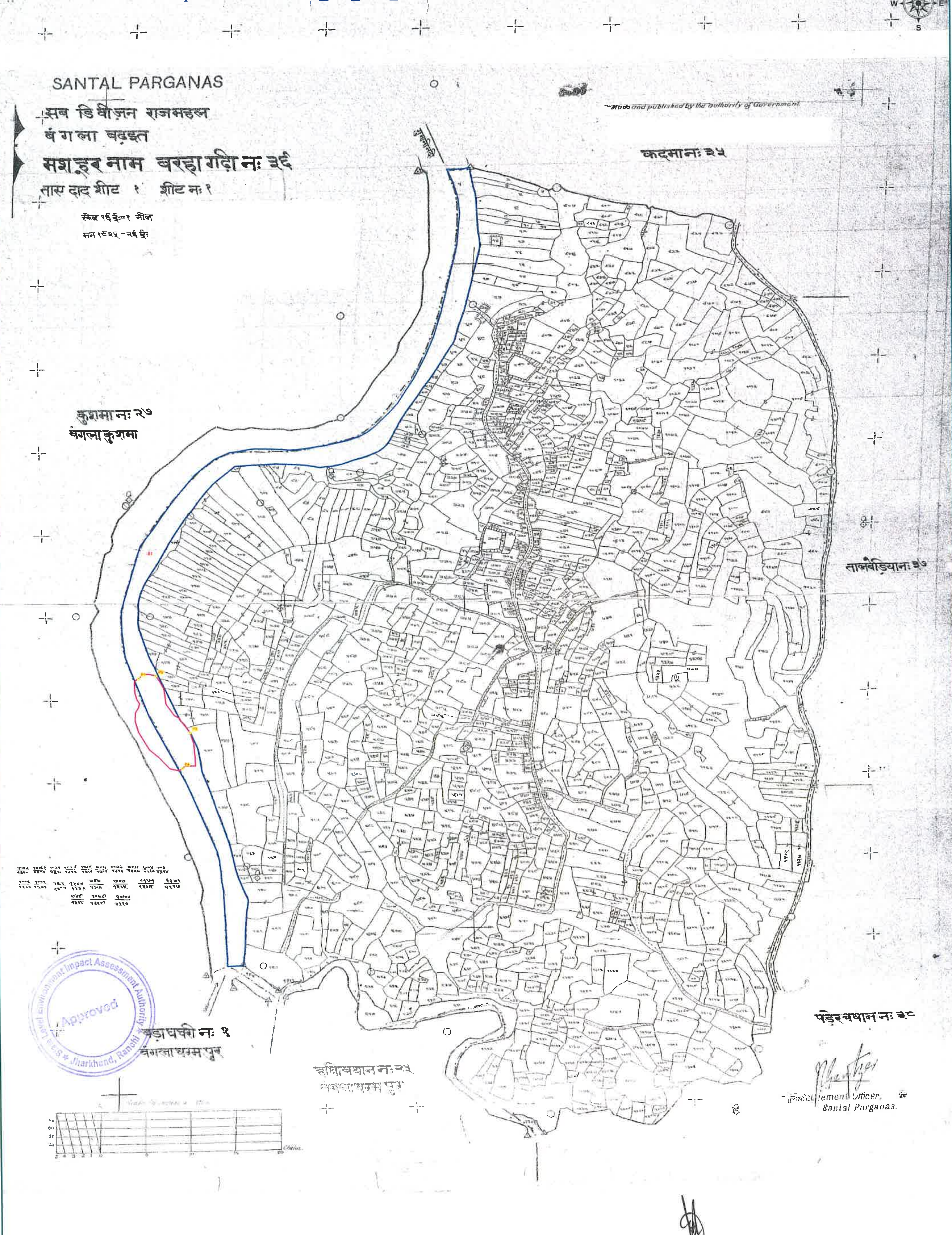
Proposed Area in Ha of 01- 0.551

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	551916.1097	2742799.216	24°47' 56.725" N	87°30' 49.119" E
P2	551917.647	2742823.193	24°47' 57.505" N	87°30' 49.177" E
P3	552152.2289	2742723.789	24°47' 54.244" N	87°30' 57.519" E
P4	552127.5354	2742701.504	24°47' 53.523" N	87°30' 56.636" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_02, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Baragarhi	36	1	1	23.7825	River	
				TOTAL AREA	23.7825		

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	555259.8213	2746966.653	24°50' 11.792" N	87°32' 48.804" E
P2	555298.03	2746972.431	24°50' 11.975" N	87°32' 50.166" E
P3	555372.1859	2746834.566	24°50' 7.483" N	87°32' 52.788" E
P4	555354.9783	2746747.8	24°50' 4.664" N	87°32' 52.163" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Area in Ha of 02- 1.821

Proposed Ghat of PO_SG_GM_02, Block -Barhait,District - Sahibganj, JHARKHAND

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Kushuma	27	2	1326	32.7904	River	
			TOTAL AREA		32.7904		

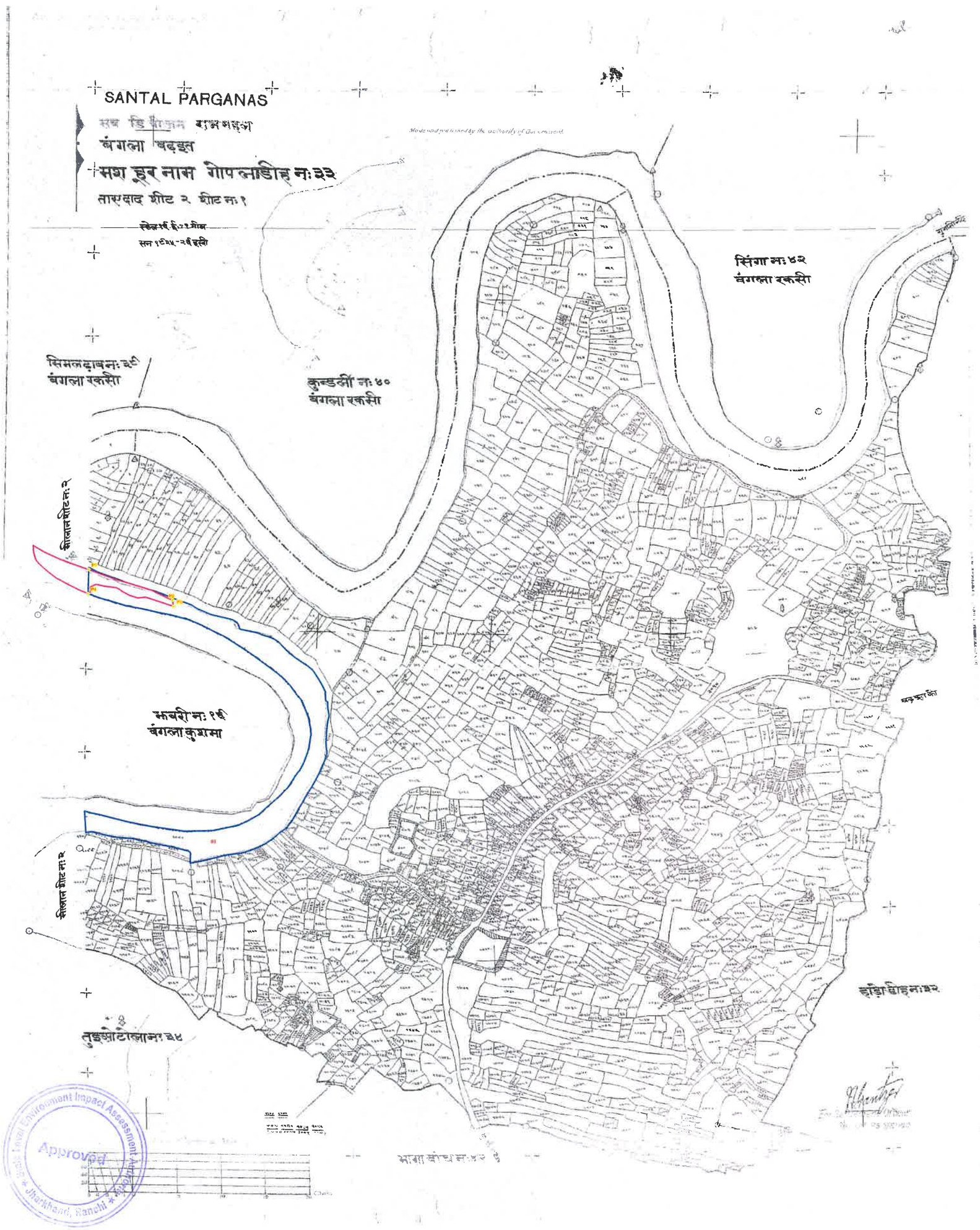
Proposed Area in Ha of 02- 1.821

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	555259.8213	2746966.653	24°50' 11.792" N	87°32' 48.804" E
P2	555354.9783	2746747.8	24°50' 4.664" N	87°32' 52.163" E
P3	555283.2321	2746792.928	24°50' 6.141" N	87°32' 49.613" E
P4	555252.2433	2746882.912	24°50' 9.070" N	87°32' 48.522" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_04, Block -Barhait,District - Sahibganj, JHARKHAND



PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	557526.7382	2752098.847	24°52' 58.343" N	87°34' 10.331" E
P2	557714.1945	2752021.736	24°52' 55.810" N	87°34' 17.001" E
P3	557716.9761	2752006.77	24°52' 55.323" N	87°34' 17.098" E
P4	557525.0078	2752039.242	24°52' 56.405" N	87°34' 10.261" E

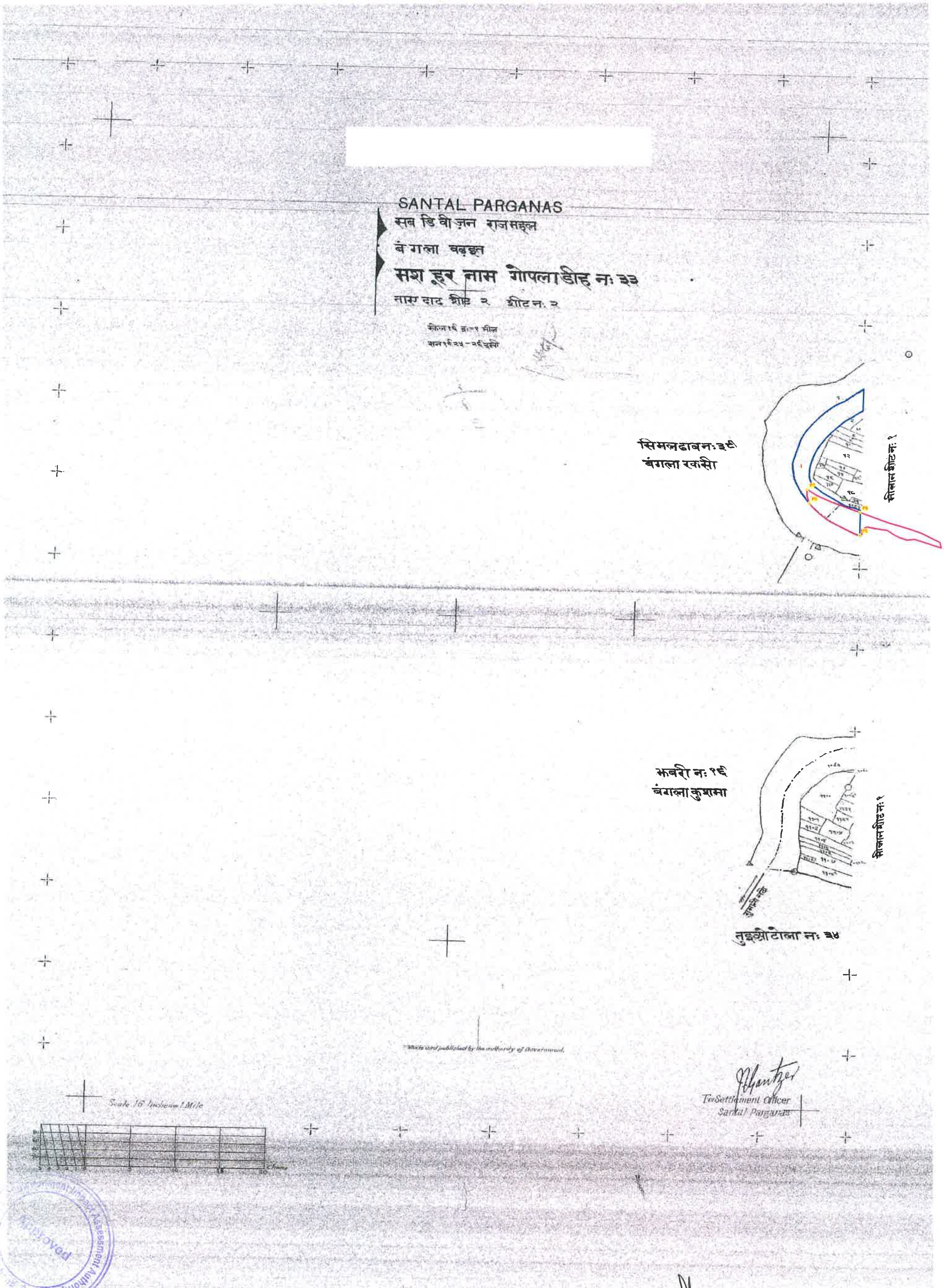
BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Gopaladih	33	1	1	17.1879	River	
			TOTAL AREA		17.1879		

Proposed Area in Ha of 04- 1.093

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_04, Block -Barhait,District - Sahibganj, JHARKHAND



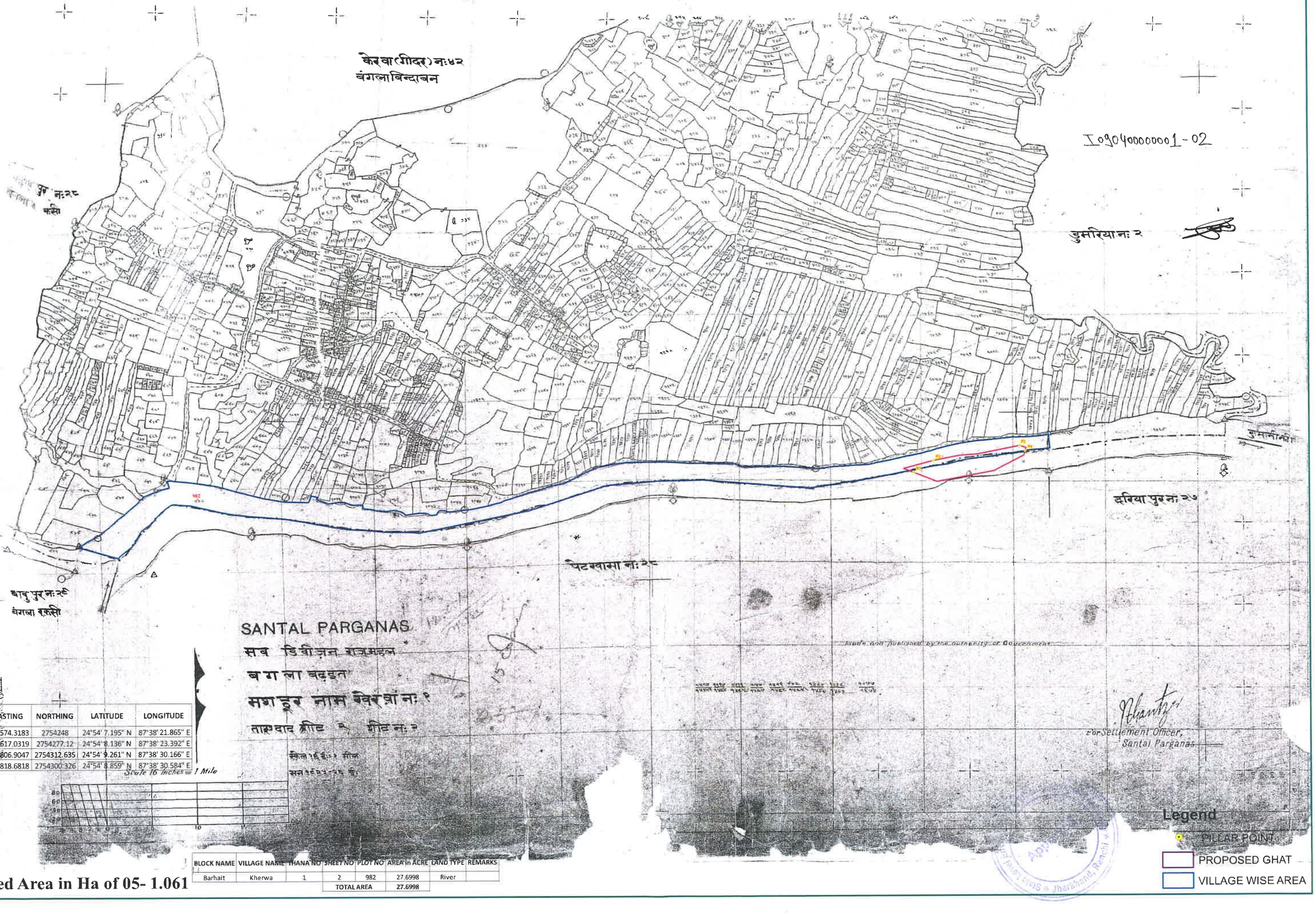
BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Gopaladih	33	2	1	5.0284	River	
			TOTAL AREA		5.0284		

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P5	557445.376	2752084.682	24°52' 57.893" N	87°34' 7.429" E
P6	557407.1109	2752124.118	24°52' 59.181" N	87°34' 6.071" E
P7	557402.3306	2752158.691	24°53' 0.305" N	87°34' 5.906" E
P8	557477.4544	2752119.025	24°52' 59.005" N	87°34' 8.578" E

Legend
- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Area in Ha of 04- 1.093

Proposed Ghat of PO_SG_GM_05, Block -Pathna,District - Sahibganj, JHARKHAND



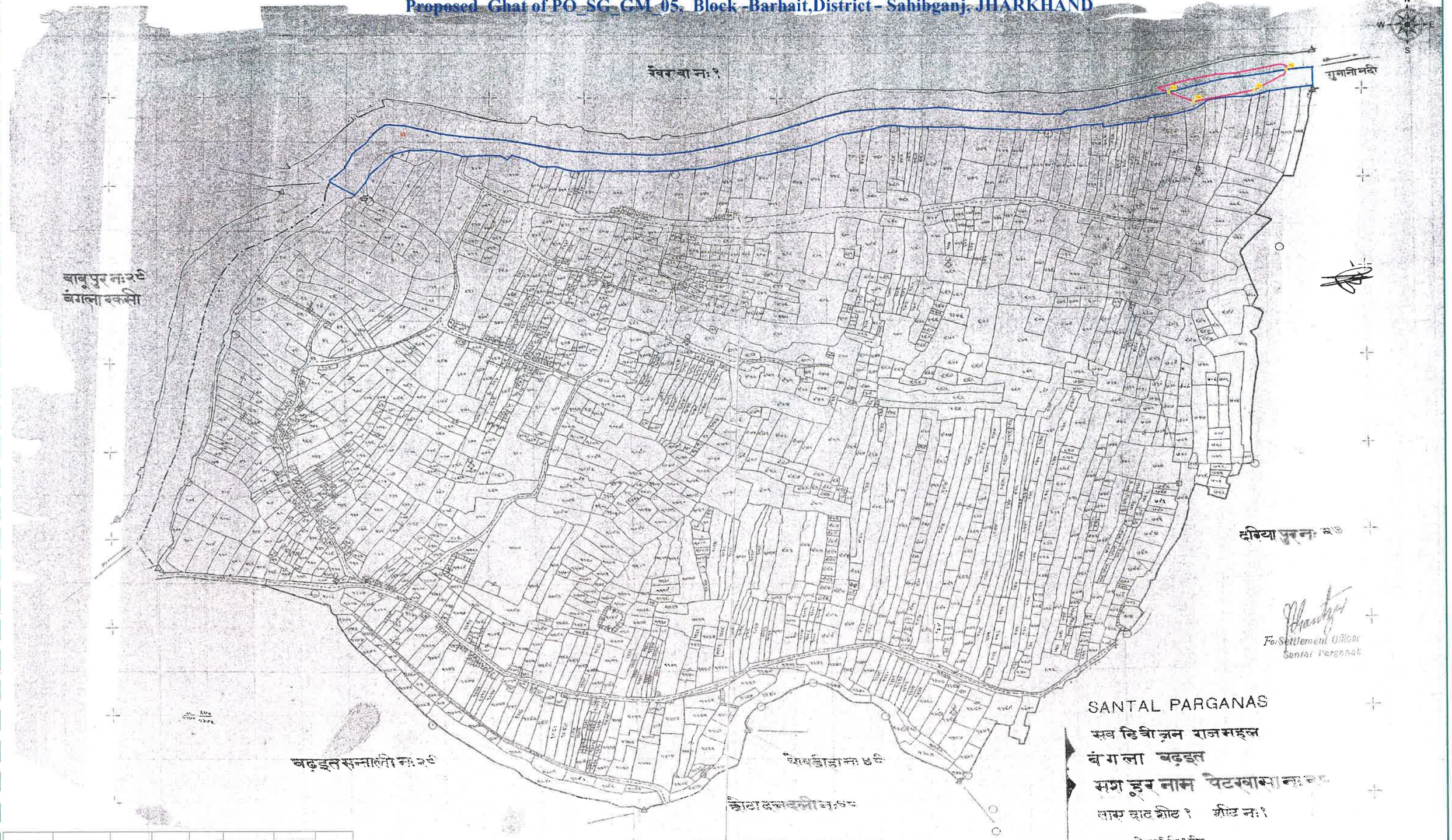
I09040000001-02

PILLAR NO.	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	564574.3183	2754248	24°54' 7.195" N	87°38' 21.865" E
P2	564617.0319	2754277.12	24°54' 8.136" N	87°38' 23.392" E
P3	564806.9047	2754312.635	24°54' 9.261" N	87°38' 30.166" E
P4	564818.6818	2754300.326	24°54' 8.859" N	87°38' 30.584" E

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Kherwa	1	2	982	27.6998	River	
			TOTAL AREA		27.6998		

Proposed Area in Ha of 05- 1.061

Proposed Ghat of PO_SG_GM_05, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Petakhasa	28	1	1	22.9137	River	
			TOTAL AREA		22.9137		

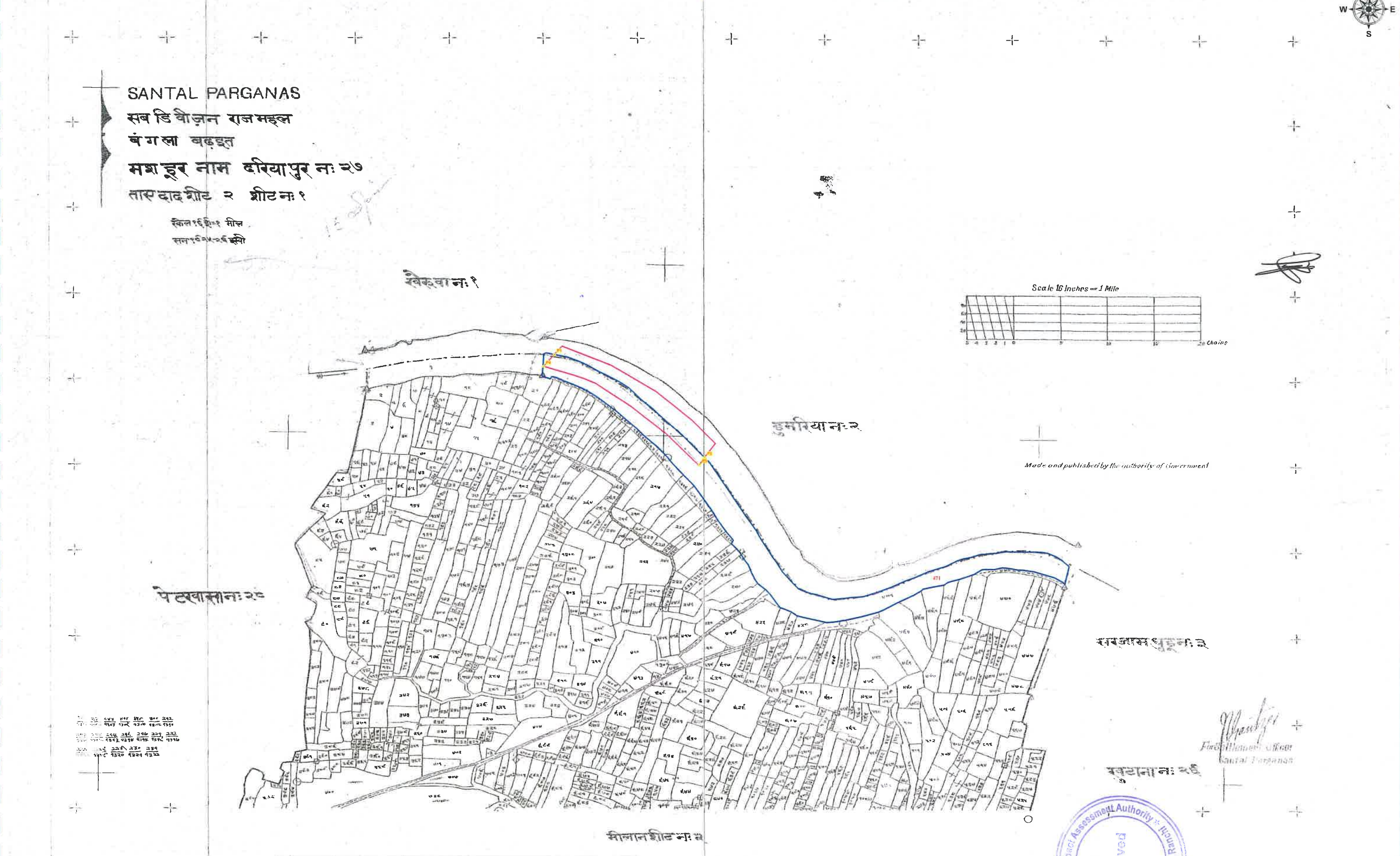
PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	564574.3183	2754248	24°54' 7.195" N	87°38' 21.865" E
P2	564818.6818	2754300.326	24°54' 8.859" N	87°38' 30.584" E
P3	564752.0313	2754253.107	24°54' 7.334" N	87°38' 28.200" E
P4	564625.5518	2754226.563	24°54' 6.491" N	87°38' 23.687" E

Proposed Area in Ha of 05- 1.061

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_06, Block -Barhait,District - Sahibganj, JHARKHAND

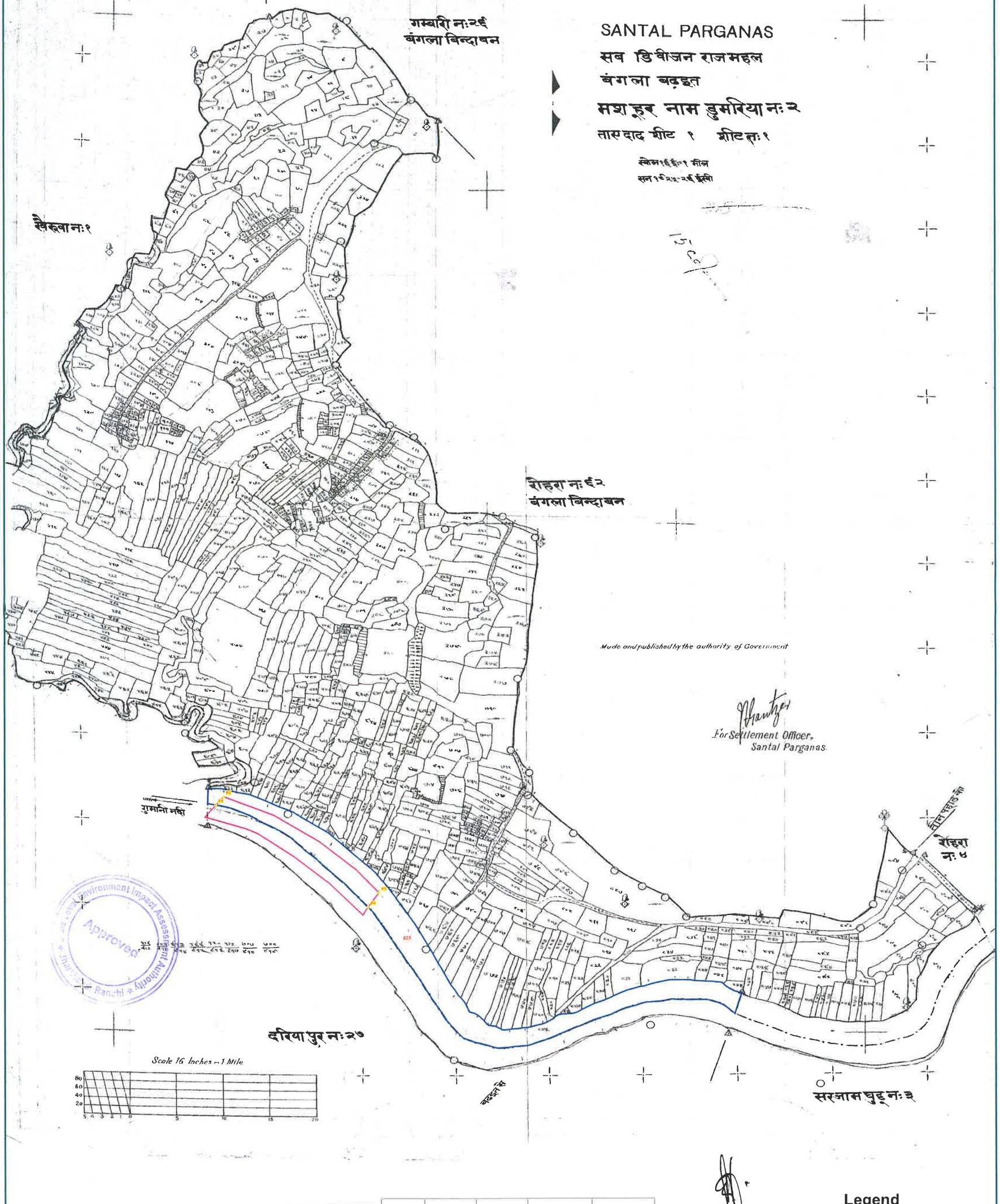


PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	565274.9457	2754331.646	24°54' 9.807" N	87°38' 46.853" E
P2	565599.6345	2754092.529	24°54' 1.983" N	87°38' 58.386" E
P3	565589.0367	2754074.848	24°54' 1.410" N	87°38' 58.005" E
P4	565251.765	2754303.463	24°54' 8.895" N	87°38' 46.022" E

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA In ACRE	LAND TYPE	REMARKS
Barhait	Dariapur	27	1	471	17.8249	River	
			TOTAL AREA		17.8249		

Proposed Area in Ha of 06- 2.381

Proposed Ghat of PO_SG_GM_06, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Dumaria	2	1	825	17.2373	River	
			TOTAL AREA		17.2373		

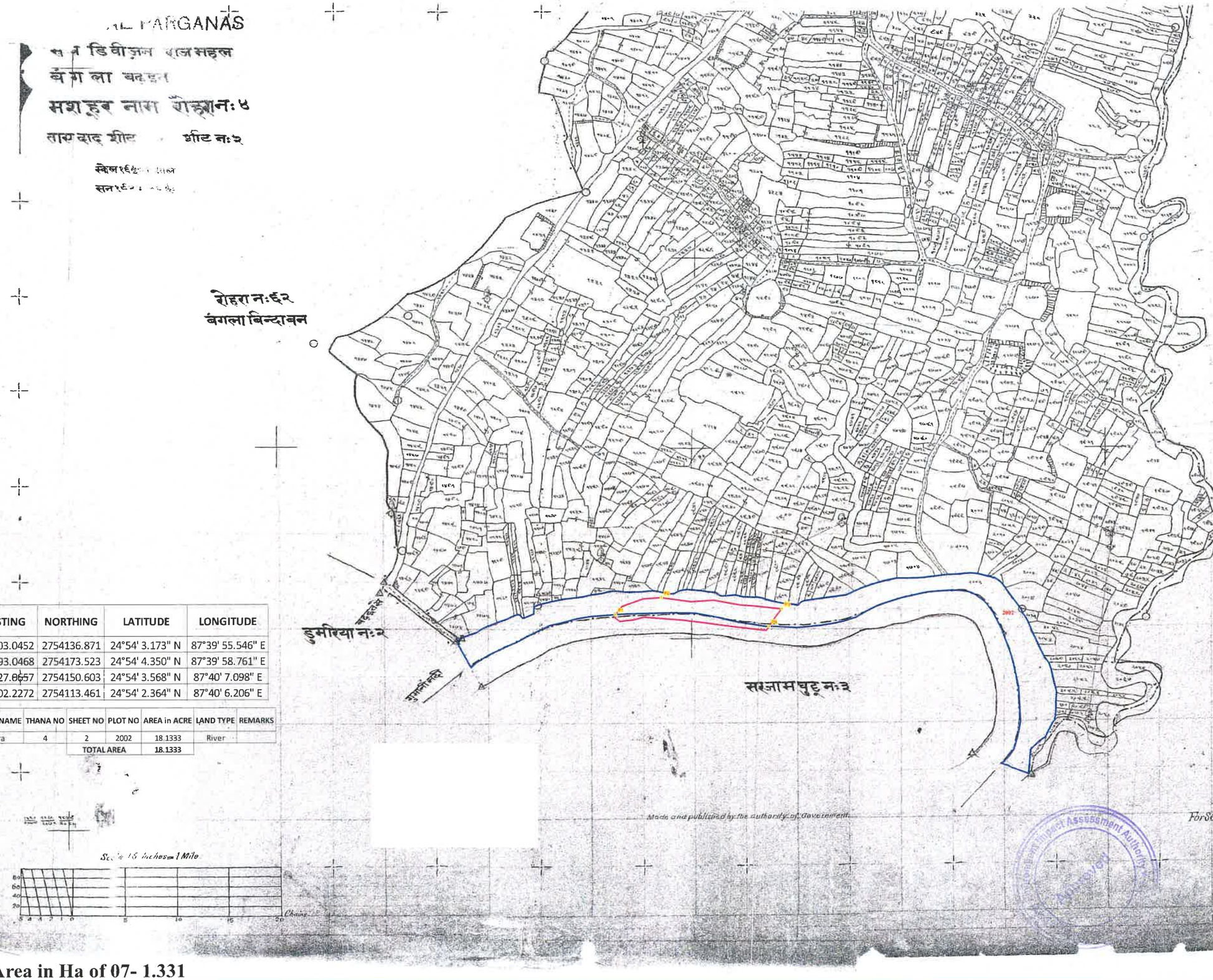
Proposed Area in Ha of 06- 2.381

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	565274.9457	2754331.646	24°54' 9.807" N	87°38' 46.853" E
P2	565291.2722	2754351.495	24°54' 10.450" N	87°38' 47.438" E
P3	565622.4536	2754125.823	24°54' 3.062" N	87°38' 59.205" E
P4	565599.6345	2754092.529	24°54' 1.983" N	87°38' 58.386" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_07, Block -Barhait,District - Sahibganj, JHARKHAND



PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	567203.0452	2754136.871	24°54' 3.173" N	87°39' 55.546" E
P2	567293.0468	2754173.523	24°54' 4.350" N	87°39' 58.761" E
P3	567527.0657	2754150.603	24°54' 3.568" N	87°40' 7.098" E
P4	567502.2272	2754113.461	24°54' 2.364" N	87°40' 6.206" E

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Rohra	4	2	2002	18.1333	River	
			TOTAL AREA		18.1333		

Legend
- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Area in Ha of 07- 1.331

Proposed Ghat of PO_SG_GM_07,09, Block -Barhait,District - Sahibganj, JHARKHAND

SANTAL PARGANAS

सब डिवीज़न राजमहल

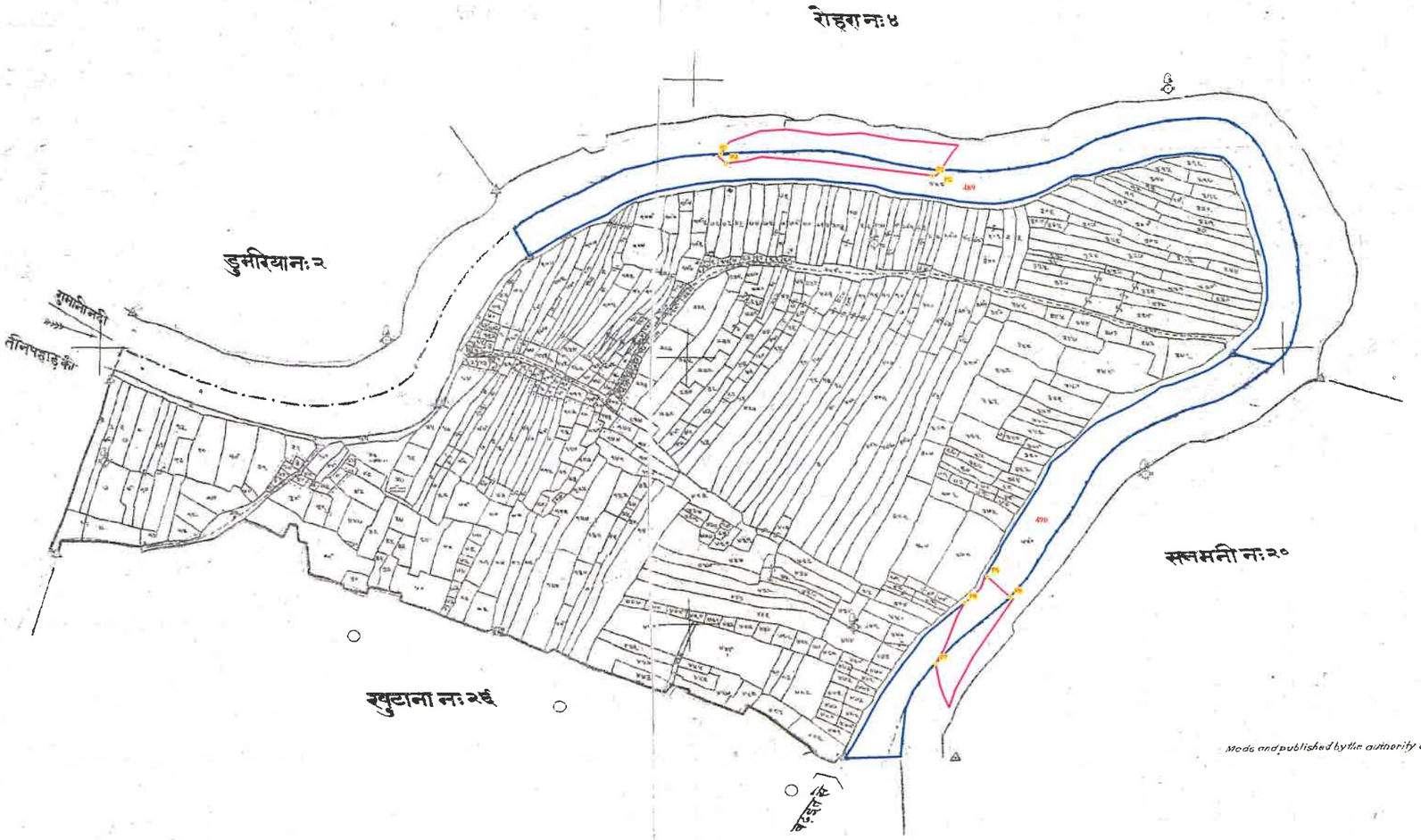
बंगाला बदइत

मशहूर नाम सरजाम घुटु नः३

तास दाद शीट १ शीट नः१

स्केल १६ इंचः१ मील

सन १९२५-२६ ई.



Scale 16 Inches = 1 Mile

Chains

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Sirjam Ghutu	3	1	489	15.0763	River	
Barhait	Sirjam Ghutu	3	1	490	9.1122	River	
			TOTAL AREA		24.1885		

Proposed Area in Ha of 07- 1.331

Proposed Area in Ha of 09- 0.754

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	567203.0452	2754136.871	24°54' 3.173" N	87°39' 55.546" E
P2	567502.2272	2754113.461	24°54' 2.364" N	87°40' 6.206" E
P3	567491.3605	2754105.46	24°54' 2.106" N	87°40' 5.817" E
P4	567211.6069	2754123.054	24°54' 2.722" N	87°39' 55.849" E
P5	567567.4045	2753510.264	24°53' 42.744" N	87°40' 8.424" E
P6	567598.7046	2753480.069	24°53' 41.757" N	87°40' 9.534" E
P7	567497.8466	2753380.747	24°53' 38.544" N	87°40' 5.922" E
P8	567537.3232	2753471.275	24°53' 41.481" N	87°40' 7.345" E

Made and published by the authority of Government.

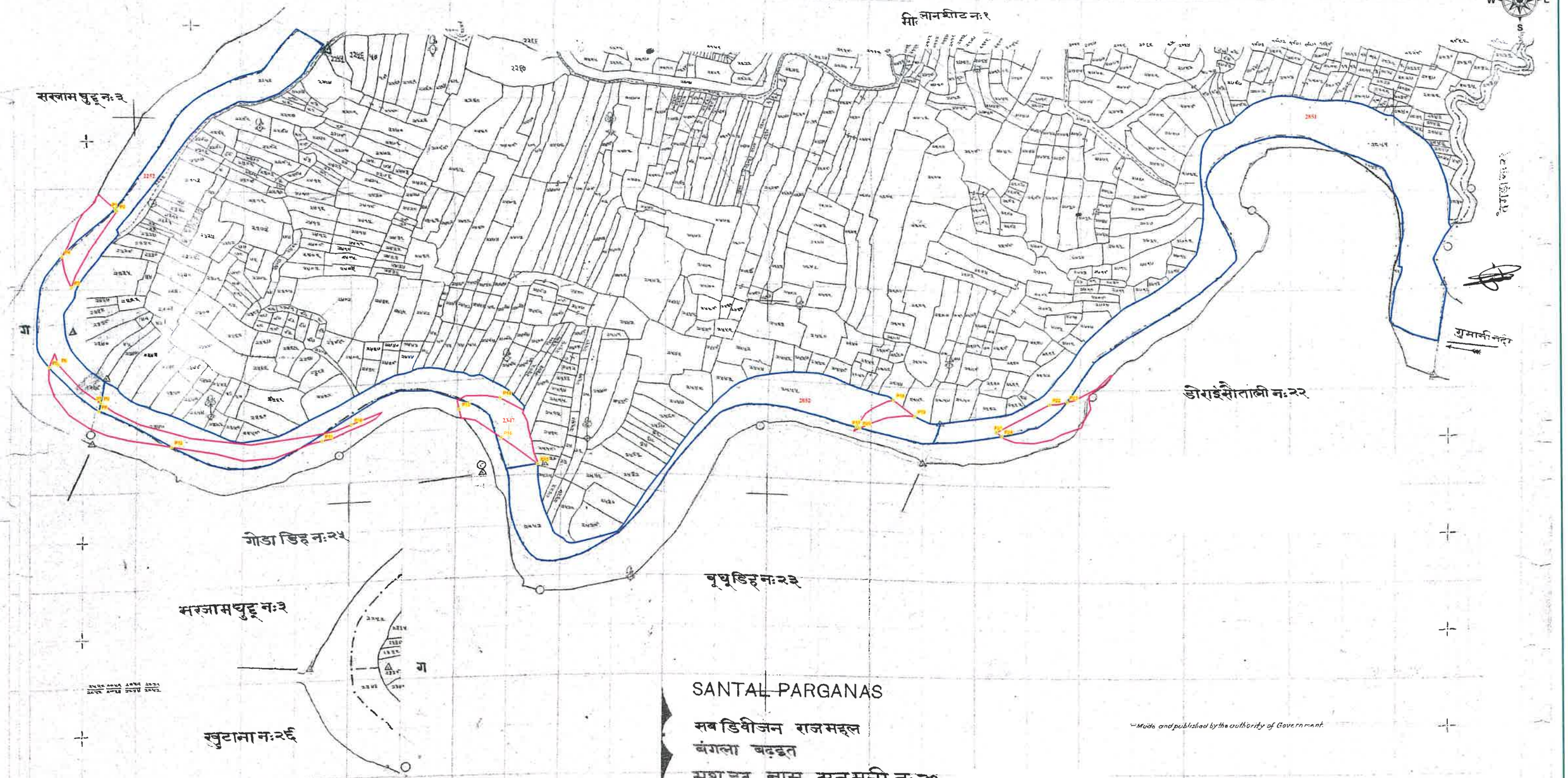
For Settlement Officer,
Santal Parganas.

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_09,11,12,14,15, Block -Barhait,District - Sahibganj, JHARKHAND



Proposed Area in Ha of 09- 0.754
Proposed Area in Ha of 11- 2.194
Proposed Area in Ha of 12- 0.971
Proposed Area in Ha of 14- 0.262
Proposed Area in Ha of 15- 0.983

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Sanmoni	20	2	2252	11.566	River	
Barhait	Sanmoni	20	2	2347	13.9518	River	
Barhait	Sanmoni	20	2	2852	11.8792	River	
Barhait	Sanmoni	20	2	2851	26.9665	River	
			TOTAL AREA		64.3635		

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	567598.7046	2753480.069	24°53' 41.757" N	87°40' 9.534" E
P2	567601.3752	2753475.716	24°53' 41.615" N	87°40' 9.628" E
P3	567516.0424	2753316.3	24°53' 36.446" N	87°40' 6.559" E
P4	567497.8466	2753380.747	24°53' 38.544" N	87°40' 5.922" E
P5	567474.4443	2753149.251	24°53' 31.022" N	87°40' 5.047" E
P6	567491.918	2753154.776	24°53' 31.199" N	87°40' 5.671" E
P7	567572.7279	2753075.003	24°53' 28.592" N	87°40' 8.537" E
P8	567568.625	2753057.75	24°53' 28.032" N	87°40' 8.388" E
P9	567572.7279	2753075.003	24°53' 28.592" N	87°40' 8.537" E
P10	568050.2764	2753031.65	24°53' 27.106" N	87°40' 25.550" E
P11	567994.4739	2752997.026	24°53' 25.990" N	87°40' 23.555" E
P12	567707.3295	2752983.344	24°53' 25.591" N	87°40' 13.318" E
P13	568255.895	2753064.96	24°53' 28.156" N	87°40' 32.885" E
P14	568334.3731	2753089.362	24°53' 28.937" N	87°40' 35.686" E
P15	568406.0876	2752951.119	24°53' 24.431" N	87°40' 38.218" E
P16	568336.3941	2753005.743	24°53' 26.218" N	87°40' 35.743" E
P17	569017.1775	2753029.235	24°53' 26.871" N	87°41' 0.012" E
P18	569088.0579	2753085.684	24°53' 28.695" N	87°41' 2.548" E
P19	569129.0174	2753051.915	24°53' 27.590" N	87°41' 4.002" E
P20	569024.0852	2753027.705	24°53' 26.804" N	87°41' 0.257" E
P21	569285.9116	2753018.474	24°53' 26.477" N	87°41' 9.588" E
P22	569387.6474	2753076.72	24°53' 28.354" N	87°41' 13.224" E
P23	569420.6338	2753081.711	24°53' 28.511" N	87°41' 14.401" E
P24	569295.9676	2753009.441	24°53' 26.182" N	87°41' 9.944" E

Proposed Ghat of PO_SG_GM_11,12, Block -Barhait,District - Sahibganj; JHARKHAND

SANTAL PARGANAS
सब डिवीज़न राजमहल
बंगला बढ़इत
मशहूर नाम गोड़ाडीह नः २५
तास शीट १ शीट नः १

स्केल १६ इंच=१ मील
सन १८३५- २६ इंसी

सनमनो नः ३०

सुटाना नः २६

बुधूडीह नः २३

गादी गंज नः ५९

बस्ताडीह नः २४

Scale 16 Inches = 1 Mile

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Goradih	25	1	1	9.2688	River.	
			TOTAL AREA		9.2688		

Proposed Area in Ha of 11- 2.194
Proposed Area in Ha of 12- 0.971

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	567568.625	2753057.75	24°53' 28.032" N	87°40' 8.388" E
P2	567707.3295	2752983.344	24°53' 25.591" N	87°40' 13.318" E
P3	567625.375	2752996.894	24°53' 26.045" N	87°40' 10.400" E
P4	567557.8974	2753019.066	24°53' 26.776" N	87°40' 7.999" E
P5	568050.2764	2753031.65	24°53' 27.106" N	87°40' 25.550" E
P6	568107.9859	2753057.912	24°53' 27.951" N	87°40' 27.612" E
P7	568075.4731	2753032.668	24°53' 27.135" N	87°40' 26.448" E
P8	567994.4739	2752997.026	24°53' 25.990" N	87°40' 23.555" E
P9	568255.895	2753064.96	24°53' 28.156" N	87°40' 32.885" E
P10	568336.3941	2753005.743	24°53' 26.218" N	87°40' 35.743" E
P11	568286.4322	2753041.941	24°53' 27.403" N	87°40' 33.969" E
P12	568259.988	2753045.743	24°53' 27.531" N	87°40' 33.027" E

Made and published by the authority of Government

For Settlement Officer
Santal Parganas

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

Legend
- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_11, Block -Barhait,District - Sahibganj, JHARKHAND

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Khutana	26	1	881	4.4695	River	
			TOTAL AREA		4.4695		

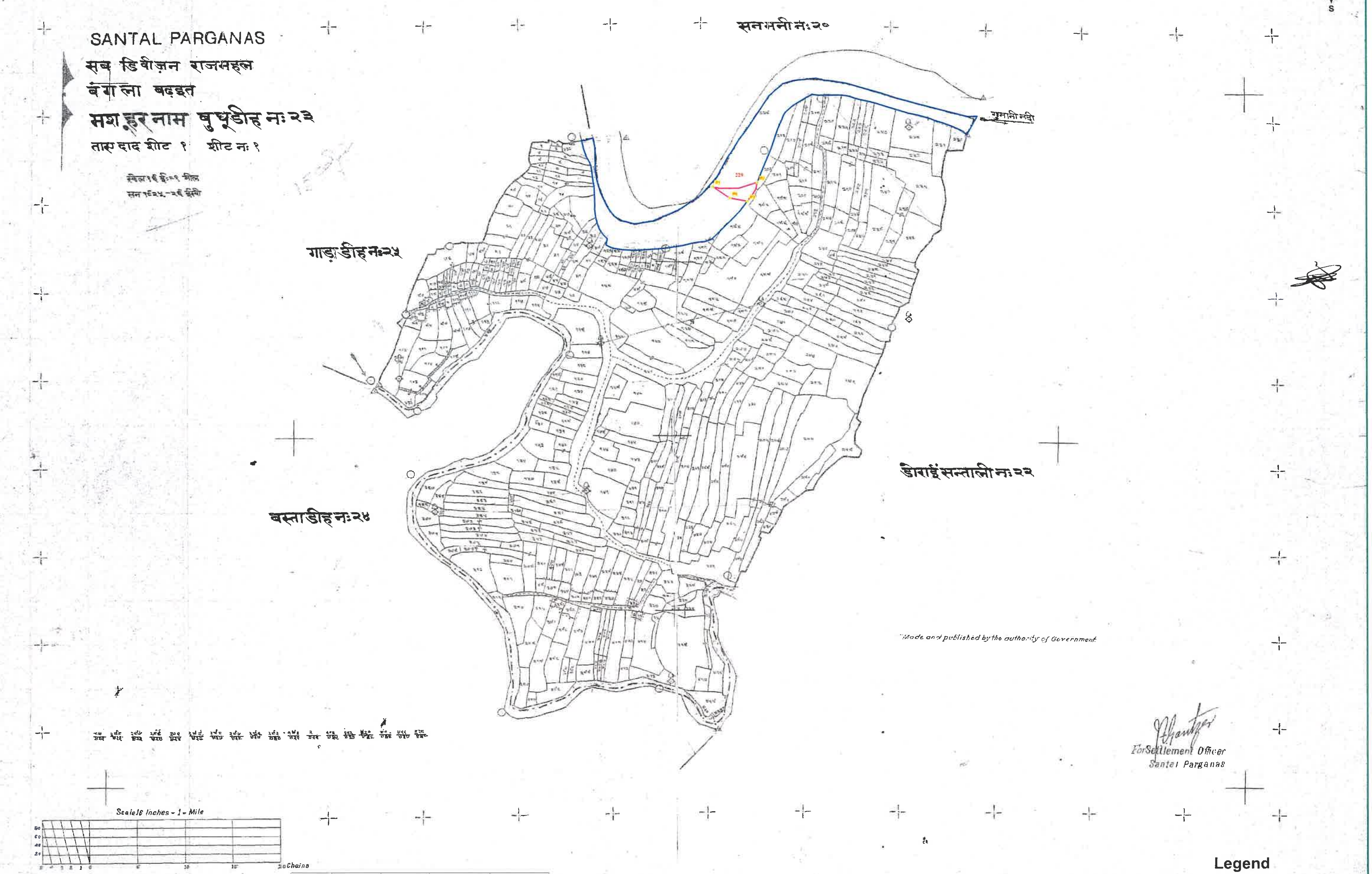
Proposed Area in Ha of 11- 2.194

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	567474.4443	2753149.251	24°53' 31.022" N	87°40' 5.047" E
P2	567568.625	2753057.75	24°53' 28.032" N	87°40' 8.388" E
P3	567557.8974	2753019.066	24°53' 26.776" N	87°40' 7.999" E
P4	567484.5855	2753088.144	24°53' 29.034" N	87°40' 5.398" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_13, Block -Barhait,District - Sahibganj, JHARKHAND

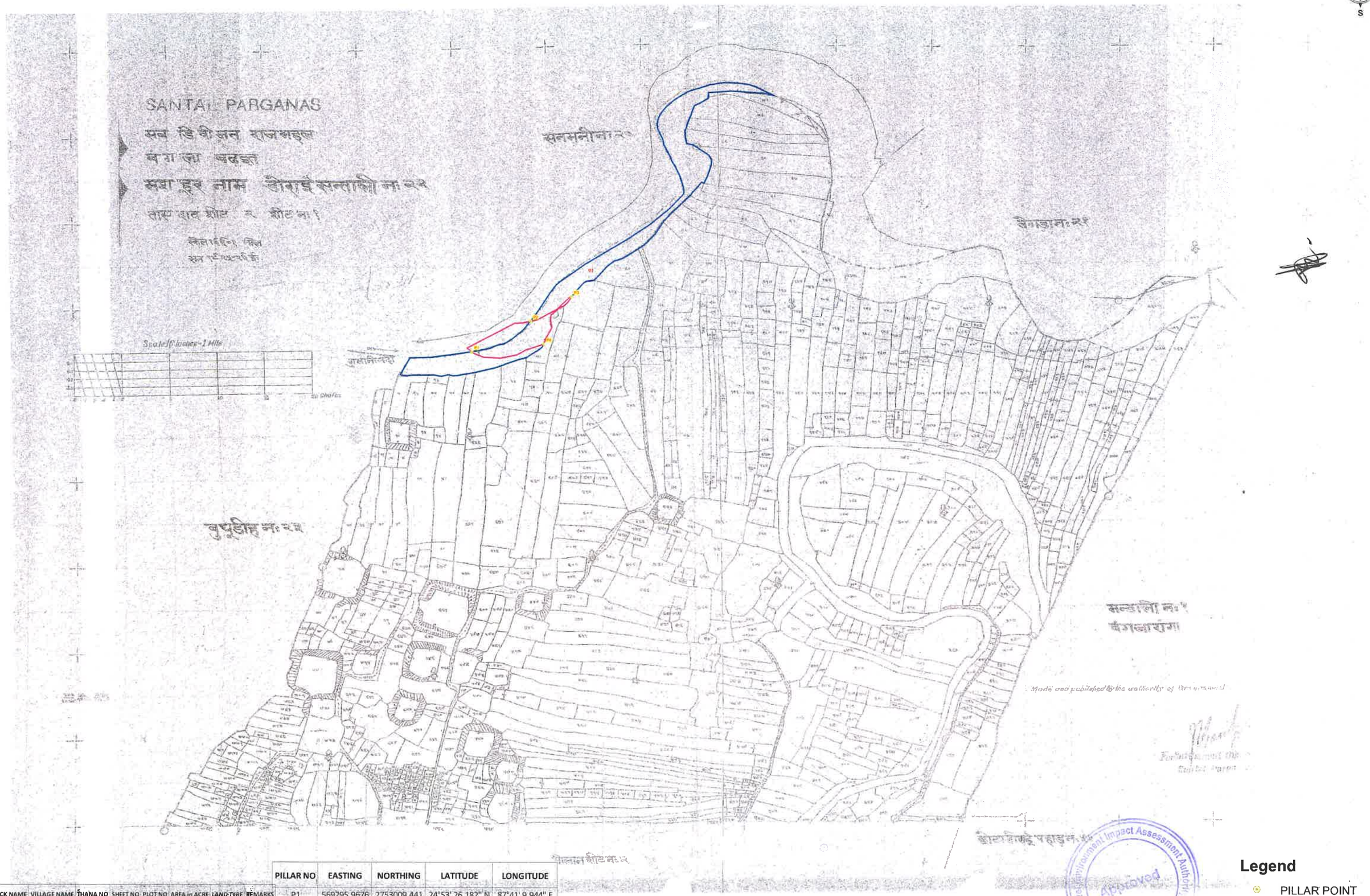


BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Dudhadih	23	1	229	14.2163	River	
			TOTAL AREA		14.2163		

Proposed Area in Ha of 13- 0.188

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	568602.2742	2752829.773	24°53' 20.454" N	87°40' 45.188" E
P2	568697.61	2752840.222	24°53' 20.778" N	87°40' 48.588" E
P3	568676.6554	2752796.653	24°53' 19.365" N	87°40' 47.833" E
P4	568638.9243	2752804.173	24°53' 19.616" N	87°40' 46.490" E

Proposed Ghat of PO_SG_GM_15, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Doraisantali	22	1	1	11.0807	River	
			TOTAL AREA		11.0807		

Proposed Area in Ha of 15- 0.983

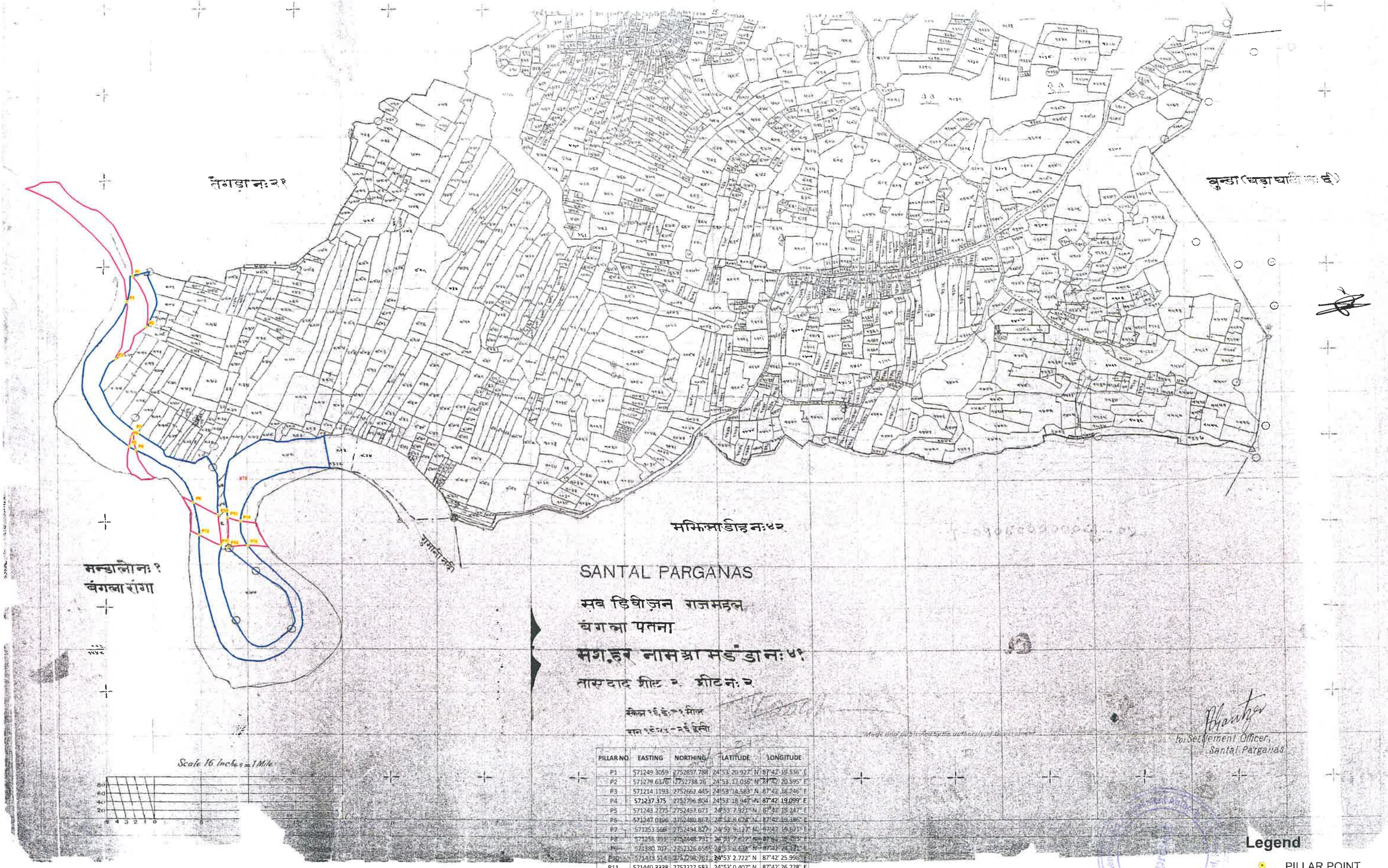
PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	569295.9676	2753009.441	24°53' 26.182" N	87°41' 9.944" E
P2	569420.6338	2753081.711	24°53' 28.511" N	87°41' 14.401" E
P3	569507.5155	2753139.004	24°53' 30.359" N	87°41' 17.508" E
P4	569448.9311	2753028.769	24°53' 26.785" N	87°41' 15.400" E

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_18,19, Block -Pathna,District - Sahibganj, JHARKHAND



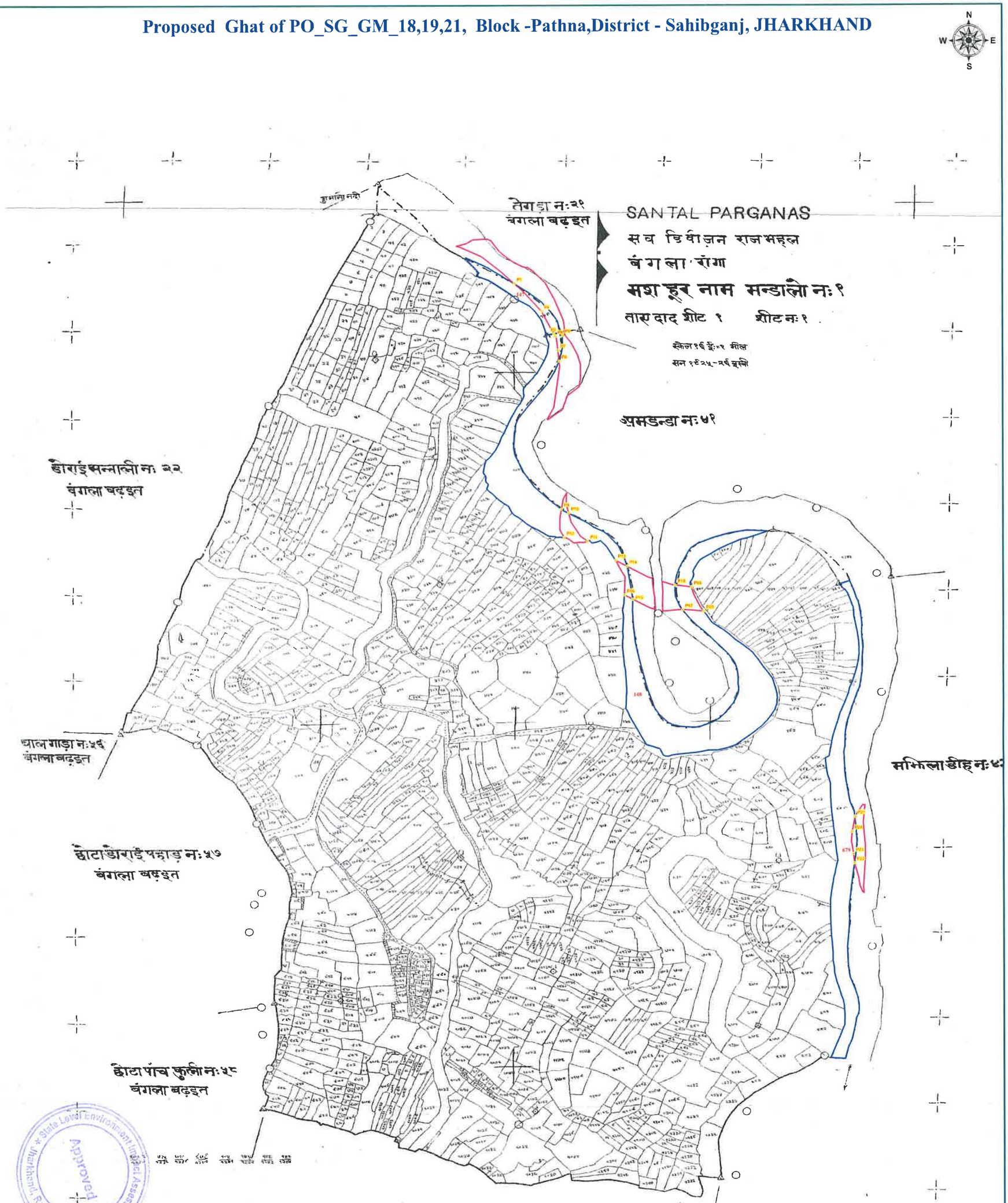
PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571249.3059	2752857.788	24°53' 20.927" N	87°42' 19.536" E
P2	571279.6376	2752738.26	24°53' 17.036" N	87°42' 20.595" E
P3	571214.1193	2752662.445	24°53' 14.583" N	87°42' 18.246" E
P4	571237.375	2752796.804	24°53' 18.947" N	87°42' 19.099" E
P5	571243.2775	2752457.671	24°53' 7.921" N	87°42' 19.247" E
P6	571247.0396	2752480.867	24°53' 8.674" N	87°42' 19.386" E
P7	571253.568	2752494.827	24°53' 9.127" N	87°42' 19.621" E
P8	571258.331	2752448.731	24°53' 7.627" N	87°42' 19.793" E
P9	571380.707	2752126.656	24°53' 0.618" N	87°42' 24.171" E
P10	571433.514	2752298.761	24°53' 2.722" N	87°42' 25.998" E
P11	571440.3338	2752227.583	24°53' 0.407" N	87°42' 26.228" E
P12	571393.1014	2752250.613	24°53' 1.164" N	87°42' 24.549" E
P13	571453.7719	2752291.619	24°53' 2.487" N	87°42' 26.718" E
P14	571481.0999	2752283.456	24°53' 2.217" N	87°42' 27.691" E
P15	571496.6864	2752227.029	24°53' 0.380" N	87°42' 28.236" E
P16	571455.4869	2752223.611	24°53' 0.275" N	87°42' 26.767" E

Proposed Area in Ha of 18- 1.751
Proposed Area in Ha of 19- 1.082

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Amdanda	41	2	878	19.4578	River	
			TOTAL AREA		19.4578		

Legend
- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_18,19,21, Block -Pathna,District - Sahibganj, JHARKHAND



Made and published by the authority of Government

For Settlement Officer
Santal Parganas

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571143.0348	2752974.228	24°53' 24.731" N	87°42' 15.770" E
P2	571241.7406	2752863.179	24°53' 21.104" N	87°42' 19.267" E
P3	571226.2749	2752859.718	24°53' 20.994" N	87°42' 18.715" E
P4	571200.415	2752910.854	24°53' 22.661" N	87°42' 17.803" E
P5	571244.131	2752856.555	24°53' 20.888" N	87°42' 19.351" E
P6	571237.375	2752796.804	24°53' 18.947" N	87°42' 19.099" E
P7	571234.6885	2752822.165	24°53' 19.772" N	87°42' 19.008" E
P8	571229.3381	2752853.859	24°53' 20.803" N	87°42' 18.820" E
P9	571743.2775	2752457.671	24°53' 7.921" N	87°42' 19.247" E
P10	571258.351	2752448.731	24°53' 7.627" N	87°42' 19.783" E
P11	571298.3635	2752383.96	24°53' 5.515" N	87°42' 21.197" E
P12	571249.1611	2752392.234	24°53' 5.792" N	87°42' 19.445" E
P13	571356.7548	2752340.215	24°53' 4.083" N	87°42' 23.220" E
P14	571380.707	2752326.656	24°53' 3.638" N	87°42' 24.121" E
P15	571393.1014	2752250.613	24°53' 1.164" N	87°42' 24.549" E
P16	571375.4814	2752260.318	24°53' 1.482" N	87°42' 23.922" E
P17	571496.6864	2752227.029	24°53' 0.380" N	87°42' 28.236" E
P18	571481.0999	2752283.456	24°53' 2.217" N	87°42' 27.691" E
P19	571514.6521	2752279.123	24°53' 2.070" N	87°42' 28.886" E
P20	571540.2973	2752224.033	24°53' 0.275" N	87°42' 29.790" E
P21	571957.2193	2751752.513	24°52' 44.892" N	87°42' 40.999" E
P22	571856.4521	2751645.674	24°52' 41.415" N	87°42' 40.949" E
P23	571854.1614	2751666.556	24°52' 42.098" N	87°42' 40.872" E
P24	571851.0445	2751717.639	24°52' 43.759" N	87°42' 40.770" E

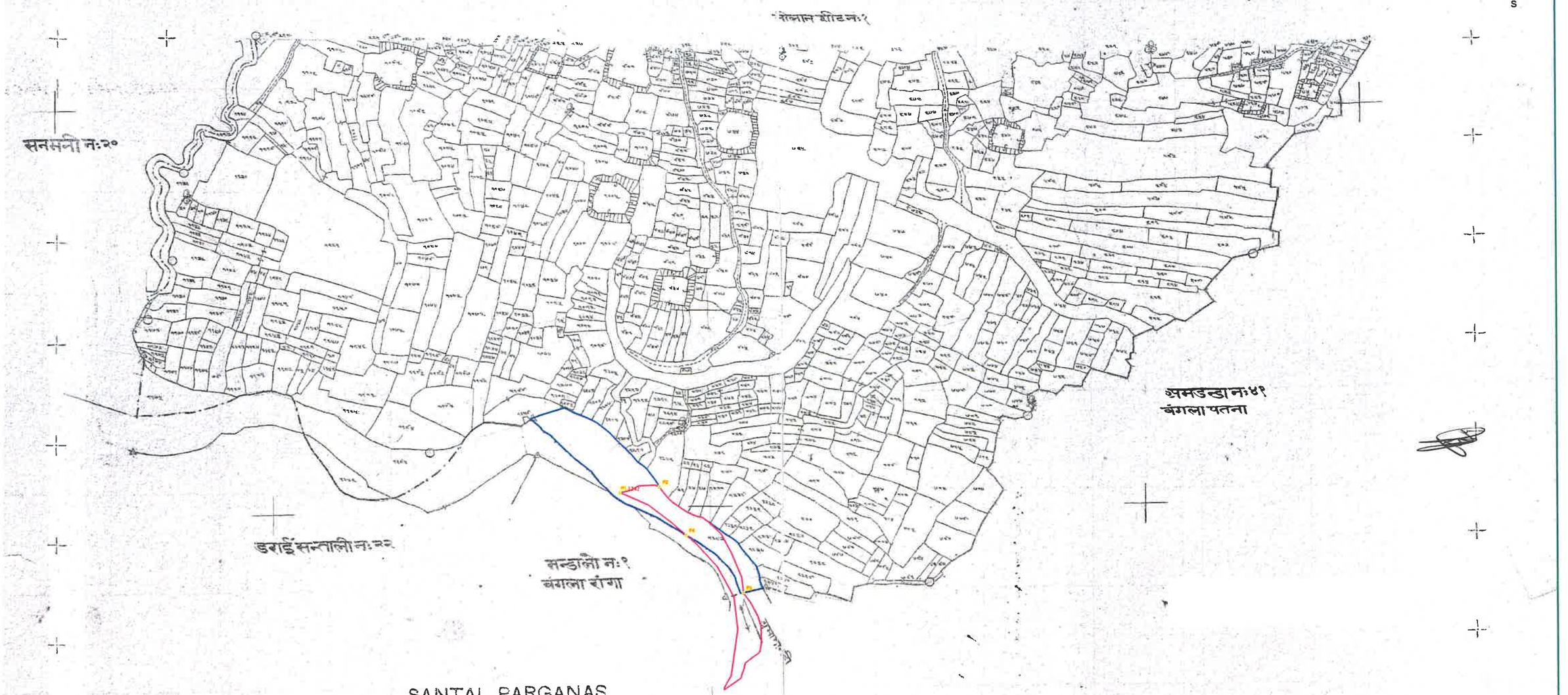
Proposed Area in Ha of 18- 1.751
Proposed Area in Ha of 19- 1.082
Proposed Area in Ha of 21- 0.371

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Mandalo	1	1	147	1.4893	River	
Pathna	Mandalo	1	1	148	20.5032	River	
Pathna	Mandalo	1	1	679	7.7911	River	
			TOTAL AREA		29.7836		

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_18, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Barhait	Tegra	21	2	1242	7.7076	River	
			TOTAL AREA[1]		7.7076		

Proposed Area in Ha of 18- 1.751

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571020.6807	2753059.418	24°53' 27.521" N	87°42' 11.425" E
P2	571094.1051	2753071.887	24°53' 27.914" N	87°42' 14.044" E
P3	571249.3059	2752857.788	24°53' 20.927" N	87°42' 19.536" E
P4	571143.0348	2752974.228	24°53' 24.731" N	87°42' 15.770" E

Made and published by the authority of Government:

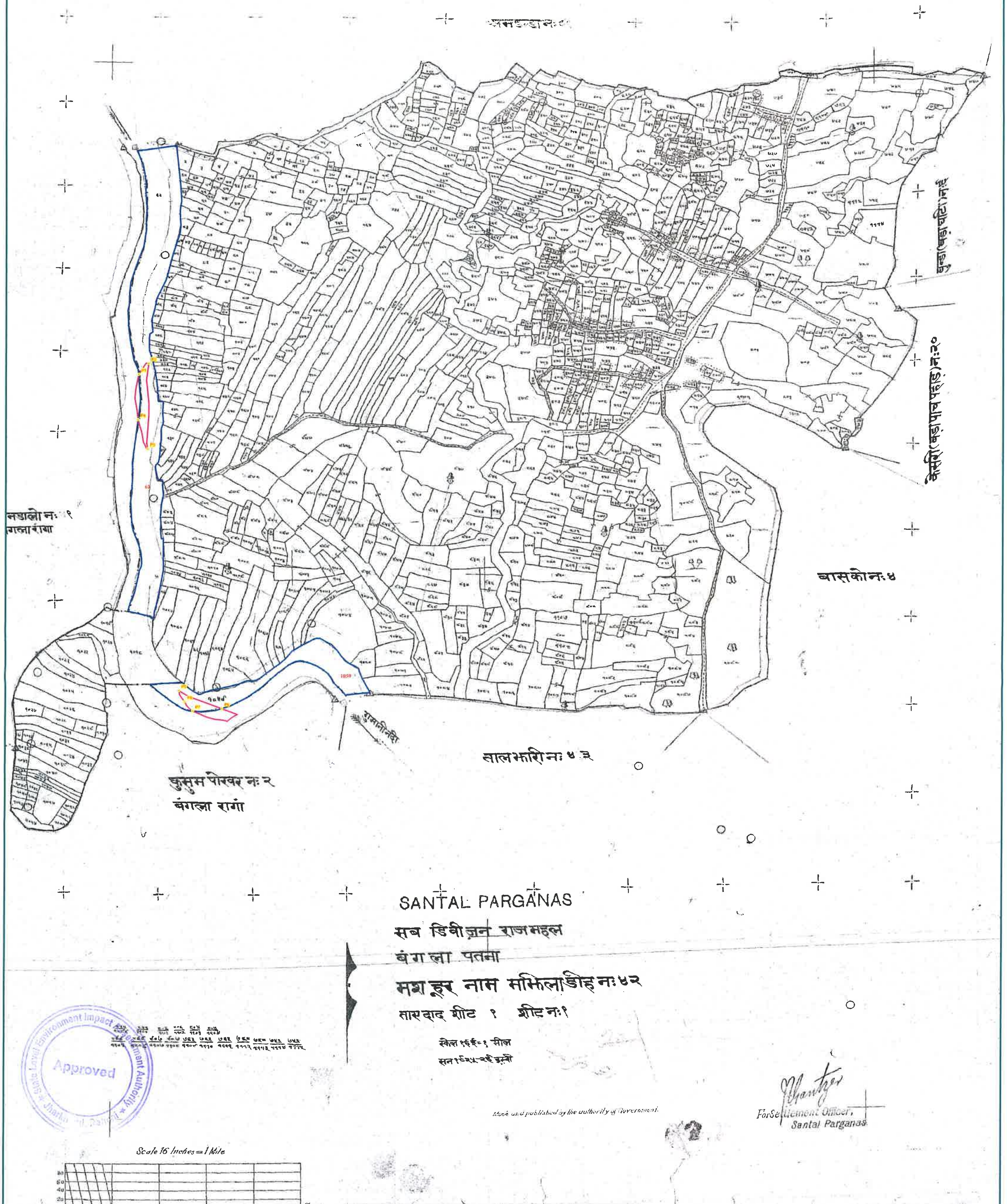
For Settlement Officer,
Santal Parganas.

Approved
Environment Impact Assessment Authority * State Level Environment Impact Assessment Authority, Jharkhand *

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_21,22, Block -Pathna,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Manjhladih	42	1	62	15.625	River	
Pathna	Manjhladih	42	1	1059	5.0436	River	
				TOTAL AREA	20.6686		

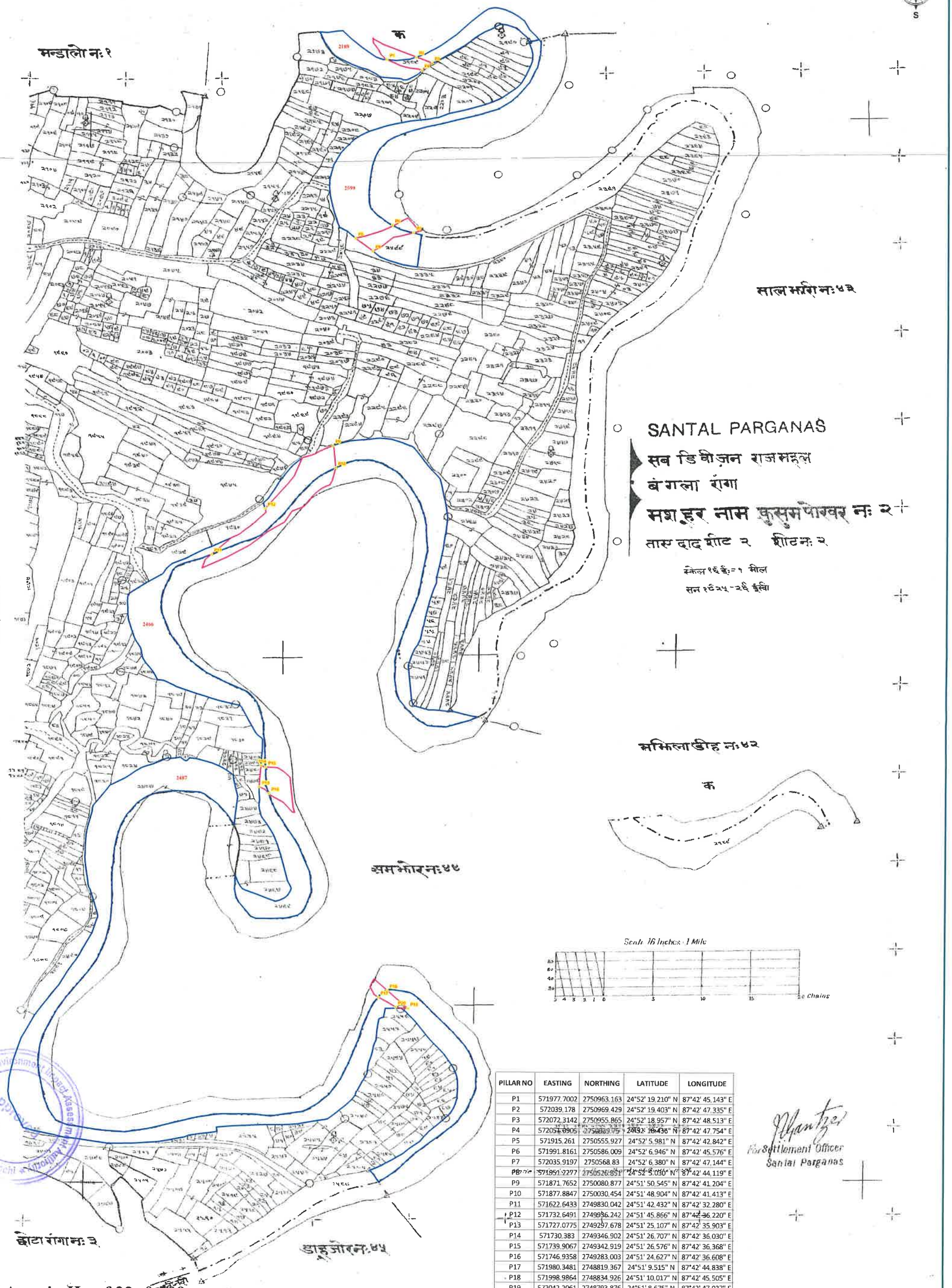
Proposed Area in Ha of 21- 0.371
Proposed Area in Ha of 21- 0.309

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571857.2193	2751752.513	24°52' 44.892" N	87°42' 40.997" E
P2	571878.2448	2751778.333	24°52' 45.728" N	87°42' 41.751" E
P3	571876.9154	2751577.68	24°52' 39.205" N	87°42' 41.666" E
P4	571856.4521	2751645.674	24°52' 41.419" N	87°42' 40.949" E
P5	571948.1441	2751012.16	24°52' 20.808" N	87°42' 44.099" E
P6	572039.178	2750969.429	24°52' 19.403" N	87°42' 47.335" E
P7	571977.7002	2750963.163	24°52' 19.210" N	87°42' 45.143" E
P8	571960.3057	2750985.808	24°52' 19.949" N	87°42' 44.528" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_22,24,26,28,29, Block -Pathna,District - Sahibganj, JHARKHAND



PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571977.7002	2750963.163	24°52' 19.210" N	87°42' 45.143" E
P2	572039.178	2750969.429	24°52' 19.403" N	87°42' 47.335" E
P3	572072.3142	2750955.865	24°52' 18.957" N	87°42' 48.513" E
P4	572052.0905	2750889.75	24°52' 16.436" N	87°42' 47.754" E
P5	571915.261	2750555.927	24°52' 5.981" N	87°42' 42.842" E
P6	571991.8161	2750586.009	24°52' 6.946" N	87°42' 45.576" E
P7	572035.9197	2750568.83	24°52' 6.380" N	87°42' 47.144" E
P8	571851.2277	2750526.851	24°52' 5.030" N	87°42' 44.119" E
P9	571871.7652	2750080.877	24°51' 50.545" N	87°42' 41.204" E
P10	571877.8847	2750030.454	24°51' 48.904" N	87°42' 41.413" E
P11	571622.6433	2749830.042	24°51' 42.432" N	87°42' 32.280" E
P12	571732.6491	2749936.242	24°51' 45.866" N	87°42' 36.220" E
P13	571727.0775	2749297.678	24°51' 25.107" N	87°42' 35.903" E
P14	571730.383	2749346.902	24°51' 26.707" N	87°42' 36.030" E
P15	571739.9067	2749342.919	24°51' 26.576" N	87°42' 36.368" E
P16	571746.9358	2749283.003	24°51' 24.627" N	87°42' 36.608" E
P17	571980.3481	2748819.367	24°51' 9.515" N	87°42' 44.838" E
P18	571998.9864	2748834.926	24°51' 10.017" N	87°42' 45.505" E
P19	572042.2061	2748793.876	24°51' 8.675" N	87°42' 47.037" E
P20	572016.8054	2748796.941	24°51' 8.779" N	87°42' 46.133" E

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Kusumpokhhar	2	2	2189	4.4028	River	
Pathna	Kusumpokhhar	2	2	2466	23.0137	River	
Pathna	Kusumpokhhar	2	2	2599	8.5225	River	
Pathna	Kusumpokhhar	2	2	2487	26.0983	River	
			TOTAL AREA		62.0373		

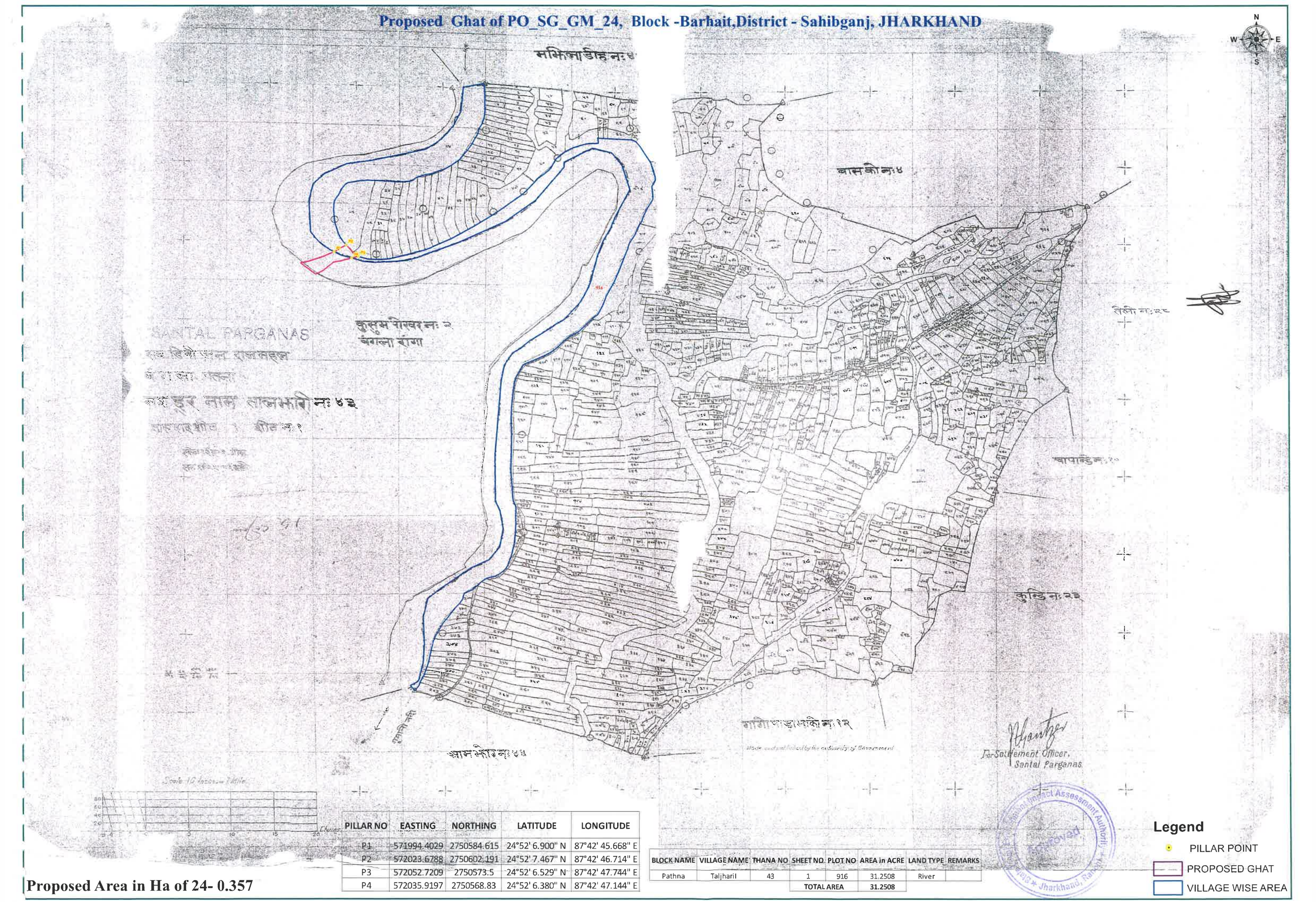
Sub-Settlement Officer
Santal Parganas

Proposed Area in Ha of 22- 0.309
Proposed Area in Ha of 24- 0.357
Proposed Area in Ha of 26- 1.659
Proposed Area in Ha of 28- 0.432
Proposed Area in Ha of 29- 0.172

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_24, Block -Barhait,District - Sahibganj, JHARKHAND



PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571994.4029	2750584.615	24°52' 6.900" N	87°42' 45.668" E
P2	572023.6788	2750602.191	24°52' 7.467" N	87°42' 46.714" E
P3	572052.7209	2750573.5	24°52' 6.529" N	87°42' 47.744" E
P4	572035.9197	2750568.83	24°52' 6.380" N	87°42' 47.144" E

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO.	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Taljharil	43	1	916	31.2508	River	
			TOTAL AREA		31.2508		

Proposed Area in Ha of 24- 0.357

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_26,28,29, Block -Pathna,District - Sahibganj, JHARKHAND

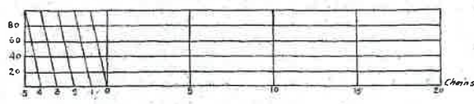
SANTAL PARGANAS
सब डिवीज़न राजमहल
बंगला पतना
मशहूर नाम आमझोर नः ४४
तालद्वाद शीट १ शीट नः १

स्केल १ इंच=१ मील
सन १९३५-३६ इस्वी

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571622.6433	2749830.042	24°51' 42.432" N	87°42' 32.280" E
P2	571877.8847	2750030.454	24°51' 48.904" N	87°42' 41.413" E
P3	571866.4133	2749991.117	24°51' 47.628" N	87°42' 40.997" E
P4	571603.3302	2749798.225	24°51' 41.401" N	87°42' 31.586" E
P5	571746.9358	2749283.003	24°51' 24.627" N	87°42' 36.608" E
P6	571739.9067	2749342.919	24°51' 26.576" N	87°42' 36.368" E
P7	571790.8558	2749319.932	24°51' 25.820" N	87°42' 38.179" E
P8	571801.148	2749240.099	24°51' 23.223" N	87°42' 38.531" E
P9	571962.9527	2748843.379	24°51' 10.298" N	87°42' 44.223" E
P10	571971.3915	2748861.135	24°51' 10.874" N	87°42' 44.527" E
P11	571998.9864	2748834.926	24°51' 10.017" N	87°42' 45.505" E
P12	571980.3481	2748819.367	24°51' 9.515" N	87°42' 44.838" E

Made and published by the authority of Government

Scale 16 Inches = 1 Mile



Proposed Area in Ha of 26- 1.659
Proposed Area in Ha of 28- 0.432
Proposed Area in Ha of 29- 0.172

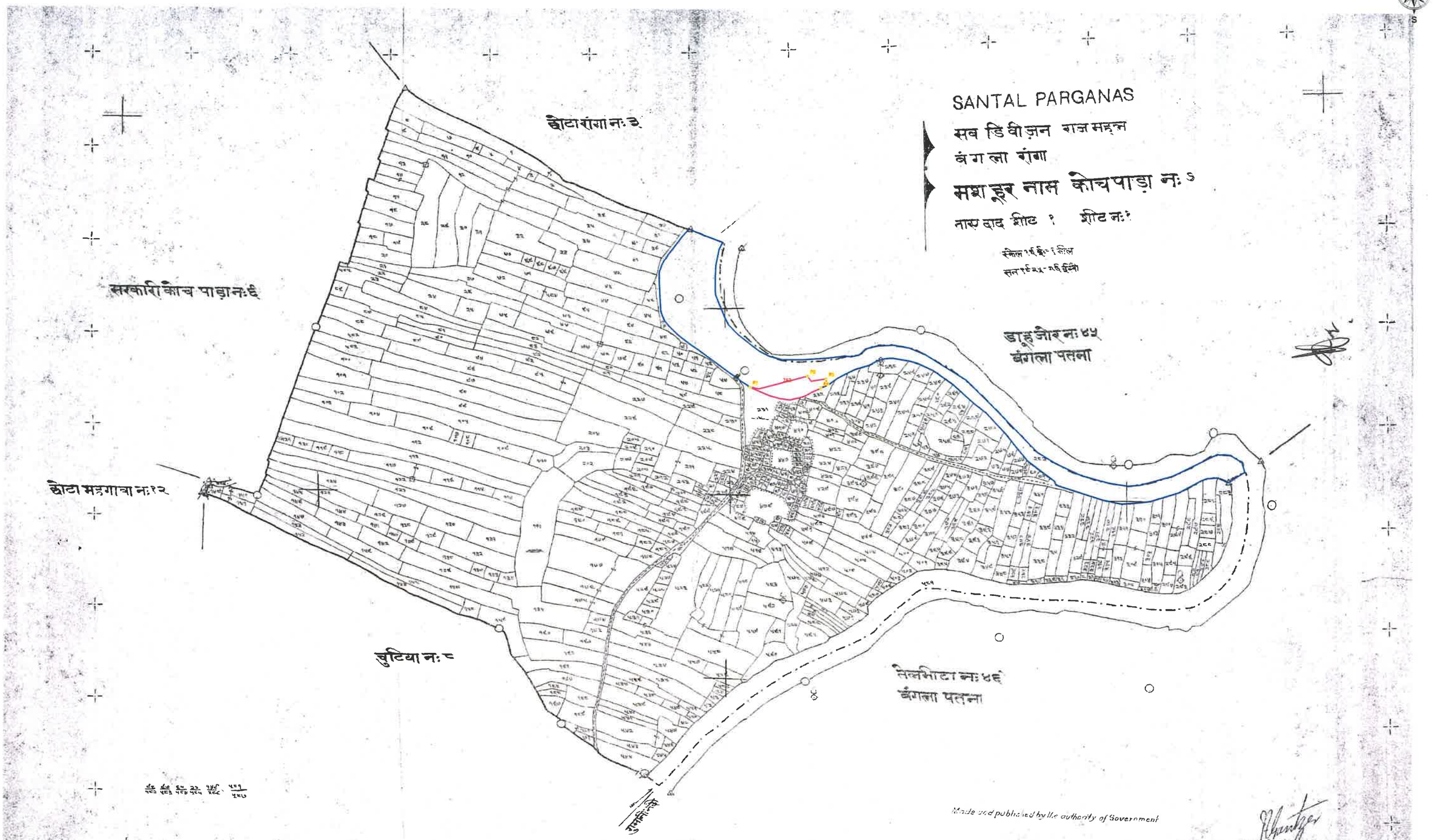
BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Amjhor	44	1	1	21.2891	River	
Pathna	Amjhor	44	1	246	14.9016	River	
			TOTAL AREA		36.1907		

For Settlement Officer
Santal Parganas

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

Legend
- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_30, Block -Barhait,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Kuchpara	7	1	282	18.6612	River	
			TOTAL AREA		18.6612		

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	570820.6972	2746922.523	24°50' 8.043" N	87°42' 3.172" E
P2	570936.2417	2746947.337	24°50' 8.831" N	87°42' 7.293" E
P3	570972.9897	2746941.372	24°50' 8.631" N	87°42' 8.601" E
P4	570962.1396	2746920.508	24°50' 7.954" N	87°42' 8.211" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Area in Ha of 30- 0.398

Proposed Ghat of PO_SG_GM_31, Block -Pathna,District - Sahibganj, JHARKHAND

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Dahujor	45	1	389	9.9183	River	
			TOTAL AREA		9.9183		

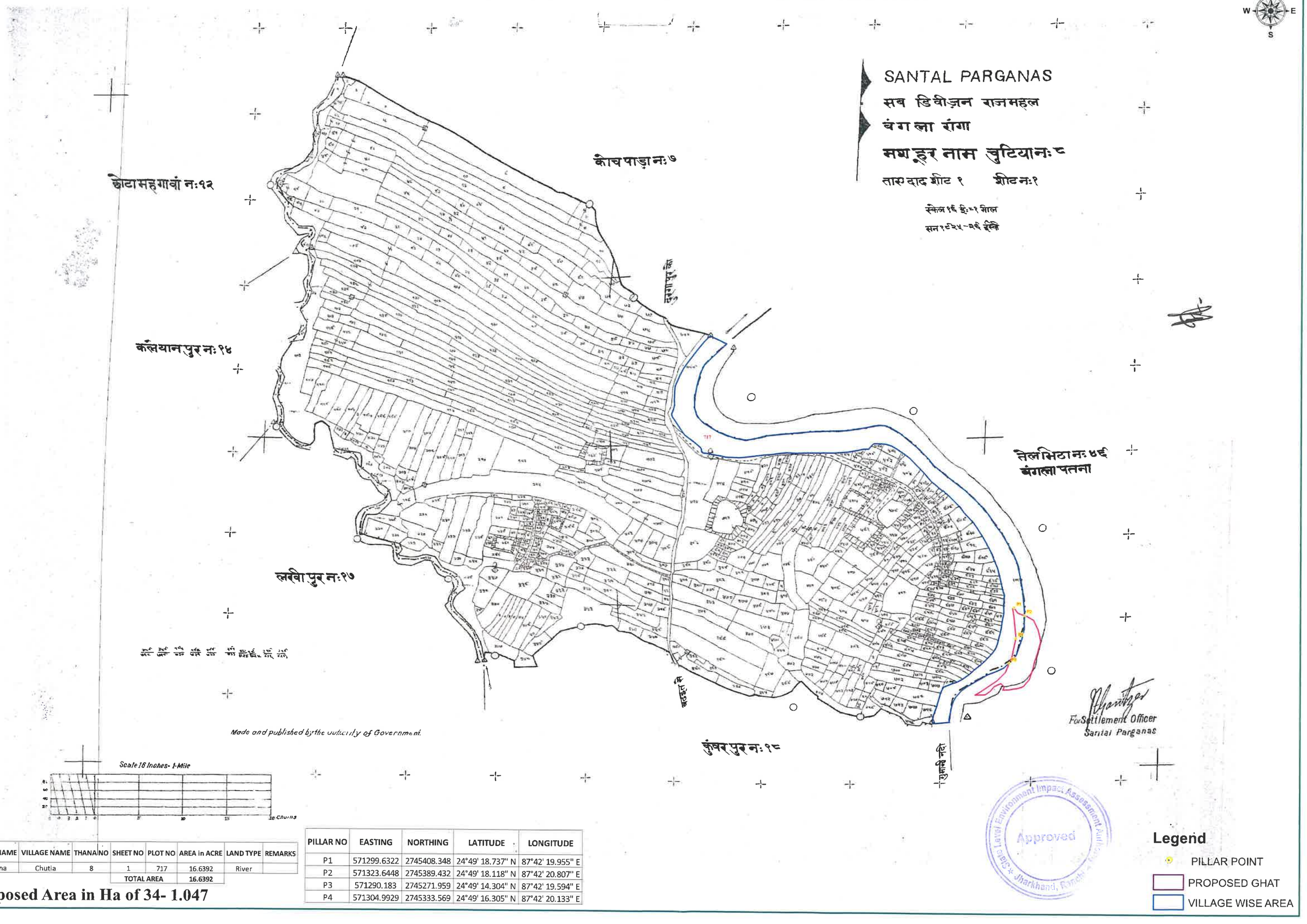
Proposed Area in Ha of 34- 0.184

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571232.1089	2746974.453	24°50' 9.663" N	87°42' 17.838" E
P2	571286.5425	2746923.286	24°50' 7.990" N	87°42' 19.768" E
P3	571287.5569	2746907.944	24°50' 7.491" N	87°42' 19.801" E
P4	571175.7412	2746979.11	24°50' 9.824" N	87°42' 15.831" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_34, Block -Pathna,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Chutia	8	1	717	16.6392	River	
			TOTAL AREA		16.6392		

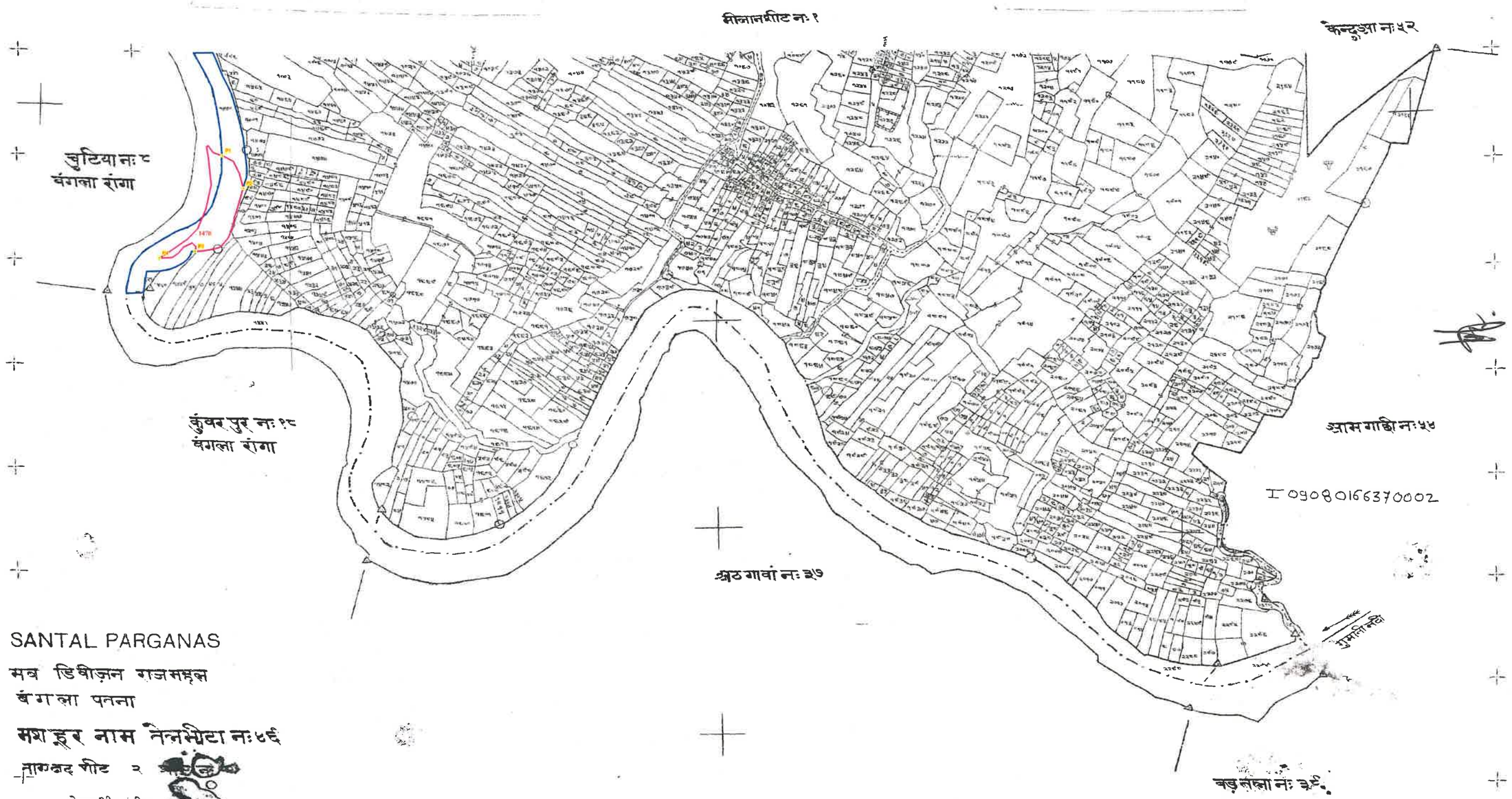
Proposed Area in Ha of 34- 1.047

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571299.6322	2745408.348	24°49' 18.737" N	87°42' 19.955" E
P2	571323.6448	2745389.432	24°49' 18.118" N	87°42' 20.807" E
P3	571290.183	2745271.959	24°49' 14.304" N	87°42' 19.594" E
P4	571304.9929	2745333.569	24°49' 16.305" N	87°42' 20.133" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_34, Block -Pathna,District - Sahibganj, JHARKHAND



Scale 16 inches = 1 Mile

Chains

Made and published by the authority of Government

For Settlement Officer,
Santal Parganas

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Telbhita	46	2	1470	5.5955	River	
			TOTAL AREA		5.5955		

Proposed Area in Ha of 34- 1.047

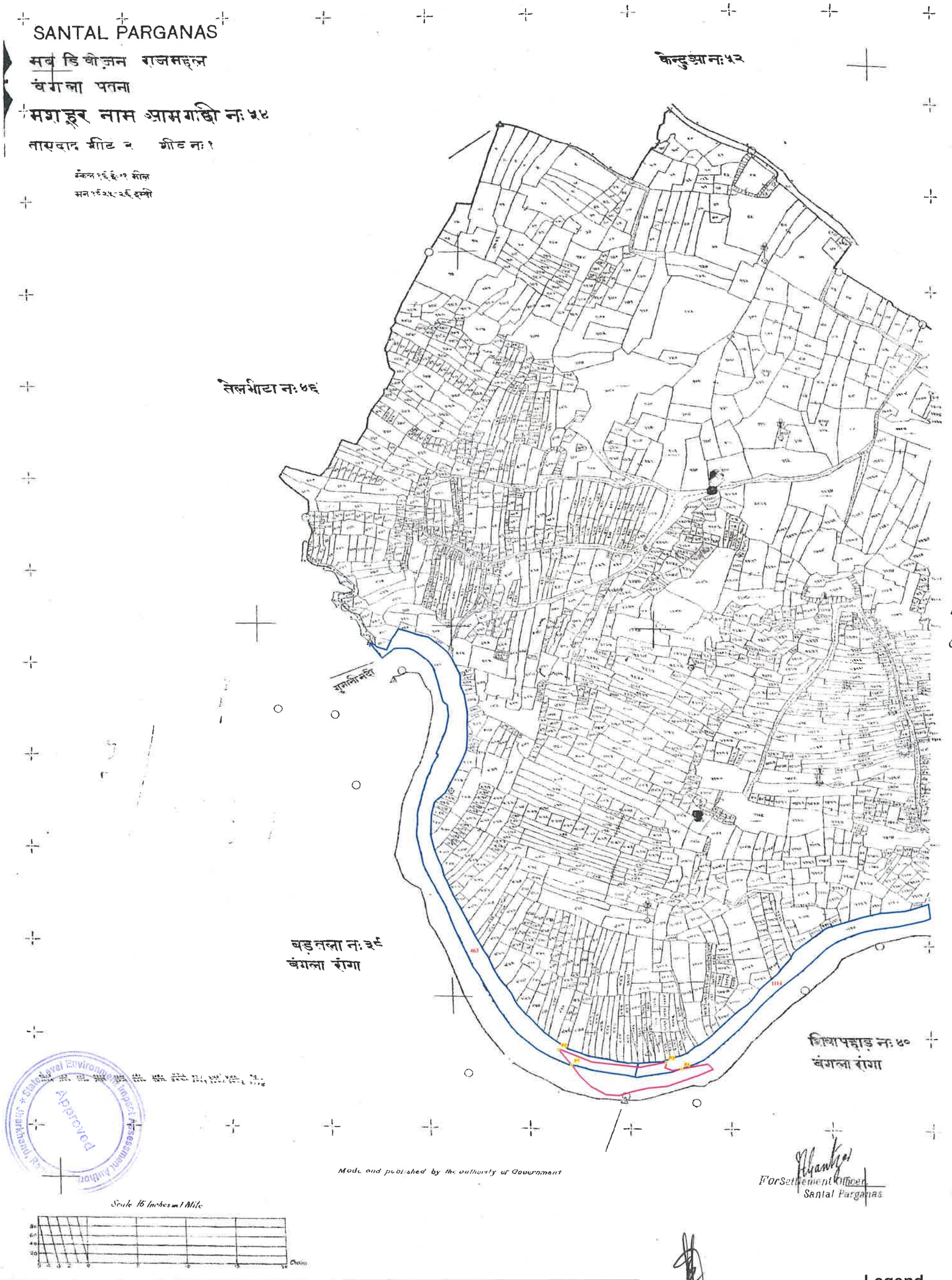
PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	571323.6448	2745389.432	24°49' 18.118" N	87°42' 20.807" E
P2	571360.7942	2745327.298	24°49' 16.092" N	87°42' 22.119" E
P3	571276.8428	2745206.341	24°49' 12.173" N	87°42' 19.106" E
P4	571214.1659	2745193.028	24°49' 11.751" N	87°42' 16.871" E

Approved

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_35, Block -Pathna,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Amgachhi	54	1	463	10.787	River	
Pathna	Amgachhi	54	1	463	5.276	River	
			TOTAL AREA		16.063		

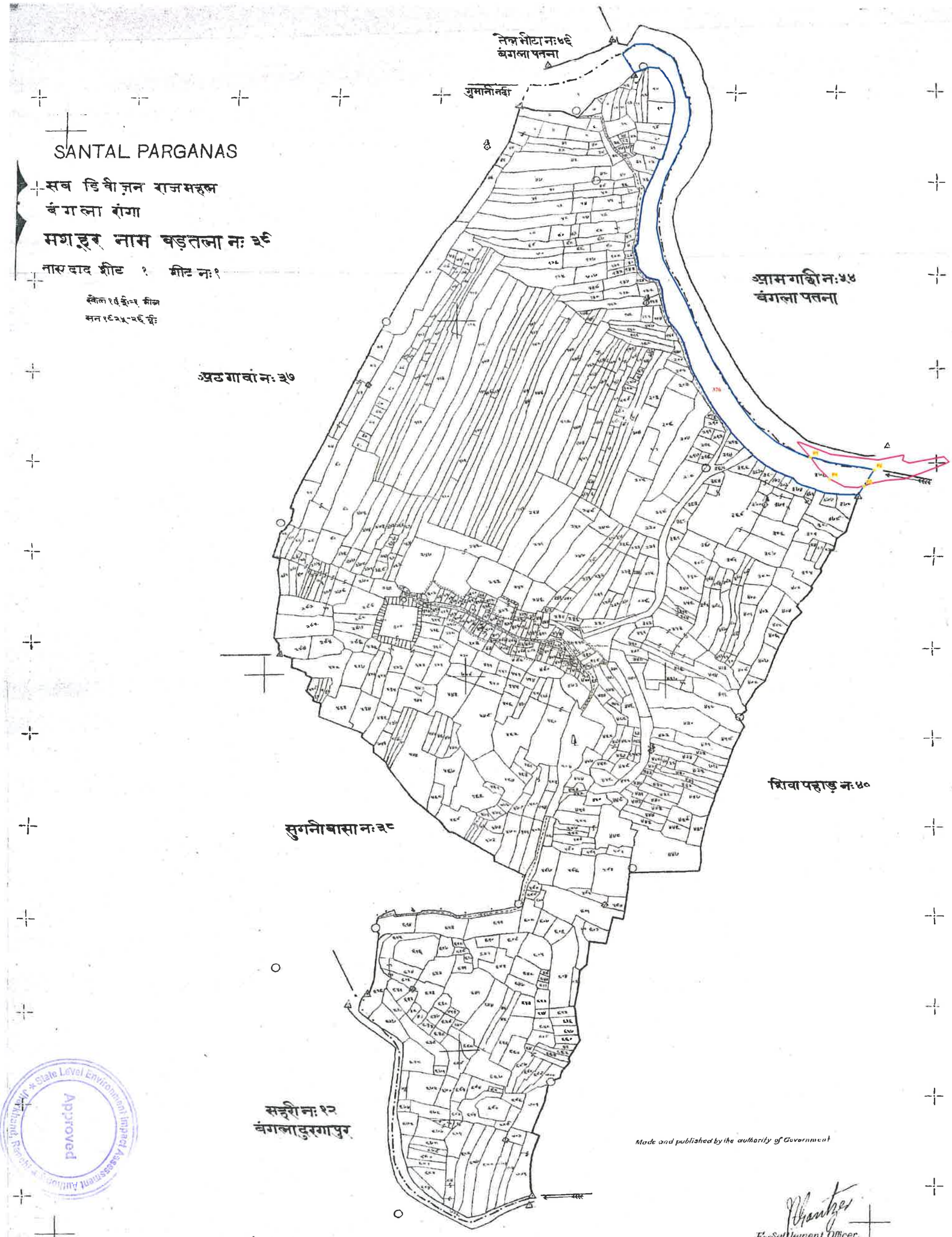
Proposed Area in Ha of 35- 1.263

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	573625.3311	2743561.029	24°48' 18.283" N	87°43' 42.449" E
P2	573599.1988	2743594.226	24°48' 19.367" N	87°43' 41.525" E
P3	573812.9699	2743567.877	24°48' 18.473" N	87°43' 49.133" E
P4	573843.1551	2743553.883	24°48' 18.013" N	87°43' 50.206" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_35, Block -Pathna,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Bara Tola	39	1	376	12.7095	River	
			TOTAL AREA		12.7095		

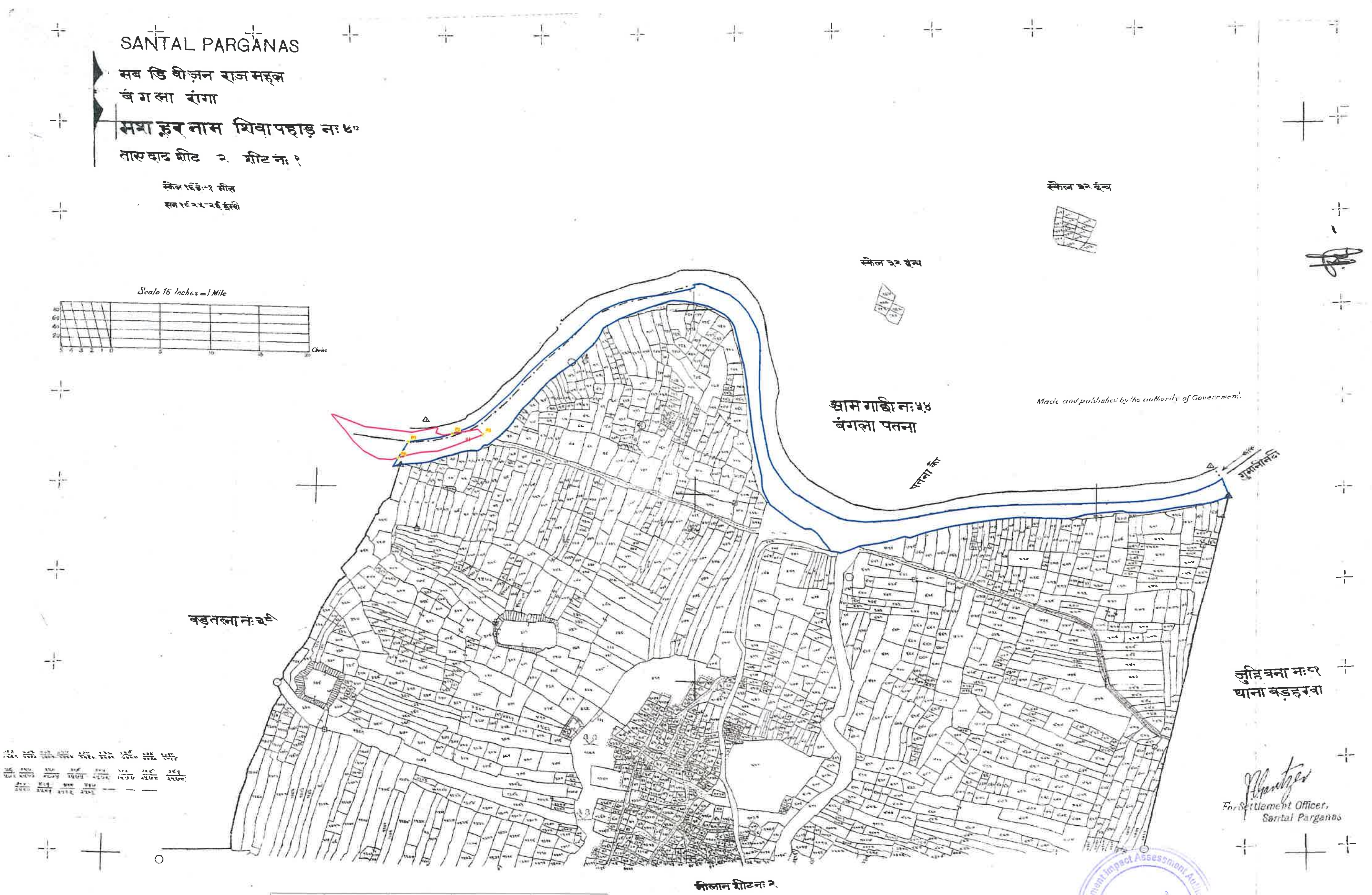
Proposed Area in Ha of 35- 1.263

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	573625.3311	2743561.029	24°48' 18.283" N	87°43' 42.449" E
P2	573753.822	2743534.879	24°48' 17.411" N	87°43' 47.020" E
P3	573733.3746	2743499.32	24°48' 16.258" N	87°43' 46.285" E
P4	573663.9508	2743514.157	24°48' 16.753" N	87°43' 43.816" E

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_35, Block -Pathna,District - Sahibganj, JHARKHAND



BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Sibapahar	40	1	1	20.1385	River	
			TOTAL AREA		20.1385		

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	573753.822	2743534.879	24°48' 17.411" N	87°43' 47.020" E
P2	573843.1551	2743553.883	24°48' 18.013" N	87°43' 50.206" E
P3	573905.2848	2743552.926	24°48' 17.971" N	87°43' 52.418" E
P4	573733.3746	2743499.32	24°48' 16.258" N	87°43' 46.285" E

Proposed Area in Ha of 35- 1.263

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

Proposed Ghat of PO_SG_GM_36, Block -Pathna,District - Sahibganj, JHARKHAND

SANTAL PARGANAS
সবডিবিজন রাজমহল
থানা বারহারওয়া
চলিত নাম জুহিবনা নং ৮১
শিট সংখ্যা ২ শিট নং ১
স্কেল ১৬ ইঞ্চ ১ মাইল
সন ১৯২৫-২৬ ইং

Scale 16 inches = 1 Mile.

Made and published by the authority of Government

For Settlement Officer,
Santal Parganas

BLOCK NAME	VILLAGE NAME	THANA NO	SHEET NO	PLOT NO	AREA in ACRE	LAND TYPE	REMARKS
Pathna	Juhibana	81	1	1	4.6618	River	
			TOTAL AREA		4.6618		

Proposed Area in Ha of 36- 0.812

PILLAR NO	EASTING	NORTHING	LATITUDE	LONGITUDE
P1	575415.4459	2743475.562	24°48' 15.190" N	87°44' 46.190" E
P2	575536.2398	2743752.658	24°48' 24.177" N	87°44' 50.546" E
P3	575558.433	2743649.249	24°48' 20.812" N	87°44' 51.316" E
P4	575437.1539	2743462.013	24°48' 14.746" N	87°44' 46.960" E

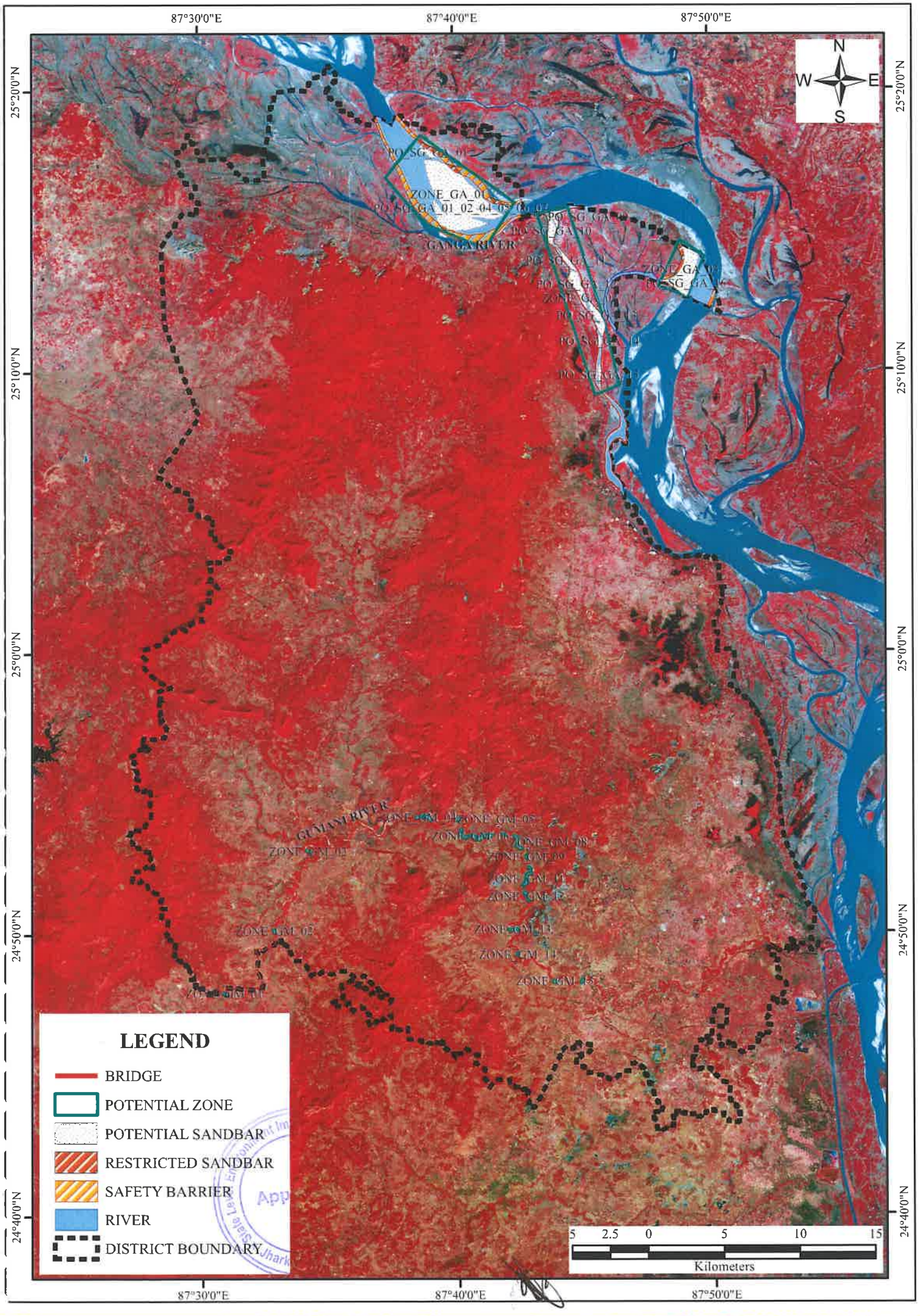
State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

Legend

- PILLAR POINT
- PROPOSED GHAT
- VILLAGE WISE AREA

PLATE-D

Composite Map Sahibganj)


87°30'0"E
87°40'0"E
87°50'0"E
25°20'0"N
25°10'0"N
25°0'0"N
24°50'0"N
24°40'0"N
N
W
E
S
GANGA RIVER
GUMANI RIVER
LEGEND
BRIDGE
POTENTIAL ZONE
POTENTIAL SANDBAR
RESTRICTED SANDBAR
SAFETY BARRIER
RIVER
DISTRICT BOUNDARY
5 2.5 0 5 10 15
Kilometers

District Mining office. Sahibganj.

Letter no. 971 **To whom it may concern** Date - 26/9/23

This is to certify that all sitting criteria/ Provision of JSPCB & SEIAA, Jharkhand has been complied.

As per JSPCB notification no.- B-21, Ranchi dated 16/08/13.

Minimum Distance from	Distance (in meter)
NH	100
SH	100
Distance metal road	50
Railway line	100
River	100
Any other river	100
Habitation	200
Forest /Forest Land	400

As per 58th MOM -of- SEIAA Jharkhand

III. Revised format for PP to get the following information/certification from Circle Officer:-

क्रम सं०	निर्धारित बिन्दु	हाँ/नहीं
1.	क्या आवेदित भूमि की कोटि स्त्वे खतियान यथा रजिस्टर-II में जंगल झाड़ी के रूप में दर्ज है?	
2.	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	
3.	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है?	
4.	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	
5.	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	
6.	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	
7.	क्या 10 कि०मी० की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है?	
8.	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है?	

As per 67th MOM -of- SEIAA Jharkhand

iv. Revised format for project proponent to get the following information / certification from Divisional Forest Officer concerned :-

क्रम सं०	निर्धारित बिन्दु	हाँ / नहीं
1.	2.	3.
1.	क्या परियोजना स्थल से आरक्षित वन / संरक्षित वन भूमि से दूरी 250 मी० है?	
2.	क्या परियोजना स्थल No Mining Zone अंतर्गत आता है?	
3.	क्या परियोजना स्थल से 10 किलो मीटर की दूरी के अंदर कोई नेशनल पार्क है?	
4.	क्या परियोजना स्थल से 10 किलो मीटर की दूरी के अंदर कोई अभ्यारण्य एवं जैव विविधता क्षेत्र है?	
5.	क्या परियोजना स्थल से 10 किलो मीटर की दूरी के अंदर कोई इको सेंसिटिव जोन (Eco Sensitive Zone) है?	
6.	क्या आवेदित परियोजना ESZ के अन्तर्गत प्रधोषित श्रेणी में आता है अथवा नहीं?	

District Mining Officer
Sahibganj

State Level Environment Impact Assessment Authority * Jharkhand, Ranchi * Approved

Distance from Bridge

SL NO.	Sandbars Code	Lease Details	Area in Ha.	Village Name	Block Name	Thana No.	Plot No.	Distance from Bridge In Km
1	PO_SG_GM_02	Gumani 2	1.83	Baragarhi, Kushuma	Barhait	36, 27	1, 1326	8.4
2	PO_SG_GM_04	Gumani 3	1.2	Gopaladih	Barhait	33	1	3.1
3	PO_SG_GM_05	Gumani 4	1.06	Kherwa, Petakhasa	Barhait	1, 28	982, 1	1.3
4	PO_SG_GM_06	Gumani 5	2.38	Dariapur, Dumaria	Barhait	27, 2	471, 825	2
5	PO_SG_GM_07	Gumani 6	1.33	Rohra, Sirjam Ghutu	Barhait	4, 3	2002, 489	4
6	PO_SG_GM_09	Gumani 7	0.77	Sanmoni, Sirjam Ghutu	Barhait	20, 3	2252, 490	4.3
7	PO_SG_GM_11	Gumani 8	2.19	Goradih, Khutana, Sanmoni	Barhait	25, 26, 20	1, 881, 2252, 2347	4.4
8	PO_SG_GM_12	Gumani 9	1.36	Goradih, Sanmoni	Barhait	25, 20	1, 2347	5.1
9	PO_SG_GM_13	Gumani 10	1.01	Dudhadih	Barhait	23	229	5.6
10	PO_SG_GM_14	Gumani 11	0.51	Sanmoni	Barhait	20	2852	5.9
11	PO_SG_GM_15	Gumani 12	1.61	Doraisantali, Sanmoni	Barhait	22, 20	1, 2851	6.2
12	PO_SG_GM_18	Gumani 13	2.34	Amdanda, Mandalo, Tegra	Pathna, Barhait	41, 1, 21	878, 147, 148, 1242	7.9
13	PO_SG_GM_19	Gumani 14	2.03	Amdanda, Mandalo	Pathna	41, 1	878, 148	3.9
14	PO_SG_GM_21	Gumani 15	0.37	Mandalo, Manjhladih	Pathna	1, 42	679, 62	3.4
15	PO_SG_GM_22	Gumani 16	0.38	Kusumpokhhar, Manjhladih	Pathna	2, 42	2189, 1059	2.7
16	PO_SG_GM_24	Gumani 17	1.17	Kusumpokhhar, TaljhariI	Pathna	2, 43	2599, 916	2.3
17	PO_SG_GM_26	Gumani 18	2.06	Amjhor, Kusumpokhhar	Pathna	44, 2	1, 2466	1.6
18	PO_SG_GM_28	Gumani 19	0.91	Amjhor, Kusumpokhhar	Pathna	44, 2	1, 2466	1
19	PO_SG_GM_29	Gumani 20	0.34	Amjhor, Kusumpokhhar	Pathna	44, 2	246, 2487	0.6
20	PO_SG_GM_30	Gumani 21	0.95	Kuchpara	Pathna	7	282	1.5
21	PO_SG_GM_31	Gumani 22	0.2	Dahujor	Pathna	45	389	1.4
22	PO_SG_GM_34	Gumani 23	1.27	Chutia, Telbhita	Pathna	8, 46	717, 1470	3.3
23	PO_SG_GM_35	Gumani 24	1.26	Amgachhi, Bara Tola, Sibapahar	Pathna	54, 39, 40	463, 376, 1	0.55
24	PO_SG_GM_36	Gumani 25	0.81	Juhibana	Pathna	81	1	1.1