



Building Design Authority (P) Ltd
in joint Venture with
B.N. Consultancy Pvt. Ltd and
PLUSH Engineering & Architects (P) Ltd Kathmandu.

Semi-Annual Environmental Monitoring **Report (July-December 2020)**

Regional Urban Development Project (RUDP)
Project Implementation Unit
Biratnagar, Nepal
ADB Loan 47252- NEP



January, 2021
Biratnagar Metropolitan City (BMC), Nepal

PROJECT DESCRIPTION

Project Name	Regional Urban Development Project (RUDP)
Project Number:	ADB Loan No.47252 - NEP
Report for:	Biratnagar Metropolitan City

PREPARATION, REVIEW AND AUTHORIZATION

Revision #	Date	Prepared by	Reviewed/Submitted by	Approved by
5	January 2020	Prakash Bhakta Shrestha (Social Safeguard Expert)	Er. Giresh Chand (Team Leader)	Employer/ADB

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Table of Contents

I.	INTRODUCTION	1
II.	DESCRIPTION OF SUB PROJECT	1
a.	Environmental category of Subprojects	7
b.	Project Safeguard Team.....	8
c.	Overall project and sub project progress and status	9
III.	COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS	7
IV.	COMPLIANCE STATUS WITH ENVIRONMENTAL MANAGEMENT PLAN	8
a.	Compliance Status.....	8
b.	Summary of Environmental Monitoring Activities for the Reporting Period.....	10
c.	Compliance Status with the Environmental Management and Monitoring Plans.....	15
V.	APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT	16
VI.	MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS	17
VI.	GRIEVANCE REDRESS MECHANISM.....	18
VII.	COMPLAINTS RECEIVED DURING THE REPORTING PERIOD	20
VIII.	SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS.....	20

Annex-1 Photographs

Annex-2

1. Environmental Monitoring Checklist
2. SOP Health Monitoring Format
3. Test Report

ABBREVIATIONS

ADB	=	Asian Development Bank
AP	=	Affected Persons
BMC	=	Biratnagar Metropolitan City
BS	=	Bikram Sambat
CDP	=	Community Development Program
CRIPPF	=	Combined Resettlement and Indigenous Planning Framework
DDR	=	Due Diligence Report
DSC	=	Design and Supervision Consultant
DUDBC	=	Department of Urban Development and Building construction
EMP	=	Environmental Management Plan
EPR	=	Environment Protection Regulation
IEE	=	Initial Environmental Examination
GoN	=	Government of Nepal
GRC	=	Grievance Redress Committee
ISWM	=	Integrated Solid Waste Management
MoUD	=	Ministry of Urban Development
NRs	=	Nepalese Rupees
NGO	=	Non-Government Organization
PCO	=	project coordination office
PIU	=	project implementation unit
PPE	=	Personal Protection Equipment
PPTA	=	Project Preparatory Technical Assistance
ROW	=	right of way
RP	=	resettlement plan
R&R	=	resettlement & rehabilitation
RUDP	=	regional urban development project
SDS	=	social development specialist
STIUEIP	=	Secondary Town Integrated Urban Environmental Improvement Project
SPS	=	Safeguard Policy Statement
SD	=	Safeguard Desk

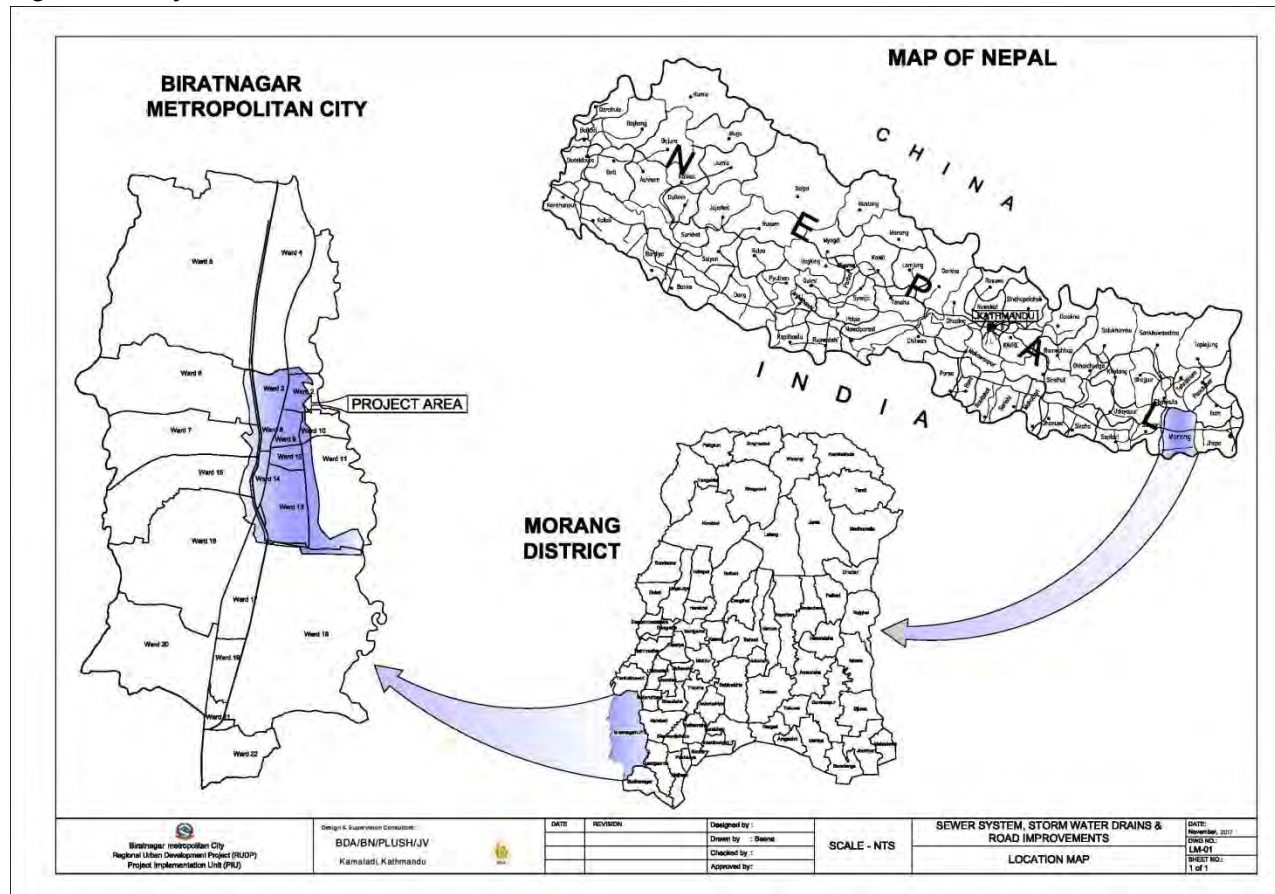
WEIGHTS AND MEASURES

Ha.	=	Hectare
Kg.	=	Kilogram
m.	=	meter
sqft.	=	Square fit
sqm.	=	Square meter
1 ha	=	1.47 bigha

I. INTRODUCTION

1. The Regional Urban Development Project (RUDP) is designed with the aim to improve livability and urban services in the municipalities of Godawari, Bhimdatta, Biratnagar, Birgunj, Dhangadhi, Shuklaphanta, Nepalgunj and Siddharthanagar in the Terai Region of Nepal through planning, infrastructure investments, and institutional strengthening. The eight cities have high population growth rates, are severely lacking investment, and are experiencing a high level of environmental degradation. The project is also in line with ADB's Nepal Country Partnership Strategy (2013-2017), which supports the government's development objective of accelerated, sustainable, and inclusive economic growth, and with the Asian Development Bank's (ADB) water and urban operational plans.
2. Biratnagar is one of the eight municipal towns included in the RUDP. The subcomponent of the RUDP covers the construction and improvement of sewerage, drainage and roads and design of Integrated Solid Waste Management System (ISWMS) for Biratnagar Municipality. Building Design Authority (P) Ltd (Nepal), B.N. Consultancy Pvt. Ltd and PLUS Engineers & Architects (P) Ltd Kathmandu as a design and supervision consultant (DSC) and have entered for a Contract of Consulting Services with Regional Urban Development Project (RUDP), Project Implementation Unit (PIU), Biratnagar Metropolitan City (BMC) on 28th August 2017 and design and supervision were commencement on September 6, 2017.
3. RUDP, the Department of Urban Development and Building Construction (DUDBC), under the Ministry of Urban Development (MoUD) through the Government of Nepal (GoN) has received the loan from ADB.
4. In line with ADB's Strategy 2020 and based on Nepal's fundamental long term needs and on the GoN's priority, the ADB is continuing to support the Government in(i) improving urban infrastructure; improving access to water supply and sanitation (ii) supporting urban environmental improvement(iii) strengthening the operation and management skills of local governments. The RUDP will forward to promote healthy cities by creating healthier urban environments and was formulated under the PPTA 2010. *Figure 1* presented below shows project location of BMC.
5. This Semi-annual Environmental Monitoring Report (EMR) July-December, 2020 of RUDP, Biratnagar has been prepared on the basis of results of the regular environmental monitoring activities undertaken by the Contractor during the reporting period from July to December 2020 as required by the Environmental Management Plan (EMP).
6. Similarly regular monitoring visits by DSC Environmental Expert have been made and standard environmental monitoring checklist has been used to note the status of EMP compliance.

Figure 1: Project location of RUDP



II. DESCRIPTION OF SUB PROJECT

7 Since 2012 STIUEIP is implementing (i) drainage and sanitation including wastewater treatment plants (facultative and anaerobic pond), public and school toilets, and storm water drainage; and (ii) roads and lanes including upgrading of roads, footpaths, side drain and walkways in BMC. In most of the sections the drainage construction and earthen works of the roads has been completed but pavement improvements could not be done under STIUEIP due to cost overrun.

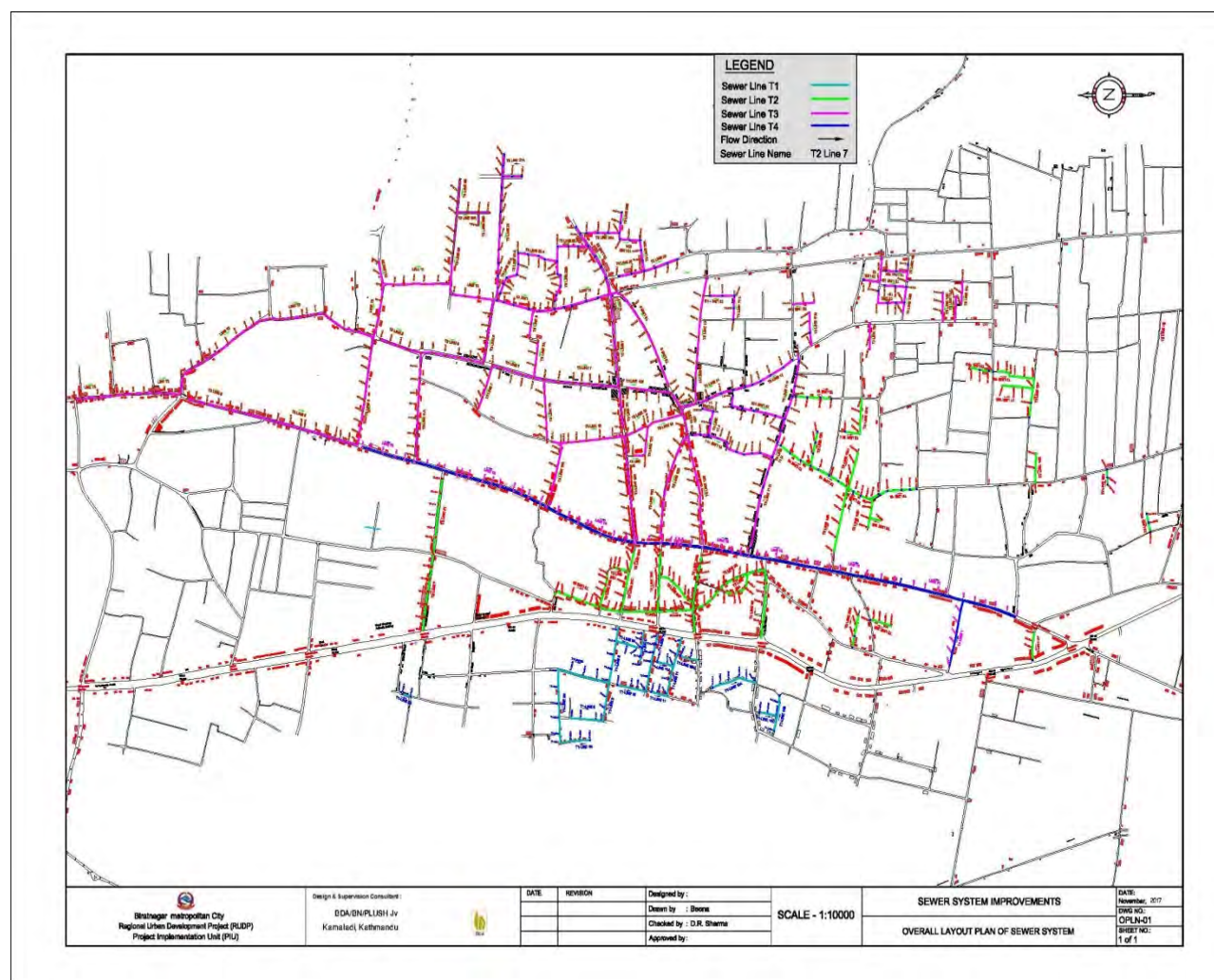
8 The additional works under RUDP are expected to complement STIUEIP and lead to increased efficiencies, greater improvement in service delivery, and higher impact on the livelihood outcomes of inhabitants of BMC. The pre-project construction activities, including land acquisition have been almost completed by the RUDP. In many cases, RUDP is working on the same alignment as STIUEIP. STIUEIP installed the drain and RUDP has been rehabilitating the road and construct a footpath. The table 1 provides a summary of the proposed alignments where STIUEIP is also working to show synergies between the two projects. The shaded rows denote new/additional alignments under RUDP.

**Table 1: Summary of Project Components in Regional Urban Development Project
Biratnagar**

Components	Description of the Activities	Quantification of major construction items/ activities	Location
Drainage and sanitation			
Sewerage network	Sewerage pipe supply and installation; manhole; sewer inlet; house connections	Installation of 18.559 km sewerage pipeline; construction of 606 manholes; 1,010 sewer inlets and 3,784 house connections	At the central line of the existing roads within clear road width
Storm water drainage	RCC drains	Construction of Chyangbari Nala = 585 m. Construction completed.	Within the clear width of existing Nala
Roads and Lanes			
Road improvements	Asphalt concrete, footpath and roadside drains	Road improvements with asphalt concrete: 74.57 km, including footpaths and roadside drains: 39.20 km	Existing roads and footpaths

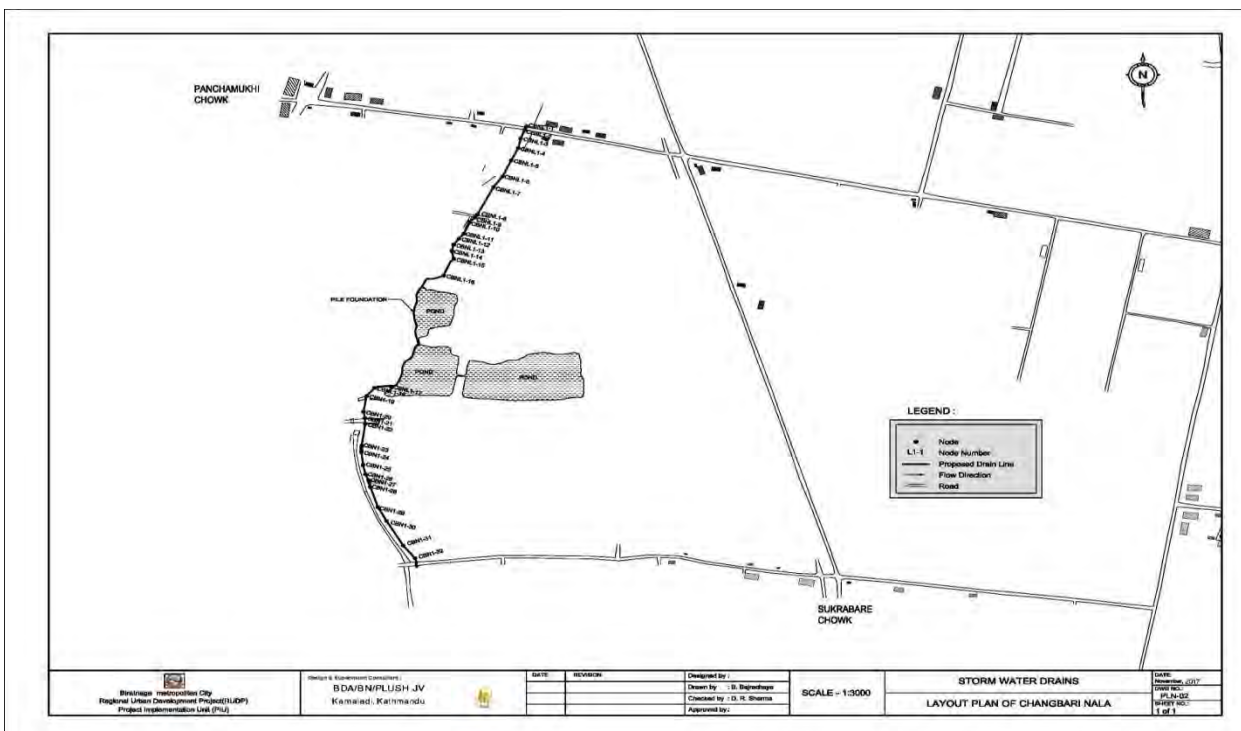
- 9 As indicated in design and drawings there will be 4 types of trunk and secondary sewerage system. Overall layout plan of the sewerage system as proposed for RUDP is given in *Figure 2*.

Figure 2: Sewerage Layout Plan



- 10 The construction of the storm drainage has already been completed. *Figure 3* presented below shows overall storm water drainage plan for BMC. All planned storm drainage system has already been constructed which passes through the existing Chyangbari Nala (Sagarmatha tole to Sukrabare Hatiya). The right side of blue shaded area in the *Figure 3* is proposed under the RUDP and constructed. The existing ROW of the drainage will be sufficient to improve the proposed section. There are no registered private lands, tenants and sharecroppers or seasonal encroachers at either site of the proposed drain.

Figure 3: Storm Water Drainage Layout Plan



11 A total of 74.57 km road improvement has been proposed in the RUDP. The roads included for improvements are those roads which were damaged due to pipeline installation, storm drain construction and other project related works of STIUEIP and couldn't be restored due to unavailability of funds. The overall road network layout plan is shown in *Figure 4a and 4b*.

Figure 4a: Overall Layout Plan of Road Improvement Networks (Northern part/main road)

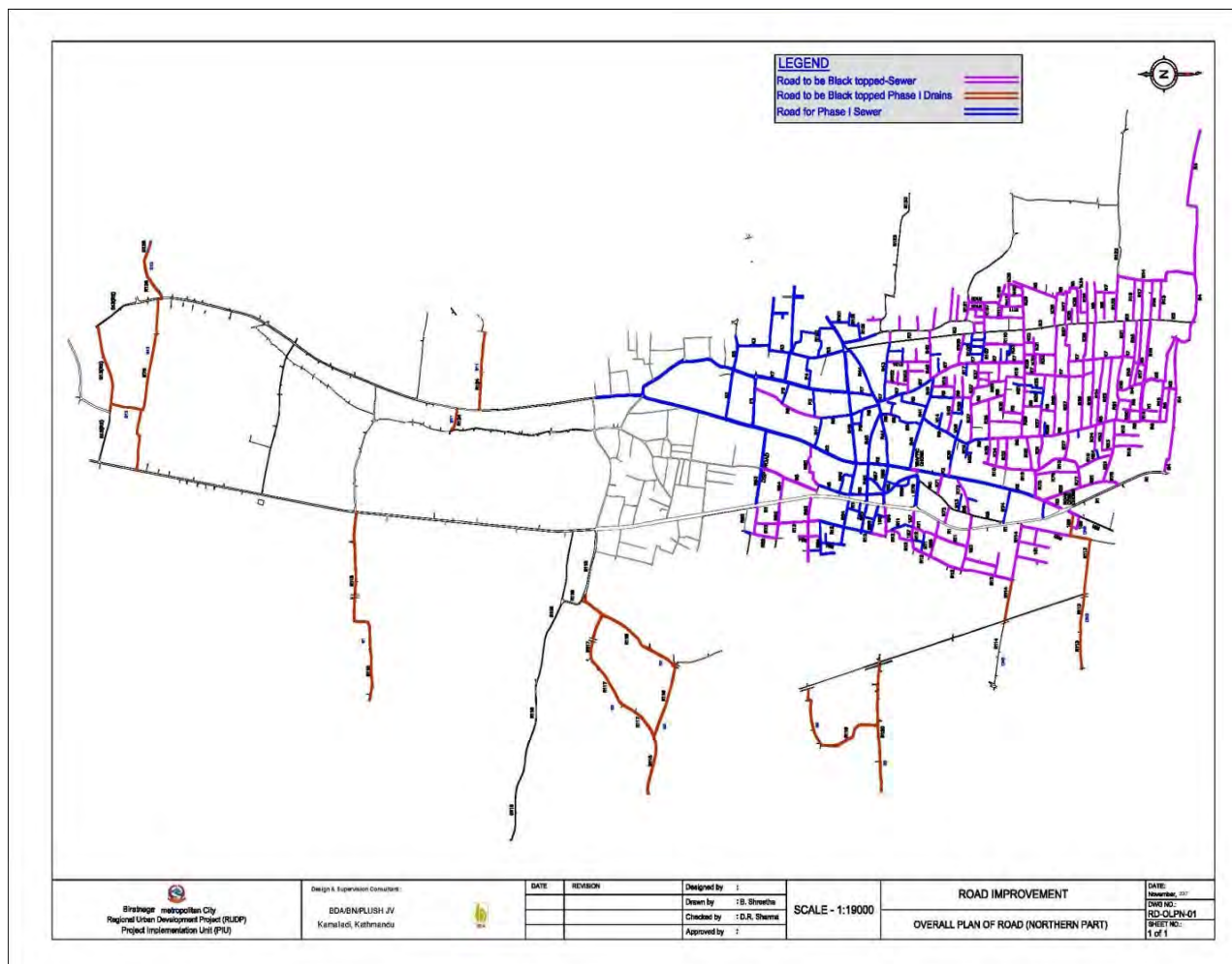
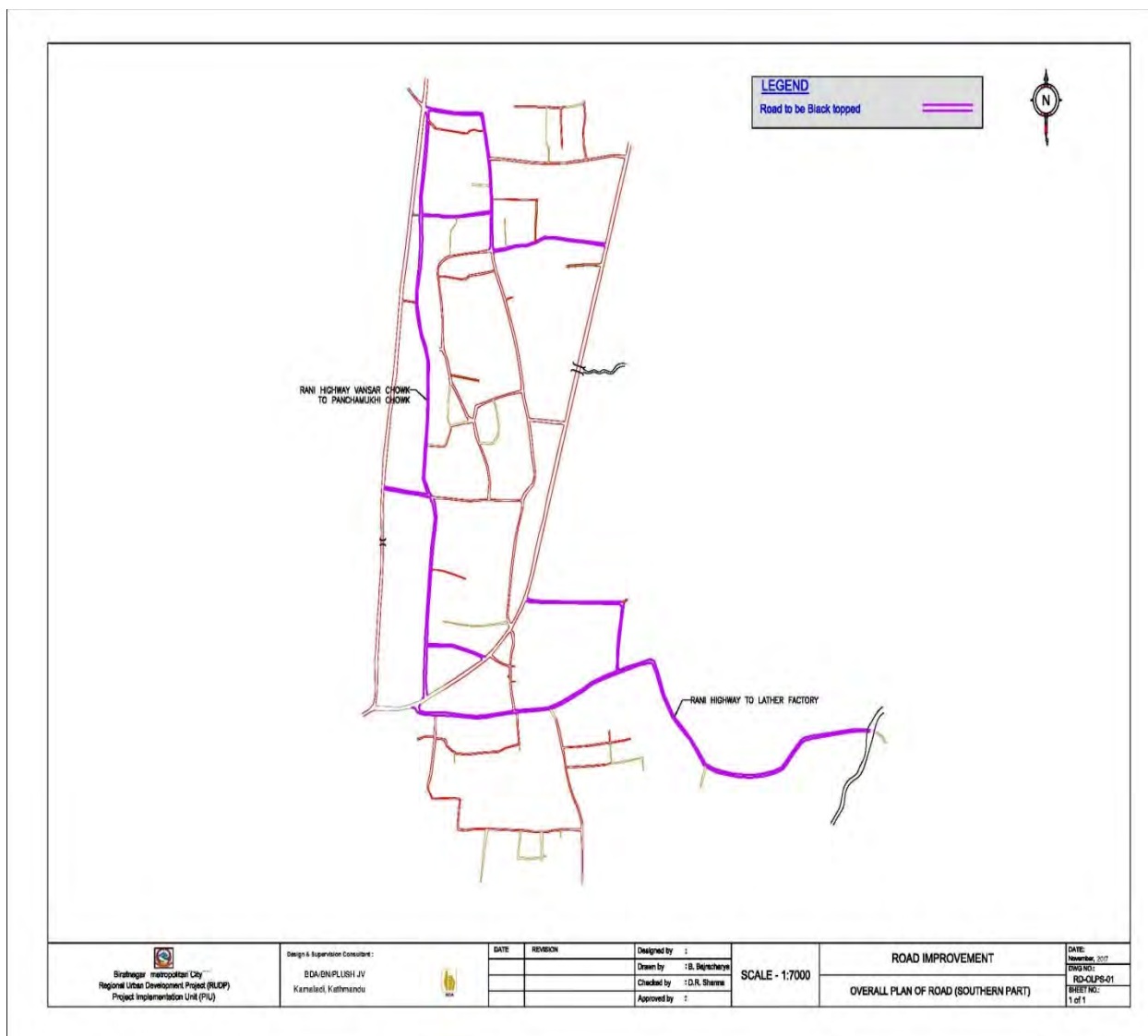


Figure 4b: Overall Layout Plan of Road Improvement Networks (Southern part/rani area)



SALIENT FEATURES OF CONTRACT PACKAGE – RUDP/ICB/BRT/2

General Features	
Name of Project	Regional Urban Development Project(RUDP)
Executing Agency	Government of Nepal, Ministry of Urban Development Department of Urban Development and Building Construction (DUDBC)
Implementing Agency	Biratnagar Metropolitan City,
Funded By	Asian Development Bank & Government of Nepal
Components	Construction and Completion of Sewerage, Drainage, Road, Footpath and Road furniture works
Contract No.	RUDP/ICB/BRT/2
Location	Biratnagar Metropolitan City, Biratnagar, Morang, Province No-1
Consultant	Building Design Authority (P) LTD in Joint Venture With B.N. consultancy Pvt and PLUS Engineers and Architects (P) Ltd Kathmandu.
Contractor	ZHONGHENG Construction Group International Engineering co Ltd. Beijing, China.
Date of Commencement	2nd November 2017
Revised Completion Date	11th February, 2021 (proposed)
Contract Amount including PS and VAT after VO-02	NRs. 2, 988,389,581.81
Physical Progress up to date	Construction works are under progress. Overall physical progress till Dec.2020 is 91.73% ,
Financial Progress up to Date	87.74% , after VO-02

a. Environmental category of Subprojects

12 The project is environmental improvement project, and mainly constitutes works on sewerage/ drainage improvement works Road works and design for Integrated Solid Waste Management in BMC besides others. As per ADB Safeguard Policy Statement (SPS), 2009 on Environmental Assessment requirements, this project is classified as Environment Category B.

13 According to GoN's Environmental Protection Rules, 2054 BS, schedule -1, IEE is required for Operations of Sewerage Schemes under Schedule 1.h.2.e (Pertaining to Rule 3). IEE report under STIUEIP was approved by MoUD on May 14, 2013.

14 The Due Diligence Report (DDR) has been prepared and submitted to PIU for approval for the additional works as a supplementary document for approved IEE report under STIUEIP.

15 The Inception report on Integrated Solid Waste Management (ISWM) has already been prepared and submitted to PIU. Similarly Stakeholder's analysis, communication strategy and consultation plan for ISWM also has been submitted.

b. Project Safeguard Team

16 A Safeguard Desk (SD) of 4 members has already been formed to monitor the overall project's safeguard issues. The details of the safeguard team with their respective roles is as follows:

Name	Designation / Office	Email Address	Contact Number	Roles
PIU				
Mr. Bharat Kumar Neupane	Project Manager/ Biratnagar Metropolitan City	stiueip.brt@gmail.com	9852026869	Overall management and monitoring of the project activities
Mr. Punam Kumar Dahal	Social Safeguard Officer/Biratnagar Metropolitan City	punamkdahal@yahoo.com	9852022729	Monitoring the Issues of social safeguard, GESI and resettlement of the project, check and monitoring the safeguard activities of contractor and consultant
Consultants				
Mr. Prakash Bhakta Shrestha	Social Safeguard Expert/ DSC	pbs026@gmail.com	9841329719	Monitoring the Issues of social safeguard, GESI and resettlement of the project, Prepare Social Monitoring Report and resettlement plan and check and monitor the safeguard activities of the contractor

Name	Designation / Office	Email Address	Contact Number	Roles
Mr. Dwarika Phuyal	Environmental Safeguard Expert/ DSC	phuyaldwarika@gmail.com	9851086137	Monitoring the Issues of environmental safeguard of the project, Prepare Environmental Monitoring Report (EMR) check and monitor the safeguard activities of the contractor.

c. Overall project and sub project progress and status

17 The Overall Project Progress till the month of December is 91.73% after Variation Order-02. There are altogether 79 skilled and 232 unskilled labours employed in construction including 22 Nos. female. The progress till December, 2020 is as shown in table below:

The physical progress till December, 2021

S No	Sub Project Components	Progress % (as end of December after VO-02)
1	Road Rehabilitation (Asphalt)	91.91%
2	Sewer Line	100%
3	Storm Drain	100%
4	Road Side Drain	99.80%
5	Design of Integrated Solid Waste Management (ISWM)	Inception Report as well as Stakeholder's Analysis, Communication Strategy and Consultation Plan has already been submitted. Due to Social Problem, Progress on design has been hindered.
6	Overall Physical Progress	91.73%.

Description of subprojects (package wise) and status of implementation:

Package Number	Components / List of Works	Contract Status (specify if under bidding or contract awarded)	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M)	If On-going Construction	
				Physical Progress	Expected Completion Date
	Sewer lines	Contract awarded	Completed	100%	
	Storm Water Drainage	Contract awarded	Completed	100%	
	Roads and Lanes	Contract awarded	On-going Construction	Road pavement with asphalt concreting under progress (91.91%)	

III. COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

Environmental safeguard related project activities are in compliance with prevailing statutory environmental laws as regular follow up actions are being taken according to the provisions made in laws.

Compliance Status

Package Number	Sub project name	Statutory Environmental Requirements	Status of Compliance	Action Required	Specific Condition that will require environmental monitoring as per Environmental Clearance, Consent / Permit to establish
RUDP/I CB/BRT /2	Sewerage and Drainage Networks, and Road & Lane Improvement	As per ADB guidelines on Environmental Assessment requirements, this project is classified as Environment Category B GoN's Environmental Protection Regulations (1997) also stipulate that an IEE is necessary for the new sewerage project. The project is environmental improvement project,	Complied (IEE approved under STIUEIP) DDR has been prepared		

Package Number	Sub project name	Statutory Environmental Requirements	Status of Compliance	Action Required	Specific Condition that will require environmental monitoring as per Environmental Clearance, Consent / Permit to establish
		and mainly constitutes works on sewerage/ drainage improvement works in BMC besides others. According to Environmental Protection Regulation, 2054 BS1997, IEE has been carried out for Operations of Sewerage Schemes under Schedule 1 (Pertaining to Rule 3) under STIUEIP. However the sub project under RUDP is an additional of STIUEIP, Only DDR is sufficient and no environmental assessment required DSC prepared and submitted already the DDR to PIU.			

IV. COMPLIANCE STATUS WITH ENVIRONMENTAL MANAGEMENT PLAN

a. Compliance Status

18 The IEE report under STIUEIP and Site Specific EMP as a part of Contract document have already been approved. The monitoring of sub project components under implementation has been carried out. The contractor has been mobilized since 2nd November, 2017 and construction work is under progress.

Compliance Status of IEE and EMP:

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
	Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor's (Yes/No)		
RUDP/IC B/BRT/2	Final IEE approved	Yes	https://www.adb.org/.../3	Yes	Yes	

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
	Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor's (Yes/No)		
	on May 14, 2013 IEE.		6188-023- iee-07 http://www.b iratnagar mu n.gov.np/en/ content/regi onal-urban- developmen t-project-rudp			

19 The internal environmental monitoring activity focuses on the current status of implementation of the environmental safeguard measures, effectiveness in implementation and provision of feedbacks and suggestions for the full compliance with ADB Environmental Safeguard Policy and GoN rules and regulations.

The EMR therefore is necessary to know the status of safeguard measures implementation and to recommend the corrective action for full compliance of safeguard measures.

20 For the contract package there is a provision of Accident Prevention Officer as a contractor's person for environmental safeguard.

The contractor has appointed a safety officer to look after environment, health and safety issues.

b. Summary of Environmental Monitoring Activities for the Reporting Period

The monitoring activities during this reporting period along with potential environmental impacts, mitigation measures, monitoring parameters, locations with responsible agencies is shown in the table below.

Table 2 Environmental Monitoring Activities

Impacts	Mitigation Measures	Parameters monitored	Method of monitoring	Location of Monitoring	Monitored by
Design Phase					
Pre -construction phase					
No such impact is anticipated as the works involve only about review of detailed design, site investigation, detailed survey etc.					
Construction Phase					
Air pollution , increase in dust/suspended particulate matters	-Sprinkling of water on road surface, over excavated soil and across diversion three to four times a day or as required -Cover stockpiled construction materials with tarpaulin -Provision of dust masks to workers	Dust emission Frequency of Sprinkling of water Use of dust preventive mask by workers	Observation	Construction Site	Environmental Safeguard Expert

January, 2021

Impacts	Mitigation Measures	Parameters monitored	Method of monitoring	Location of Monitoring	Monitored by
Inconvenience to pedestrians and vehicles	<ul style="list-style-type: none"> -Plan transportation route -Inform public about the nature and duration of construction -Do not block public road and pedestrian footpath -Provide diversion with proper traffic sign and signal boards -Coordinate with Municipal Traffic Office for temporary road diversion. -Place precast slab cover immediately as early as possible on completion of construction by cleaning the drain bed of side drain 	<p>Transportation Plan and schedule of working</p> <p>Proper diversion Traffic signs and barricades Road side drain cover</p>	Observation	Construction Site	Environmental Safeguard Expert
Issue of management of excavated surplus and stockpiling of construction materials	<ul style="list-style-type: none"> -Back fill of sewer line/side & storm drain after laying of sewer lines and constructing drain, - Locate, peg and seek approval from the supervising consultant for the use of stockpile sites. -Stockpile should not be located on water courses; should not be within 50m of Schools, hospitals or public standpipes; and should not affect locals and their properties. -Obtain written permission from landowners and local bodies for stockpiling on their land. -Stockpiles should be covered with tarpaulins. For large stockpiles, it should be enclosed with side barriers and also covered when not in use. -Clean area properly after completion. 	Proper excess surplus management	<p>Observation</p> <p>Observation</p>	<p>Construction Site</p> <p>Construction Site</p>	Environmental Safeguard Expert

January, 2021

Impacts	Mitigation Measures	Parameters monitored	Method of monitoring	Location of Monitoring	Monitored by
Insufficient number of labours	<ul style="list-style-type: none"> -Locate disposal sites on stable ground without excessive slope; that avoids water courses and wetlands; that will not promote instability and result in destruction of property, vegetation and local services. -Restrict disposal at approved locations with correct placement of fill. -Minimize the period of construction by increasing workers. 	No. of labours	Observation	Construction Site	
<i>Issues of Occupational Health and Safety</i> Accidents and Injuries Labour camp establishment, waste management and Water Supply and Sanitation	<ul style="list-style-type: none"> -Implement a site Health and Safety Plan -Provide adequate Personnel Protective Equipment (PPE) to workers (jackets, helmets, boots, gloves and masks etc.) to workers -Provision of First Aid Box with required medicines -Provide Hand sanitizer, face masks, proper hand washing facilities with soap and sufficient water along with awareness program on COVID-19 -Provide proper signage (sign board, diversion board, safety cone, etc). -Provision of light and ventilation with safe and proper drinking water facilities, toilet, sanitizer, masks and collection and proper management of solid waste and liquid wastes including good living environment 	<ul style="list-style-type: none"> -Provision of PPE on site Nos. of awareness program Type and number of safety boards and protective tools Quality and quantity of drinking water, type of toilet and 	Observation	Construction Site	Environmental Safeguard Expert

January, 2021

Impacts	Mitigation Measures	Parameters monitored	Method of monitoring	Location of Monitoring	Monitored by
	<ul style="list-style-type: none"> - Awareness and training to workers. - Strictly prohibit to employ child or under aged person as per Labour Act, BS 2074. 	waste collection and management facilities Type and number of awareness Programs Nos. of Child labour			
Use of Bitumen / Combustible / and Toxic Materials	<ul style="list-style-type: none"> -Fuel wood shall not be used for heating bitumen. Bitumen shall be melted in heaters using kerosene, diesel or gas fuel. -Bitumen drums should be stored in dedicated areas, not scattered along the road and any small accidental spills should be cleared up immediately. -No bituminous material shall be discharged into side drains. Bitumen shall not be applied in strong wind or rainy conditions. 	Use of fuel wood if any, Location of bitumen stores	Observation	Construction site and yard	Environmental Expert
Noise pollution	<ul style="list-style-type: none"> -Avoid noise generating activities at night. Restrict work to day hours. -Noise barriers to be placed in sensitive locations i.e. schools, hospitals etc. -Consult with the local community to inform them of the nature, duration and likely effects of the construction work, and to identify any local concerns so that these can be addressed. -Minimization of period of construction. 	Condition of vehicles and equipment	Observation	Construction Site	Environmental Safeguard expert

January, 2021

Impacts	Mitigation Measures	Parameters monitored	Method of monitoring	Location of Monitoring	Monitored by
	-Regular Maintenance of vehicles and equipment.				
Operation Phase					
Construction phase under progress					

January, 2021

c. Compliance Status with the Environmental Management and Monitoring Plans

Overall Compliance with EMP

Sub-Project Name	EMP Part of Contract Documents (Y/N)	EMP Being Implemented (Y/N)	Status of Implementation(Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required
Sewerage/Drainage Networks, Road & Lane Improvement	Y	Y	Satisfactory	

V. APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

21 This Environmental Monitoring Report has been prepared based on Environmental Management Plan (EMP) and observations made during monitoring visits by DSC Environmental Specialist. Contractor submits regularly monthly report along with Site-specific Environmental Monitoring Checklist to DSC. The DSC will check and verify the reports whether or not the EMP complied. The contractor nodal person (Accident Prevention Officer) who is involved in looking over health, safety and environmental issues and fills monitoring checklist.

A copy of the sample site specific monitoring checklist is attached in Annex 1.

Besides this, other major activities undertaken by the Environmental Specialist in ensuring environmental compliance and monitoring are listed as follows;

Desk review: National policies and legislations relevant to the projects sub-components were reviewed timely. Site specific Environmental Monitoring Checklist was prepared and used to note the status of project activities and EMP compliance.

Field Work: Potential environmental impacts identified by the contractors and the suggested mitigation measures' compliance or non-compliance mentioned in the Site-specific Monitoring Checklist was validated through field observations every month by the DSC.

Interaction and consultation with the local community and other stakeholders: A Safeguard Desk (SD) was established in the project for effective planning, monitoring and follow up of all environmental, social development/ safeguard issues . It was started as a functional mechanism consisting of PIU and DSC. The desk consists of the PM and Social Safeguard Officer of PIU, Environmental and Social Safeguard Experts of DSC.

Regular meeting of SD have been organized on monthly basis or as required. The desk will review, update and discuss the progress, issues, constraints and challenges of social and environmental aspects, Community Development Program and implementation of resettlement plan as well as monitoring of social development activities.

The Environmental Specialist of DSC also has made regular field monitoring visits to the project site, interact with the Contractor and verify that the mitigation activities are being carried out as required.

Labours and other Work-force are questioned each time during field visit about the environmental safeguard measures they are taking and materials being provided by the contractor along with direct observation of the work force camps for accommodation and the quality of water supply, hygiene and sanitation.

DSC prepares Semi-annual environmental monitoring reports and submits to PIU, PMC and ADB after reviewing the Contractor's reports.

VI. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS

Dust Emission and Control

22 Dust Pollution was noticed as one of the major problem in the initial stage of improvement of roads and lanes because of excavation of sewer/drainage lines, storage of construction materials and dumping excavated spoilage along roadside for a long time. Movement of vehicles over those materials and unpaved road surface within project area was causing trouble of dust emission and air pollution. However, during this reporting period, almost excavated sewer lines, house connections and drains have been backfilled with reinstatement of road surfaces. Similarly spoil also has been dumped and managed properly in specified place i.e at Madhumara yard.

23 To minimize it, the contractor is instructed to store debris and materials properly when stored along roadside with the intention of reuse of the same immediately in filling and laying as road surface course and compacting with the use of sufficient water. Water spray should be continued at least two to three or more during the day as required.

24 The sprinkling of water has been done on access road surface and construction sites daily, by the contractor. The chances of emission of dust will be more during winter, dry and windy day. The Contractor therefore requested to increase the frequency of sprinkling water as required in dust prone area within construction sites and unpaved access road with diversion during dry windy day and winter season.

Use of Sign Boards, Barricades and PPEs

25 Sign boards with barricades and caution tape have been installed at construction sites, however in few sites these were not sufficient. Therefore the contractor is requested to install adequate signboards with safety information, barricade and caution tape for demarcation of project sites and its enclosure. Safeguard tools like helmets, gloves, boots and masks have been distributed to labours, but not adequately used by the labours.

26 Temperature measurement of labour and staffs of contractor and consultant with provision of hand sanitizer and masks have been arranged so as to prevent from COVID-19 pandemic. The contractor also instructed to strictly follow the health safety measures including maintaining physical distancing to mitigate the COVID-19. A sample SOP health monitoring format is attached in Annex 2.

Issues of Noise and Vibration

27 Hot mix or Asphalt plant is located in the Rani area away from the population centers. The contractor should take precautions to reduce the level of noise, vibration and dust emissions. No bituminous materials should be discharged into drains, nearby vegetation and property during spray over road surface. Place and compact hot asphalt mix immediately after spraying the prime and tack coat.

28 The crusher plant is not in operation in construction site. Contractor has made agreement with sand and aggregate supplier to supply the sand and aggregate as required for site.

Water Quality Monitoring

29 Water quality tests of existing wells at labour camps, Madhumara yard, Lab office and Koshi Yard have already carried out and the results found satisfactory. The contractor advised to carry water quality tests of any new wells (if installed prior to use for drinking purpose).

VI.GRIEVANCE REDRESS MECHANISM

30 The subproject will utilize the GRM proposed in CRIPPF of RUDP to hear grievances and concerns raised from affected persons and project beneficiaries during construction of the project.

31 A Local/Metropolitan level grievance redresses committee (GRC) comprising 7 members is formed to receive grievances filed in relation to RUDP implementation in BMC. The Mayor of BMC is the chairperson of the GRC with CAO of BMC and Project Manager as member and chief, social development of PIU as member secretary of the committee. This committee has been effectively addressing grievances and concerns raised by the concerned stakeholders including project beneficiaries. The GRC composition is presented in the table 3 below.

Table 3: Composition of GRC for RUDP

Name	Designation	Portfolio
Mr. Bhim Prasad Parajuli	Mayor, Biratnagar Metropolitan City Office	Chairperson
Ms. Indira Karki	Deputy mayor, Metropolitan City Office	Member
Mr. Indra Mani Pokhrel	CAO, Biratnagar Metropolitan City Office	Member
Er. Bharat Kumar Neupane	Project Manager, RUDP, PIU, Biratnagar	Member
Er. Prakash Chaudhary	Project Engineer/ PIU	Member
Er. Ghanendra Katuwal	Project Engineer/ PIU	Member
Mr. Punam Kumar Dahal	Chief; Social Development/ PIU	Member Secretary

During this reporting period the GRC meeting has not been held because of not appearing any serious grievances.

After the effectiveness of the RUDP in BMC, the structure of the committee will be reviewed and revised in line with the GRC structure and mechanism prescribed in Combined Resettlement and Indigenous People Planning Framework (CRIPPF) of the project. The CRIPPF has provision to form GRC at the municipal level with representation from affected persons/beneficiaries. The Grievance redresses committee (GRC) concerned representatives of affected persons with one male and one female (a representative of indigenous people, in case of indigenous peoples related issues), will be invited in the meeting. The GRC will meet as needed to determine the merit of each grievance, and resolve it within 7 days of receiving the complaint. The Committee thus appointed should be sanctioned by the municipal board. The responsibilities of the GRC at municipality will be:

i. to conduct subproject level public awareness campaign regarding grievance redress mechanism of the project. The social safeguards expert of the DSC will support the GRC by preparing and providing information/awareness material etc. to conduct the awareness campaign. The campaign will ensure participation of poor and vulnerable groups in the awareness campaign. The campaigns also cover information on entitlements policy provisions and their application; and

ii. To hear complaints and grievances at local level. The local people can approach the committee with their grievances related to the project which will be registered, categorized and discussed in the committee with the aim of amicable settlement. It is expected that the committee will provide an accessible forum for receiving and facilitating resolution grievances related to the project and grievances will be redressed within one week from the date of received complaints. The member of secretary of GRC committee will be representing as social safeguard focal person, and will be responsible for processing and placing all papers before the GRC, recording decisions, issuing minutes of the meetings and taking follow up action to see that formal orders are issued and the decisions carried out. Any unresolved or major issues at municipality level will be referred to the PCO level GRC for resolution. DSC social expert will be assisted to social safeguard focal person. Local/Municipality Level GRC mechanism chart in below figure 6 is shown detail process of Grievance redresses. The unresolved or major issues forwarded by the BMC level GRC will be reviewed at PCO level GRC for final solution. Decision has to be made within 15 days of receipt of complaint at this level. The PCO level GRC shall refers the complaints registered at the PCO to the BMC level GRC for initial hearing within 7 days of registration. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM. People who are, or may in the future be, adversely affected by the project and not satisfied with the established GRM may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operation department.

VII. COMPLAINTS RECEIVED DURING THE REPORTING PERIOD

32 Till December 2020 total 267 written and verbal complaints were received and all were addressed accordingly.

VIII. SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

33 The key issues of the project during this reporting period identified are as follows:

- Use of PPEs, installation of adequate sign boards, barricades and caution tape etc.

34 These are the major environmental issues of the Project identified during this reporting period, the corrective actions recommended to be taken and the analysis of compliance are presented in Table below.

Table 4. Analysis of the Compliance of Corrective Actions and Recommendations

SN	Key Issues	Corrective Actions Recommended to be taken	Responsibility	Analysis of Compliance
1.	Lack of proper and regular awareness to the labour and other staffs on use of PPEs.	Aware and orient to labours on PPE, health and safety issues and make it compulsory to use PPEs at the sites, supervise and monitor regularly..	Contractor, DSC	Partially complied.
	At fewer sites, negligence in use of PPEs including barricade, caution signs and signals was observed during construction.	Contractor enforced to place proper and sufficient, barricade, caution tape, sign boards at construction sites.	Contractor	Partially complied

Annex 1: Photograph

Annex 1: Photographs



Site Safety at R4



Water sprinkling for dust minimization



Public notification about road construction activities



Asphalt Concreting work



Interlocking work



Meeting at BMC

Annex 2:

1. Environmental Monitoring Checklist Format

1. Environmental Monitoring Format
Regional Urban Development Project (RUDP)/Biratnagar

Name of Sub Project: RUDP/ Biratnagar

Contract Package: RUDP/ICB/BRT/02

Sub-project Component: Road Lanes Improvement/ Sewerage Drainage

Month: December, 2020

Checklist

S.No	Activity	Description/Present Status (Compliance/Partially Compliance/Non Compliance	Remarks/ Corrective actions for Non- Compliance
1	Training		
1.1	Health, Safety, and EMP trainings and awareness/ orientation about COVID-19	Awareness training organized	
1.2	Others awareness and skill trainings	No	Enforce contractor to aware labours on environment, occupational health and safety issues and on use of PPEs regularly.
2	Occupational health and safety		
2.1	Insurance for workers	Yes	
2.2	Personal Protective Equipment (PPE) provided to labours and are using (helmet, facemasks, muffles, gloves, boots, jacket, goggles, etc.)	Yes (distributed to labour but partially used)	Enforce contractor to fully use of PPE

2.3	Public notification Safety and warning signs and informative signboards in working sites for work safety	complied	
2.4	Use of barricades, caution tape and flag	Complied	
3	Camp site management		
3.1	Location	Yes/Partly complied	Enforce to place first aid kit with necessary medicines in working sites
3.2	First aid facilities available at camp and worksites	Yes	
3.3	Drinking water supply and sanitation facilities/ pit latrines	No (No waste management provision)	Provide separate Bins to collect biodegradable and non bio-degradable waste.
3.4	Waste Disposal and Management facilities	LPG	
4	Spoil and Construction material Management		
4.1	Cut and fill balance maintained or not, Reuse of spoil materials	Reused in Backfilling, excess surplus managed in Madhumara yard	
4.2	Use of safe spoil disposal locations	Compliance	
4.3	Frequent Pedestrian and traffic movement,	Compliance	

5	Air, Noise and Water Pollution		
5.1	Dust emission and Noise pollution sites	Water has been sprinkled to minimize dust pollution but not enough	Instructed to increase the frequency of sprinkling water, mainly during dry and windy day.
5.2	Water quality monitoring result and locations	Drinking water quality test performed by contractor	Test the water quality of any new well prior to use
5.3	Blockage of natural drainages, waterlogging, drain water discharge into farm land/risky areas	No	
6	Quarrying of construction materials and Plants Installment		
6.1	Quarry/borrow operation sites	No	
6.2	Asphalt plant operation restoration	Yes	Asphalt plant is in Operation in Rani far from population centre. Care should be taken while sprinkling bitumen over road surface, prevent water drain, plants and property from contaminated by bitumen.
7	Impact/Disruption of Private properties		
7.1	Building structures	No	
7.2	Other utilities	No	

8	Impact/disruption of public infrastructures		
8.1	Irrigation canal	No	
8.2	Water supply pipe	Relocation of pipeline has been done by contractor	
8.3	Access road	Traffic diversion with sign boards have been placed to regulate traffic	
8.4	Electric / Telephone pole	Poles within RoW	Relocation of poles have been carried out
8.5	Others		
9	Sites for cultural and religious values		
	Cultural and religious sensitive spots (if any)	N/A	
9.1			
10	Forest and vegetation		
10.1	Number of trees removal	N/A	
10.2	No of tree plantation (Roadside)	Tree plantation along completed road sections has been done	
11	Accident cases and records	No cases of accident	
12	Employment to local people		Record of labour maintained
12.1	Men and women	Male-336 Female-22,	
12.2	Child labour (if any)	No	
14	Grievances from local people and addressed	Compliance	GRM recorded and addressed

2. SOP Health Monitoring Format

Annex 6 (B) Regular Health Monitoring Template at Site/Office.									
DSC									
Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Giresh Chand	TL	97.1	NO	NO	NO	YES	YES	P-99 H-80
2	H.K. Mandal	E./Qty S.	89.7	NO	NO	NO	YES	YES	P-98 H-77
3	Amit Kumar Gupta	CSE	97.1	NO	NO	NO	YES	YES	P-98 H-77
4	Rajan Shrestha	CSE	91.5	NO	NO	NO	YES	YES	P-98 H-77
5	Santosh Kumar Yadav	OM	93.6	NO	NO	NO	YES	YES	P-99 H-79
6	Rajesh Kumar Yadav	Jr.	95.5	NO	NO	NO	YES	YES	P-99 H-76
7	Deepak Majhee	Jr.	93.1	NO	NO	NO	YES	YES	P-99 H-75
8	Jaya Prakash Yadav	Jr.	96.7	NO	NO	NO	YES	YES	P-98 H-73
9	Ranjit Mandal	R/C	97.5	NO	NO	NO	YES	YES	P-99 H-70
10	Youba Raj Poudel	Driver	96.9	NO	NO	NO	YES	YES	P-99 H-72
11	Pulkit Gothiya Yadav	Driver	96.9	NO	NO	NO	YES	YES	P-98 H-74
12	Rudra Kharel	O/A	95.1	NO	NO	NO	YES	YES	P-98 H-70
13	Kesab Katuwal	Guard	97.1	NO	NO	NO	YES	YES	P-99 H-76

Annex 6 (B) Regular Health Monitoring Template at Site/Office.									
DSC									
Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Giresh Chand	TL	95.3	NO	NO	NO	YES	YES	P-99 H-73
2	H.K. Mandal	E./Qty S.	90.3	NO	NO	NO	YES	YES	P-99 H-75
3	Amit Kumar Gupta	CSE	96.4	NO	NO	NO	YES	YES	P-98 H-74
4	Rajan Shrestha	CSE	97.5	NO	NO	NO	YES	YES	P-99 H-70
5	Santosh Kumar Yadav	OM	94.1	NO	NO	NO	YES	YES	P-99 H-72
6	Rajesh Kumar Yadav	Jr.	96.2	NO	NO	NO	YES	YES	P-98 H-71
7	Deepak Majhee	Jr.	96.9	NO	NO	NO	YES	YES	P-99 H-76
8	Jaya Prakash Yadav	Jr.	96.7	NO	NO	NO	YES	YES	P-99 H-73
9	Ranjit Mandal	R/C	97.5	NO	NO	NO	YES	YES	P-98 H-73
10	Youba Raj Poudel	Driver	97.1	NO	NO	NO	YES	YES	P-99 H-73
11	Pulkit Gothiya Yadav	Driver	97.1	NO	NO	NO	YES	YES	P-98 H-76
12	Rudra Kharel	O/A	95.1	NO	NO	NO	YES	YES	P-98 H-75
13	Kesab Katuwal	Guard	97.1	NO	NO	NO	YES	YES	P-99 H-73

Annex 6 (A) Regular Health Monitoring Template at Site/Office.									
Employer (PIU) Date: 2077-8-3									
Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Bharat Kumar Neupane	PM	96.3	NO	NO	NO	YES	YES	
2	Prakash Narayan Chaudhary	DPM	97.1	NO	NO	NO	YES	YES	
3	Punam Kumar Dahal	SDO	95.1	NO	NO	NO	YES	YES	
4	Anil Singh	Electrical Er.	96.2	NO	NO	NO	YES	YES	
5	Ghanashyam Kafley	Project Er.	96.4	NO	NO	NO	YES	YES	
6	Mister KC	Account/Officer	95.3	NO	NO	NO	YES	YES	
7	Purushottam Lamichhane	Asst/Ad	96.1	NO	NO	NO	YES	YES	
8	Uddab Nepal	Office Assistant	96.7	NO	NO	NO	YES	YES	
9	Girja Kumar Chaudhary	Office Assistant	94.8	NO	NO	NO	YES	YES	
10	Rabi Kumar Rai	Heavy Driver	95.6	NO	NO	NO	YES	YES	
11	Mayakant Kamat	Heavy Driver	96.6	NO	NO	NO	YES	YES	
12			96.6	NO	NO	NO	YES	YES	
13									

Annex 6 (A) Regular Health Monitoring Template at Site/Office.									
Employer (PIU) Date: 2077-8-4									
Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Bharat Kumar Neupane	PM	96.3	NO	NO	NO	YES	YES	
2	Prakash Narayan Chaudhary	DPM	96.8	NO	NO	NO	YES	YES	
3	Punam Kumar Dahal	SDO	96.7	NO	NO	NO	YES	YES	
4	Anil Singh	Electrical Er.	95.5	NO	NO	NO	YES	YES	
5	Ghanashyam Kafley	Project Er.	96.1	NO	NO	NO	YES	YES	
6	Mister KC	Account/Officer	96.7	NO	NO	NO	YES	YES	
7	Purushottam Lamichhane	Asst/Ad	96.3	NO	NO	NO	YES	YES	
8	Uddab Nepal	Office Assistant	95.5	NO	NO	NO	YES	YES	
9	Girja Kumar Chaudhary	Office Assistant	94.3	NO	NO	NO	YES	YES	
10	Rabi Kumar Rai	Heavy Driver	94.7	NO	NO	NO	YES	YES	
11	Mayakant Kamat	Heavy Driver	95.3	NO	NO	NO	YES	YES	
12			96.3	NO	NO	NO	YES	YES	
13									

Regional Urban Development Project (RUDP)

Annex 6 © Regular health Monitoring Template at Site/Office									
Zhongheng Construction Group International Engineering Co. Ltd.									
Project Name:			Date: 28-11-2020						
			RUDP Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works						
			Contract No: RUDP/ICB/BRT/02, Biratnagar						
S.N.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in breathing	Have You done hand sanitization before entering site/office	Has the person Wearing mask	
1	Bishnu Baxi Khanal		95.6	NO	NO	NO	Yes	Yes	
2	Prakash Bahadur Suba		96.7	NO	NO	NO	Yes	Yes	
3	Ramesh Shrestha		95.6	NO	NO	NO	Yes	Yes	
4	Bansal Thapa		97.7	NO	NO	NO	Yes	Yes	
5	Pradip Yadav		97.5	NO	NO	NO	Yes	Yes	
6	Dhirendra "		95.3	NO	NO	NO	Yes	Yes	
7	Jitendra "		96.7	NO	NO	NO	Yes	Yes	
8	Jenit "		97.5	NO	NO	NO	Yes	Yes	
9	Kalyan Sharma		96.4	NO	NO	NO	Yes	Yes	
10	Prakash Mandal		97.3	NO	NO	NO	Yes	Yes	
11	Tahir Miya		96.4	NO	NO	NO	Yes	Yes	
12	Shakti Ram Rai		95.5	NO	NO	NO	Yes	Yes	
13	Rahul Sharma		96.7	NO	NO	NO	Yes	Yes	
14	Tezeng Sherpa		97.8	NO	NO	NO	Yes	Yes	
15	Kishor Sharma		95.2	NO	NO	NO	Yes	Yes	
16	Dinesh Dhakal		97.4	NO	NO	NO	Yes	Yes	
17	Rustam ali		94.3	NO	NO	NO	Yes	Yes	
18	Anwar Alam		95.7	NO	NO	NO	Yes	Yes	
19	Biduy Sarker		96.2	NO	NO	NO	Yes	Yes	
20	Ram Kadir Upadhyay		97.7	NO	NO	NO	Yes	Yes	
21	Kiran Chy.		97.9	NO	NO	NO	Yes	Yes	
22	Rud K. Mukhiya		96.2	NO	NO	NO	Yes	Yes	
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Annex 6 (B) Regular Health Monitoring Template at Site/Office.

DSC Date: 17 Dec-2020

Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Giresh Chand	TL	97.1	NO	NO	NO	Yes	Yes	
2	H.K. Mandal	E./Qty S.	93.2	NO	NO	NO	Yes	Yes	
3	Amit Kumar Gupta	CSE	95.2	NO	NO	NO	Yes	Yes	
4	Rajan Shrestha	CSE	97.1	NO	NO	NO	Yes	Yes	
5	Santosh Kumar Yadav	OM	96.8	NO	NO	NO	Yes	Yes	
6	Rajesh Kumar Yadav	Jr.	95.9	NO	NO	NO	Yes	Yes	
7	Deepak Majhee	Jr.	93.3	NO	NO	NO	Yes	Yes	
8	Jaya Prakash Yadav	Jr.	92.3	NO	NO	NO	Yes	Yes	
9	Ranjit Mandal	R/C	91.1	NO	NO	NO	Yes	Yes	
10	Youba Raj Poudel	Driver	96.5	NO	NO	NO	Yes	Yes	
11	Pulkit Gothiya Yadav	Driver	96.0	NO	NO	NO	Yes	Yes	
12	Rudra Kharel	O/A	96.6	NO	NO	NO	Yes	Yes	
13	Kesab Katuwal	Guard	96.4	NO	NO	NO	Yes	Yes	

Annex 6 (B) Regular Health Monitoring Template at Site/Office.

DSC Date: 18 Dec-2020

Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Giresh Chand	TL	97.3	NO	NO	NO	Yes	Yes	
2	H.K. Mandal	E./Qty S.	93.9	NO	NO	NO	Yes	Yes	
3	Amit Kumar Gupta	CSE	95.5	NO	NO	NO	Yes	Yes	
4	Rajan Shrestha	CSE	97.1	NO	NO	NO	Yes	Yes	
5	Santosh Kumar Yadav	OM	97.3	NO	NO	NO	Yes	Yes	
6	Rajesh Kumar Yadav	Jr.	96.9	NO	NO	NO	Yes	Yes	
7	Deepak Majhee	Jr.	96.0	NO	NO	NO	Yes	Yes	
8	Jaya Prakash Yadav	Jr.	96.3	NO	NO	NO	Yes	Yes	
9	Ranjit Mandal	R/C	97.0	NO	NO	NO	Yes	Yes	
10	Youba Raj Poudel	Driver	96.6	NO	NO	NO	Yes	Yes	
11	Pulkit Gothiya Yadav	Driver	96.0	NO	NO	NO	Yes	Yes	
12	Rudra Kharel	O/A	95.3	NO	NO	NO	Yes	Yes	
13	Kesab Katuwal	Guard	96.8	NO	NO	NO	Yes	Yes	

Annex 6 (A) Regular Health Monitoring Template at Site/Office.**Employer (PIU)**

Date: 20/11/2020

Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Bharat Kumar Neupane	PM	98.0	No	No	No	Yes	Yes	
2	Prakash Narayan Chaudhary	DPM	97.1	"	"	"	"	"	
3	Punam Kumar Dahal	SDO	97.7	"	"	"	"	"	
4	Anil Singh	Electrical Er.	97.1	"	"	"	"	"	
5	Ghanashyam Kafley	Project Er.	96.7	"	"	"	"	"	
6	Mister KC	Account/Officer	97.5	"	"	"	"	"	
7	Purushottam Lamichhane	Asst/Ad	94.9	"	"	"	"	Yes	
8	Uddab Nepal	Office Assistant	97.1	"	"	"	"	"	
9	Girja Kumar Chaudhary	Office Assistant	94.6	"	"	"	"	"	
10	Rabi Kumar Rai	Heavy Driver	98.1	"	"	"	"	"	
11	Mayakant Kamat	Heavy Driver	96.7	"	"	"	"	"	
12								"	
13								"	

Annex 6 (A) Regular Health Monitoring Template at Site/Office.**Employer (PIU)**

Date: 20/11/2020

Project Name:		Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02							
S.No.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in Breathing	Have you done hand sanitization before entering site/office	Has the person wearing mask	
1	Bharat Kumar Neupane	PM	98.0	No	No	No	Yes	Yes	
2	Prakash Narayan Chaudhary	DPM	95.7	"	"	"	"	"	
3	Punam Kumar Dahal	SDO	94.6	"	"	"	"	Yes	
4	Anil Singh	Electrical Er.	92.9	"	"	"	"	"	
5	Ghanashyam Kafley	Project Er.	96.9	"	"	"	"	"	
6	Mister KC	Account/Officer	94.9	"	"	"	"	Yes	
7	Purushottam Lamichhane	Asst/Ad	97.1	"	"	"	"	"	
8	Uddab Nepal	Office Assistant	97.9	"	"	"	"	"	
9	Girja Kumar Chaudhary	Office Assistant	96.1	"	"	"	"	"	
10	Rabi Kumar Rai	Heavy Driver	97.9	"	"	"	"	Yes	
11	Mayakant Kamat	Heavy Driver	97.8	"	"	"	"	"	
12									
13									

B. Neupane
Project Manager

Annex 6C Regular health Monitoring Template at Site/Office									
Zhongheng Construction Group International Engineering Co. Ltd.									
Date: 11-12-2020									
Project Name:		RUDP Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02, Biratnagar							
S.N.	Staff Name	Position	Temperature	Yes/No					Remarks
				Cold	Cough	Difficulty in breathing	Have You done hand sanitization before entering site/office	Has the person Wearing mask	
1	Manoj Kumar Yadav		97.2	NO	NO	NO	Yes	Yes	
2	Susil Mahatao		96.8	NO	NO	NO	Yes	Yes	
3	Ardun Rai		96.7	NO	NO	NO	Yes	Yes	
4	Jeevan Nepal		96.2	NO	NO	NO	Yes	Yes	
5	Suresh Chy		96.3	NO	NO	NO	Yes	Yes	
6	Gayendra Tamang		95.3	NO	NO	NO	Yes	Yes	
7	Dhisen Yadav		95.4	NO	NO	NO	Yes	Yes	
8	Ram Kadi		95.8	NO	NO	NO	Yes	Yes	
9	Dhendra Yadav		95.7	NO	NO	NO	Yes	Yes	
10	Rahul Sharma		96.8	NO	NO	NO	Yes	Yes	
11	Saludin Mrya		97.3	NO	NO	NO	Yes	Yes	
12	Santosh Rai		97.8	NO	NO	NO	Yes	Yes	
13	Imran Paudel		96.2	NO	NO	NO	Yes	Yes	
14	Manoj Choudhary		97.8	NO	NO	NO	Yes	Yes	
15	Mina Das		96.6	NO	NO	NO	Yes	Yes	
16	Dhendra Yadav		95.6	NO	NO	NO	Yes	Yes	
17	Shakti Yadav		95.4	NO	NO	NO	Yes	Yes	
18	Narasing Bhandari		96.4	NO	NO	NO	Yes	Yes	
19	Bachha Prasanna		95.9	NO	NO	NO	Yes	Yes	
20	Kiran Chy		97.2	NO	NO	NO	Yes	Yes	
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Annex 7 Monitoring Checklist for SOP Bi-weekly Report									
Zhongheng Construction Group International Engineering Co. Ltd.									
Period: 1 December,2020 to 15 December,2020									
Project Name:		RUDP Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02, Biratnagar							
S.N.	Staff Name	Position	Temperature/ Fever	Yes/No					Remarks
				Cold	Cough	Difficulty in breathing	Have You done hand sanitization before entering site/office	Has the person Wearing mask	
1	Ravindra kumar Thakur	CM	No	No	No	No	Yes	Yes	
2	Dhirendra Yadav	Engineer	No	No	No	No	Yes	Yes	
3	Randhir Singh	Engineer	No	No	No	No	Yes	Yes	
4	Pradeep Yadav	Engineer	No	No	No	No	Yes	Yes	
5	Jibachha Sah	Engineer	No	No	No	No	Yes	Yes	
6	Dhirendra yadav jr	Engineer	No	No	No	No	Yes	Yes	
7	Aanand Rayamajhi	Engineer	No	No	No	No	Yes	Yes	
8	Rahul Kr Sharma	Sub-Engineer	No	No	No	No	Yes	Yes	
9	Sudip Chaudhary	Surveyor	No	No	No	No	Yes	Yes	
10	Sange Tamang	Sub-Engineer	No	No	No	No	Yes	Yes	
11	Ramesh Shrestha	Sub-Engineer	No	No	No	No	Yes	Yes	
12	Jitendra Yadav	Safety incharge	No	No	No	No	Yes	Yes	
13	Kiran Chaudhary	SLT	No	No	No	No	Yes	Yes	
14	Pramod shah	LT	No	No	No	No	Yes	Yes	
15	Raj kr Mukhiya	LT	No	No	No	No	Yes	Yes	
16	Bishnu Hari Khanal	Chief Accountant	No	No	No	No	Yes	Yes	
17	Jarman Nepal	Assistant Accountant	No	No	No	No	Yes	Yes	
18	Narsingh Bhandari	Vehicle incharge	No	No	No	No	Yes	Yes	
19	Madan Bhattarai	Store Keeper	No	No	No	No	Yes	Yes	
20									
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Annex 7 Monitoring Checklist for SOP Bi-weekly Report									
Zhongheng Construction Group International Engineering Co. Ltd.									
Period: 15 December,2020 to 31 December,2020									
Project Name:		RUDP Construction and Completion of sewerage, drainage, Road, Footpath and Road furniture works Contract No: RUDP/ICB/BRT/02, Biratnagar							
S.N.	Staff Name	Position	Temperature/ Fever	Yes/No					Remarks
				Cold	Cough	Difficulty in breathing	Have You done hand sanitization before entering site/office	Has the person Wearing mask	
1	Ravindra kumar Thakur	CM	No	No	No	No	Yes	Yes	
2	Dhirendra Yadav	Engineer	No	No	No	No	Yes	Yes	
3	Randhir Singh	Engineer	No	No	No	No	Yes	Yes	
4	Pradeep Yadav	Engineer	No	No	No	No	Yes	Yes	
5	Jibachha Sah	Engineer	No	No	No	No	Yes	Yes	
6	Dhirendra yadav jr	Engineer	No	No	No	No	Yes	Yes	
7	Aanand Rayamajhi	Engineer	No	No	No	No	Yes	Yes	
8	Rahul Kr Sharma	Sub-Engineer	No	No	No	No	Yes	Yes	
9	Sudip Chaudhary	Surveyor	No	No	No	No	Yes	Yes	
10	Sange Tamang	Sub-Engineer	No	No	No	No	Yes	Yes	
11	Ramesh Shrestha	Sub-Engineer	No	No	No	No	Yes	Yes	
12	Jitendra Yadav	Safety incharge	No	No	No	No	Yes	Yes	
13	Kiran Chaudhary	SLT	No	No	No	No	Yes	Yes	
14	Pramod shah	LT	No	No	No	No	Yes	Yes	
15	Raj kr Mukhiya	LT	No	No	No	No	Yes	Yes	
16	Bishnu Hari Khanal	Chief Accountant	No	No	No	No	Yes	Yes	
17	Jarman Nepal	Assistant Accountant	No	No	No	No	Yes	Yes	
18	Narsingh Bhandari	Vehicle incharge	No	No	No	No	Yes	Yes	
19	Madan Bhattarai	Store Keeper	No	No	No	No	Yes	Yes	
20									
21									
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3. Test Report

(Water – Bore Well)



नेपाल बातावरणीय सेवा केन्द्र NEPAL BATAWARANIYA SEWA KENDRA

(Morang Merchants' Association Complex)
Pdt. Meghraj Marga (Goshwara Road), Biratnagar-7, Nepal

Tel : +977-21-576887
Fax: +977-21-524732



Date: 4th January 2021

Test Report

Name of the Client	Aashish Nirman Sewa (P) Ltd.	Location	Biratnagar, Morang
Sampled by	Client	Date of Collection	30-12-2020
Source of Sample	Bore Well	Date of Analysis	31-12-2020
Type of Sample	Drinking Water	Date of Completion	04-01-2021
Sample code No	SN- 276 A (W) 2020	Client Code	Office

SN	Parameters	Units	WHO guideline value	NDWQS (MCL)	Results	Method
1	pH	-	6.5 - 8.5	6.5 - 8.5	6.75	APHA-4500 H+
2	Conductivity	μS/cm	-	1500	685	APHA-2510
3	Turbidity	NTU	5	5(10)	0	APHA-2130B
4	Colour	Hazen	15	5(15)	0.5	APHA-2120 C
5	Total dissolved solids	mg/L	1000	1000	342.5	APHA-2540 C
6	Fluoride as (F)	mg/L	1.5	0.5-1.5	0.47	APHA-2500 D
7	Ammonia as (NH ₄ -N)	mg/L	1.5	1.5	<0.05	APHA-4500
8	Nitrate as (NO ₃ -N)	mg/L	50	50	<0.05	APHA-4500
9	Chloride as (Cl)	mg/L	250	250	113.96	APHA-2500 B
10	Total Hardness as (CaCO ₃)	mg/L	500	500	223	APHA-2340
11	Calcium	mg/L	-	200	42.88	APHA-3500
12	Iron (Fe)	mg/L	0.3	0.3(3)	0.37	APHA-3111 B
13	Manganese (Mn)	mg/L	0.1	0.2	1.69	APHA-3111 B
14	Arsenic (As)	mg/L	0.01	0.05	<0.005	APHA-3500-As B
15	Total Coliform	CFU/100 ml	Nil	Nil	10	APHA-9215
16	Fecal Coliform	CFU/100 ml	Nil	Nil	6	APHA-9215
17	Zinc as (Zn)	mg/L	-	3	<0.05	APHA-3111 B
18	Lead as (Pb)	mg/L	-	0.01	0.1	APHA-3111 B
19	Cadmium as (Cd)	mg/L	-	0.003	<0.003	APHA-3111 B
20	T- Chromium as (T-Cr)	mg/L	-	0.05	<0.05	APHA-3111 B
21	Residual Chlorine	mg/L	-	0.1-0.2	0	APHA-4500
22	Sulphate	mg/L	-	250	29	Gravimetric
23	Odour	-	-	-	Odourless	Sensory

Comment: Except Iron, Manganese, Lead, Total Coliform & Fecal Coliform, other obtained results are within the range of National Drinking Water Quality Standard (NDWQS).

MCL: Maximum Concentration Limit.

Prepared by



Not Suitable for Drinking

Analyst

Authorized signature
Lab In-charge

P.O. Box 104, Email: nenscbri@gmail.com /seamnmmaesc@gmail.com



नेपाल बातावरणीय सेवा केन्द्र NEPAL BATAWARANIYA SEWA KENDRA

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Date: 4th January 2021

Test Report

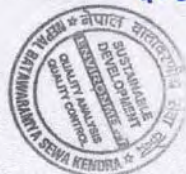
Name of the Client	Aashish Nirman Sewa (P) Ltd.	Location	Biratnagar, Morang
Sampled by	Client	Date of Collection	30-12-2020
Source of Sample	Bore Well	Date of Analysis	31-12-2020
Type of Sample	Drinking Water	Date of Completion	04-01-2021
Sample code No	SN- 276 B (W) 2020	Client Code	Koshi Yard

SN	Parameters	Units	WHO guideline value	NDWQS (MCL)	Results	Method
1	pH	-	6.5 - 8.5	6.5 - 8.5	6.71	APHA-4500 H+
2	Conductivity	μS/cm	-	1500	336	APHA-2510
3	Turbidity	NTU	5	5(10)	8	APHA-2130B
4	Colour	Hazen	15	5(15)	0.5	APHA-2120 C
5	Total dissolved solids	mg/L	1000	1000	168	APHA-2540 C
6	Fluoride as (F)	mg/L	1.5	0.5-1.5	0.48	APHA-2500 D
7	Ammonia as (NH ₄ -N)	mg/L	1.5	1.5	0.07	APHA-4500
8	Nitrate as (NO ₃ -N)	mg/L	50	50	<0.05	APHA-4500
9	Chloride as (Cl)	mg/L	250	250	25	APHA-2500 B
10	Total Hardness as (CaCO ₃)	mg/L	500	500	113	APHA-2340
11	Calcium	mg/L	-	200	28.46	APHA-3500
12	Iron (Fe)	mg/L	0.3	0.3(3)	5.57	APHA-3111 B
13	Manganese (Mn)	mg/L	0.1	0.2	1.05	APHA-3111 B
14	Arsenic (As)	mg/L	0.01	0.05	<0.005	APHA-3500-As B
15	Total Coliform	CFU/100 ml	Nil	Nil	Nil	APHA-9215
16	Fecal Coliform	CFU/100 ml	Nil	Nil	Nil	APHA-9215
17	Zinc as (Zn)	mg/L	-	3	<0.05	APHA-3111 B
18	Lead as (Pb)	mg/L	-	0.01	0.12	APHA-3111 B
19	Cadmium as (Cd)	mg/L	-	0.003	<0.003	APHA-3111 B
20	T- Chromium as (T-Cr)	mg/L	-	0.05	<0.05	APHA-3111 B
21	Residual Chlorine	mg/L	-	0.1-0.2	0	APHA-4500
22	Sulphate	mg/L	-	250	28	Gravimetric
23	Odour	-	-	-	Odourless.	Sensory

Comment: Except Turbidity, Iron, Manganese & Lead, other obtained results are within the range of National Drinking Water Quality Standard (NDWQS).
MCL: Maximum Concentration Limit.

Not Suitable for drinking

Prepared by



Analyst

Authorized signature
Lab In-charge

P.O. Box 104, Email: nenscbrt@gmail.com / seammmaesc@gmail.com



नेपाल वातावरणीय सेवा केन्द्र NEPAL BATAWARANIYA SEWA KENDRA

(Morang Merchants' Association Complex)
Pdt. Meghraj Marga (Goshwara Road), Biratnagar-7, Nepal

Tel : +977-21-576887
Fax: +977-21-524732



Date: 4th January 2021

Test Report

Name of the Client	Aashish Nirman Sewa (P) Ltd.	Location	Biratnagar, Morang
Sampled by	Client	Date of Collection	30-12-2020
Source of Sample	Bore Well	Date of Analysis	31-12-2020
Type of Sample	Drinking Water	Date of Completion	04-01-2021
Sample code No	SN- 276 C (W) 2020	Client Code	Staff Camp- Shanti Chowk House

SN	Parameters	Units	WHO guideline value	NDWQS (MCL)	Results	Method
1	pH	-	6.5 - 8.5	6.5 - 8.5	6.58	APHA-4500 H+
2	Conductivity	μS/cm	-	1500	271.3	APHA-2510
3	Turbidity	NTU	5	5(10)	>10	APHA-2130B
4	Colour	Hazen	15	5(15)	1	APHA-2120 C
5	Total dissolved solids	mg/L	1000	1000	135.65	APHA-2540 C
6	Fluoride as (F)	mg/L	1.5	0.5-1.5	0.31	APHA-2500 D
7	Ammonia as (NH ₄ -N)	mg/L	1.5	1.5	<0.05	APHA-4500
8	Nitrate as (NO ₃ -N)	mg/L	50	50	<0.05	APHA-4500
9	Chloride as (Cl)	mg/L	250	250	15	APHA-2500 B
10	Total Hardness as (CaCO ₃)	mg/L	500	500	89	APHA-2340
11	Calcium	mg/L	-	200	26.45	APHA-3500
12	Iron (Fe)	mg/L	0.3	0.3(3)	28.67	APHA-3111 B
13	Manganese (Mn)	mg/L	0.1	0.2	1.96	APHA-3111 B
14	Arsenic (As)	mg/L	0.01	0.05	<0.005	APHA-3500-As B
15	Total Coliform	CFU/100 ml	Nil	Nil	5	APHA-9215
16	Fecal Coliform	CFU/100 ml	Nil	Nil	3	APHA-9215
17	Zinc as (Zn)	mg/L	-	3	0.05	APHA-3111 B
18	Lead as (Pb)	mg/L	-	0.01	0.11	APHA-3111 B
19	Cadmium as (Cd)	mg/L	-	0.003	<0.003	APHA-3111 B
20	T-Chromium as (T-Cr)	mg/L	-	0.05	0.08	APHA-3111 B
21	Residual Chlorine	mg/L	-	0.1-0.2	0	APHA-4500
22	Sulphate	mg/L	-	250	37	Gravimetric
23	Odour	-	-	-	Odourless.	Sensory

Comment: Except Turbidity, Iron, Manganese, Lead, T-Chromium Total Coliform & Fecal Coliform, other obtained results are within the range of National Drinking Water Quality Standard (NDWQS).

MCL: Maximum Concentration Limit.

Prepared by



Not safe for drinking & TL

Analyst

Authorized signature
Lab In-charge

P.O. Box 104, Email: nenscbt@gmail.com / seammmaesc@gmail.com



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Pdt. Meghraj Marga (Goshwara Road), Biratnagar-7, Nepal

Tel : +977-21-576887
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Date: 4th January 2021

Test Report

Name of the Client	Aashish Nirman Sewa (P) Ltd.	Location	Biratnagar, Morang
Sampled by	Client	Date of Collection	30-12-2020
Source of Sample	Bore Well	Date of Analysis	31-12-2020
Type of Sample	Drinking Water	Date of Completion	04-01-2021
Sample code No	SN- 276 D (W) 2020	Client Code	Madhumara Yard

SN	Parameters	Units	WHO guideline value	NDWQS (MCL)	Results	Method
1	pH	-	6.5 - 8.5	6.5 - 8.5	6.68	APHA-4500 H+
2	Conductivity	μS/cm	-	1500	492	APHA-2510
3	Turbidity	NTU	5	5(10)	>10	APHA-2130B
4	Colour	Hazen	15	5(15)	0.5	APHA-2120 C
5	Total dissolved solids	mg/L	1000	1000	246	APHA-2540 C
6	Fluoride as (F)	mg/L	1.5	0.5-1.5	0.24	APHA-2500 D
7	Ammonia as (NH ₄ -N)	mg/L	1.5	1.5	<0.05	APHA-4500
8	Nitrate as (NO ₃ -N)	mg/L	50	50	<0.05	APHA-4500
9	Chloride as (Cl)	mg/L	250	250	45.98	APHA-2500 B
10	Total Hardness as (CaCO ₃)	mg/L	500	500	159	APHA-2340
11	Calcium	mg/L	-	200	34.87	APHA-3500
12	Iron (Fe)	mg/L	0.3	0.3(3)	4.67	APHA-3111 B
13	Manganese (Mn)	mg/L	0.1	0.2	2.67	APHA-3111 B
14	Arsenic (As)	mg/L	0.01	0.05	<0.005	APHA-3500-As B
15	Total Coliform	CFU/100 ml	Nil	Nil	Nil	APHA-9215
16	Fecal Coliform	CFU/100 ml	Nil	Nil	Nil	APHA-9215
17	Zinc as (Zn)	mg/L	-	3	0.91	APHA-3111 B
18	Lead as (Pb)	mg/L	-	0.01	0.13	APHA-3111 B
19	Cadmium as (Cd)	mg/L	-	0.003	<0.003	APHA-3111 B
20	T- Chromium as (T-Cr)	mg/L	-	0.05	0.50	APHA-3111 B
21	Residual Chlorine	mg/L	-	0.1-0.2	0	APHA-4500
22	Sulphate	mg/L	-	250	28	Gravimetric
23	Odour	-	-	-	Odourless	Sensory

Comment: Except Turbidity, Iron, Manganese, Lead & T-Chromium, other obtained results are within the range of National Drinking Water Quality Standard (NDWQS).

MCL: Maximum Concentration Limit.

Not safe for drinking

[Signature]
Prepared by



[Signature]
Analyst

[Signature]
Authorized signature
Lab In-charge

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