

ORIGINAL



## **Building Design Authority (P) Ltd**

*in joint Venture with*

**B.N. Consultancy Pvt. Ltd and**

**PLUSH Engineering & architects (P) Ltd Kathmandu.**

## **Monthly Progress Report**

**Regional Urban Development Project (RUDP)**

**Project Implementation Unit**

**Biratnagar, Nepal**



**August 2019**

**Biratnagar Metropolitan City (BMC), Nepal**

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## EXECUTIVE SUMMARY

This Project Monitoring Report mainly covers the Progress achieved in the component of Regional Urban Development Project (RUDP) in Biratnagar Metropolitan City, Nepal. The information has been provided in the following Chapters are mentioned below:

1. **Introduction/ Background-** It provide brief Account on the Project and its Background stating why, how and when the Project was started in Biratnagar Metropolitan City.
2. **Salient Feature of Contract Package: RUDP/ICB/BRT/2-** It provides brief Account of Contract Data with Major components of works to be carried out.
3. **Sub Project Components-** It provides a brief Account on the various Sectors of the Project component summarizing the respective Progress such as Sewer Line, Storm Water Drain, Road side Drain, Roads and Lanes and Electrification Work if any. This Chapter further covers Environment Mitigation Measures and Social Safeguard measures.
4. **Objective and Scope of the Works-** This Chapter briefly describes the expected output of the Project and Scope of Consultant regarding execution of Work.
5. **Progress of Sub – Project Components-** This Chapter comprises the status of Work stating what kind of works are under Progress and how much Progress has been achieved till date. It further elaborates on the status of actual achievement versus the Targeted achievement till date. Sometimes, the project gets delayed due to unforeseen obstacles which are rampant in the case of Nepal. Such events are also enlisted to clarify the reason for delay in the project.
6. **Details of Pre Cast Activities-** In the urban area, as ongoing projects creates a lot of disturbances and difficulties in the life of the people living in the project area, the work has to be conducted in the speedy manner to finish it as soon as possible. Precast of the project components are the best alternative to overcome this issue and details of precast activities are provided in this chapter.
7. **Contractor's Manpower and Contractor's Equipment-** Chapter 7 and Chapter 8 deal with summary of Manpower and Equipment respectively stating whether Resources owned by the Contractor are sufficient for the execution of Contract.



## 1. PROJECT DESCRIPTION

### 1.1. INTRODUCTION/BACKGROUND

GoN has negotiated loan with Asian Development Bank for the Regional Urban Development Project (RUDP) in Nepal. The RUDP, in the line with ADB's water and urban operation plans, will construct and upgrade urban infrastructure in eight towns in the Terai Region of Nepal, improve operational effectiveness of these eight municipalities. The project will also build institutional capacity of DUDBC for urban planning, project planning and project preparation in order to proactively shape urbanization in Nepal and implement the National Urban development strategy. 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 for Biratnagar Municipality. Building Design Authority (P) Ltd (Nepal), B.N. Consultancy Pvt. Ltd and PLUS Engineers & Architects (P) Ltd Kathmandu and have entered for a Contract of Consulting Services with Regional Urban Development Project (RUDP), Project Implementation Unit (PIU), Biratnagar Metropolitan City on 28<sup>th</sup> October 2017.

Regional Urban Development Project (RUDP) the Department of Urban Development and Building Construction (DUDBC), under the Ministry of Urban Development (MUD) through the Government of Nepal (GoN) has received the loan from Asian Development Bank (ADB) Loan 47252-NEP.

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 Regional Urban Development Project (RUDP) is forward to promote healthy cities by creating healthier urban environments and was formulated under the PPTA 2010.



## 2. CONTRACT DATA: - 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, Biratnagar
Funded By	Asian Development Bank & Government of Nepal
Package	Construction and Completion of Sewerage, Drainage, Road, Footpath and Road furniture works
Contract No.	RUDP/ICB/BRT/2
Location	Biratnagar Metropolitan City, Biratnagar
Consultant	Building Design Authority (P) LTD in Joint Venture With B.N. consultancy Pvt and PLUS Engineers and Architects (P) Ltd Kathmandu.
Date of Sign of Design and Supervision Consulting Service	28th August 2017
Date of Commencement of Design and Supervision Consulting Service	6th September 2017
Date of Completion	5th September 2020
Contractor	ZHONGHENG Construction Group International Engineering Co Ltd. Beijing, China.
Date of Agreement Made	10 <sup>th</sup> October 2017
Date of Commencement	2 <sup>nd</sup> November 2017
Date of Completion	1 <sup>st</sup> November 2019
Contract Amount including PS and VAT	NRs. 2,611,092,249.63
Contract Amount including PS and VAT (Corrected)	NRs. 2,611,088,390.60
Progress	
Road Rehabilitation (Asphalt)	49.00%
Sewer Line	88.73%
Storm Drain	100.00%
Road Side Drain	108.55%



General Features	
Integrated Solid Waste Management (ISWM) Design	Inception Report as well as Stakeholder's Analysis, Communication Strategy and Consultation Plan for Integrated Solid Waste Management (ISWM) has already been submitted. Due to Socio Environment Problem, Progress of Integrated Solid Waste Management (ISWM) design has been hindered.
Physical Progress up to date	<p><b>With respect to Revised Work Program-01:</b>  <b>Planned : 83.90%, Actual : 73.53%; Lead(+) or Lag(-) by (-) 10.37% Lag</b></p> <p>Physical progress lagging due to start of monsoon, due to delay in relocation of electrical poles, shifting of telecom poles on time by Nepal Telecom (NTC) and unclear Right of Way (RoW), etc.</p>
Financial Progress up to date ( <i>on the basis of IPC forwarded for disbursement</i> )	In Percentage: 61.95%, In Figure: NRs. <b>1,617,499,379.94</b> (including VAT and PS) up to IPC – 10.
	<b>In Words:</b> NRs. One Billion Six Hundred Seventeen Millions Four Hundred Ninety Nine Thousand Three Hundred Seventy Nine and Ninety Four Paise Only.

### 3. SUMMARY OF PROGRESS STATUS OF ALL MAJOR COMPONENTS

S. No.	Description	Unit	BoQ Quantity	Progress up to date	Remaining	Progress Status expressed in (%)	Remarks
<b>1</b>	<b>Sewer Line</b>						
a	HDPE/RCC	m	20,082.00	17,818.50	2,263.50	88.73%	
b	Manhole	No.	685.00	549.00	136.00	80.15%	
c	Sewer Inlet	No.	1,010.00	604.00	406.00	59.80%	
d	House Connection	No.	3,784.00	1,449.00	2,335.00	38.29%	
<b>2</b>	<b>Storm Water Drain</b>						



S. No.	Description	Unit	BoQ Quantity	Progress up to date	Remaining	Progress Status expressed in (%)	Remarks
a	RCC Drain	m	652.80	585.00	0.00	100.00%	Revised Length =585m
b	Piles	No.	132.00	138.00	0.00	100.00%	Exceeded 6 Nos. Piles.
<b>3</b>	<b>Road</b>						
a	Subgrade	m	73,860.00	46,989.11	26,870.89	63.62%	
b	Sub base	m	73,860.00	46,989.11	26,870.89	63.62%	
c	Base	m	73,860.00	39,579.32	34,280.68	53.59%	
d	Prime	m	73,860.00	36,192.04	37,667.96	49.00%	
e	Asphalt	m	73,860.00	36,192.04	37,667.96	49.00%	
<b>4</b>	<b>Road Side Drain</b>	m	26,050.00	28,277.19	(2,227.19)	108.55%	Exceeded

### 3.1. SUB PROJECT COMPONENTS

#### 3.1.1. SEWER LINES

Trunk Line T1 & T2 were already completed in STIUEIP (Secondary Town Integrated Urban Environmental Improvement Project) and remaining part of sewer lines in T4 completed and T3 have been identified and necessary survey and construction works were performed, almost all the lines were completed except some secondary sewer lines of T3. Details of proposed sewer lines are as below: -



**Table 1: PROPOSED ALL MAJOR COMPONENTS OF THE PROJECT**

<b>S. No.</b>	<b>Description</b>	<b>Unit</b>	<b>Original Quantity</b>
<b>1</b>	<b>Sewerage Pipe Supply and Installation</b>	<b>m</b>	<b>20,082.00</b>
	<b>Reinforced Concrete Pipe laying and jointing</b>		<b>2241.00</b>
	Line T2 (Secondary)	m	206.00
	Line T3 (Trunk)	m	1905.00
	Line T4 (Trunk)	m	130.00
	<b>HDPE laying and jointing</b>	<b>m</b>	<b>17,841.00</b>
	Line T1 (Secondary)	m	1,825.00
	Line T2 (Secondary)	m	3,927.00
	Line T3 (Secondary)	m	9,997.00
	Line T4 (Secondary)	m	2,092.00
<b>2</b>	<b>Manhole ( Brick / RCC)</b>	<b>no.</b>	<b>685.00</b>
<b>3</b>	<b>Sewer Inlet</b>	<b>no.</b>	<b>1,010.00</b>
<b>4</b>	<b>House Connection</b>	<b>no.</b>	<b>3,784.00</b>
<b>5</b>	<b>Reinstatement of Roads</b>	<b>km</b>	<b>73.86</b>
<b>6</b>	<b>Road side Drain</b>	<b>Km</b>	<b>26.05</b>
<b>7</b>	<b>Storm Water Drain</b>	<b>m</b>	<b>652.8</b>



**Table: - 2 PHYSICAL PROGRESS IN SEWER LINES till date**

SN	Description	BoQ		Up to Pre Month		This month		Total to date		Progress %
		Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	
Hume Pipe:										
1	Hume pipe (T2)	206.00	6.00	205.00	6.00			205.00	6.00	
2	Hume pipe (T3)	1,905.00	58.00	1,632.50	25.00			1,632.50	25.00	
3	Hume Pipe (T4)	130.00	4.00	130.00	4.00			130.00	4.00	
Subtotal in (m)		2,241.00	68.00	1,967.50	35.00			1,967.50	35.00	
HDPE Pipe:										
1	HDPE (T1)	1,825.00	57.00	1,743.20	54.00			1,743.20	54.00	
2	HDPE (T2)	3,927.00	147.00	3,153.40	121.00			3,153.40	121.00	
3	HDPE (T3)	9,997.00	316.00	8,902.50	283.00			8,902.50	283.00	
4	HDPE (T4)	2,092.00	68.00	2,051.90	56.00			2,051.90	56.00	
Subtotal in (m)		17,841.00	588.00	15,851.00	514.00			15,851.00	514.00	





SN	Description	BoQ		Up to Pre Month		This month		Total to date		Progress %
		Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	
Total		20,082.00	656.00	17,818.50	549.00			17,818.50	549.00	88.73%

SN	Description	BoQ (Nos.)	Up to Pre Month	This month	Total to date	Progress %
1	Sewer inlet	1,010.00	595.00	9.00	604.00	59.80%
2	House connection	3,784.00	1,307.00	142.00	1,449.00	38.29%



### 3.1.2. STORM WATER DRAIN

The storm water drain CN2, and CN3 has been provisioned in Regional Urban Development Project (RUDP). The Contractor has already completed the works except some minor works at inlet and outlet which have been proceeding soon. The detail of the progress is shown in the table:

**Table: 3 PROPOSED and PHYSICAL PROGRESS in STORM WATER DRAINS till date.**

S N	Name of Drain	Length in m					Type of Drain	Work Completed				Length of Covered Drain in m	Remarks
		Origin al	Revised	Progress		Cum ulativ e		Brick		RCC			
				Previo us	This Month			m	m³	m	m³		
1	CN2-CN3 (Chyangh Baari Nala)	652.89	585.00	585.00		585	RCC, closed			585		585	completed
2	CN2-CN3 (Chyangh Baari Nala)	132 Nos piles	138	138		138 Nos.							Piling works completed

### 3.1.3. ROADS AND LANES

Most of the roads/lanes in Biratnagar are in a poor state due to lack of periodic maintenance, and need improvement where as some of the roads are graveled and would benefit from upgrading. In the areas where drainage and sewerage works are proposed there will be significant impact on the existing roads. The Project has considered on design based on reinstatement, rehabilitation and upgrading of existing roads length 73.86 km. Some of the roads of the project has been completed and some of them are in the process of being upgraded.

Out of 73.86 km. about 46.98 Km. has been attempted for Sub Base but due to start of monsoon, asphalt work is delaying.

About 36.19 km. Asphalt work is completed. The summary of physical progress is presented below: -



**Table No:-4 PROPOSED and PHYSICAL PROGRESS of pavement works till date**

SN	Road Number	Name of Road	Length in m			Work Completed				Paint	Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC		
			Previous (Revised)	This Month		m	m	m	m	m	
1	R42	Bhagwati Marg	218.00		218.00	218.00	218.00	132.00			
2	R5	College Road	650.00		650.00	650.00	650.00	544.50			
3	B2	Gauri Shankar Marg	2,152.00		2,152.00	2,152.00	2,152.00	2,152.00	210.00		
4	R65	Satghumti Marg	320.00		320.00	320.00	320.00				
5	R107		215.00		215.00	215.00	215.00				
6	R107 a		50.00		50.00	50.00	50.00				
7	R104	VIP Marg	273.00		273.00	273.00	273.00	273.00			
8	R8	Madhumara Marg	600.00		600.00	600.00	600.00	582.00			
9	B1	Kanchan Marg	1,173.00		1,173.00	1,173.00	1,106.00	1,106.00		1,106.00	



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
10	R21	Pratibha Marg	1,330.00		1,330.00	1,330.00	1,330.00	1,330.00		1,012.80	
11	B3	Keshaliya Marg	1,574.00		1,574.00	1,574.00	1,574.00	1,574.00			
12	S13		1,617.00		1,617.00	1,617.00	1,417.00	1,417.00		1,812.60	
13	R12		880.00	-	880.00	880.00	880.00	740.00			
14	R12	Kanchha Dai Marg	900.00		900.00	900.00	900.00				
15	Rani site	Rani	4,023.00		4,023.00	4,023.00	4,023.00	4,023.00			
16	R16	Satya Marg	604.00		604.00	604.00	604.00	604.00			
17	R26	Pasang Marg	654.00		654.00	654.00	654.00	654.00			
18	R28	Pustakalaya Marg	635.00		635.00	635.00	339.20	339.20			
19	R27	Peepal Marg	734.32		734.32	734.32	734.32	734.32		639.20	



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
20	R25	Devi Marg	580.00		580.00	580.00	580.00	561.70			
21	R24	Prabhat Marg	518.15		518.15	518.15	518.15	518.15			
22	R37	Banglamukhi Marg	477.00		477.00	477.00	477.00	477.00			
23	R7	Manakamana Marg	542.00		542.00	542.00	542.00	242.00			
24	R7	in between R18 to R27		400.00	400.00	400.00	400.00	300.00			
25	R30	Shanti Marg	123.10		123.10	123.10	123.10	123.10			
26	R9	Fanindra Marg	119.00		119.00	119.00	119.00	119.00			
27	S11	Samrat Marg	660.00		660.00	660.00	504.60	504.60		504.60	
28	R22	Amar Marga	367.65		367.65	367.65	367.65	367.65			
29	R29	Shanti Marg	684.70		684.70	684.70	684.70	684.70		585.60	



SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
30	R36	Gaurav Marg	220.00		220.00	220.00	220.00	220.00		440.00	
31	R33	Tarun Marg	280.00		280.00	280.00	280.00	280.00			
32	R64	Satya Narayan Marg	121.00		121.00	121.00	121.00	-			
33	R8		225.00		225.00	225.00	225.00	225.00			
34	N36		190.00		190.00	190.00	186.95	186.95			
35	R188	Shakti Marg	120.00		120.00	120.00	120.00	120.00			
36	R2	Main Road	2800.00		2,800.00	2,800.00	778.20	778.20		350.00	
37	T3 Line 6A	Pandit Meghnath Marg	220.00		220.00	220.00	220.00	220.00			
38	T2 Line 24C	Nava Jyoti Marg	205.00		205.00	205.00					
39	T2 Line 24D	Nava Jyoti Marg	210.00		210.00	210.00					





SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
40	R63 (DSP Road)	DSP Road	420.00		420.00	420.00	395.00	395.00			
41	R90	Shakti Marg	320.00		320.00	320.00	320.00	320.00		640.00	
42	R77	Arniko Marg	80.00		80.00	80.00	80.00	80.00			
43	R76	Mitra Marg	270.00		270.00	270.00	270.00	270.00		541.20	
44	R183	Nava Jyoti Marg	240.00		240.00	240.00	220.00	220.00			
45	T1 L16B	Xenial Front	210.00		210.00	210.00	205.00	205.00			
46	T1L16A	Xenial South	180.00		180.00	180.00	180.00	180.00			
47	R114	Dharanidhar Marg	560.00		560.00	560.00	560.00	560.00		560.00	
48	R113	Kavi Lekh Marg	740.00		740.00	740.00	740.00	740.00			
49	R5a		54.70	-	54.70	54.70	54.70	54.70			



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
50	Rani site B		520.00		520.00	520.00	520.00	520.00			
51	R3	Dharamban Marg	2,233.00		2,233.00	2,233.00	2,150.30	2,150.30		2,080.30	
52	R78	Sombare - Highway	92.00		92.00	92.00	92.00	92.00			
53	R84	West of school	473.20		473.20	473.20	236.00	236.00			
54	R85	Machha Line	160.00		160.00	160.00	160.00	160.00			
55	R87	Mahabir Chowk	148.00		148.00	148.00	110.00	110.00			
56	R86	Petrol pump side -R12	200.00	-	200.00	200.00	120.00	120.00			
57	R11	R18/R86	281.00		281.00	281.00	205.00	205.00			
58	N3	Jatuwa	117.00		117.00	117.00	117.00	117.00			
59	N4	Jatuwa	168.00		168.00	168.00	168.00	168.00			



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
60	R10	Ram Marga	292.00		292.00	292.00	292.00	292.00		853.20	
61	T2L26F	APF	55.00		55.00	55.00					
62	T2L27		80.00		80.00	80.00	80.00	80.00			
63	R122		265.55		265.55	265.55	265.55	265.55		497.40	
64	N9		220.42		220.42	220.42	220.42	220.42			
65	R17		365.00		365.00	365.00	365.00	365.00		730.00	
66	R18		370.00		370.00	370.00	370.00	180.00			
67	N2		75.84		75.84	75.84					
68	T3L6	Moti Marga	170.00		170.00	170.00	170.00	170.00			
69	T3L6	Elite club - CDO Office	107.00		107.00	107.00					



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
70	T3L6	Balmandir - Ganesh Mandir	380.00		380.00	380.00					
71	T3L6	CDO Office front	49.40		49.40	49.40					
72	T3L6A	Golchha Marga	220.00		220.00	220.00	220.00	220.00			
73	T3L23	Madhumara road	541.00		541.00	541.00	541.00	541.00		358.40	
74	R45	Bata road	505.00		505.00	505.00	295.00	295.00			
75	T3L21		400.00		400.00	400.00	400.00	400.00		774.00	
76	N5		70.00		70.00	70.00	70.00	70.00		122.00	
77	T3L39		400.00		400.00	400.00	245.80	245.80		491.00	
78	T3L39A		130.00		130.00	130.00	130.00	130.00		179.40	
79	T3L39B		80.00		80.00	80.00	80.00	80.00		117.60	



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
80	R68 - T2L24G		220.00		220.00	220.00					
81	N10		194.00		194.00	194.00					
82	T3L24C		170.00		170.00	170.00					
83	T3L9		278.00		278.00	278.00					
84	R6		1,228.20		1,228.20	1,228.20	1,228.20	1,228.20			
85	N24		136.00		136.00	136.00	136.00	136.00			
86	R31		188.70		188.70	188.70	188.70	188.70			
87	Bindabasini Marga		352.28		352.28	352.28	352.28	352.80			
88	Bhattimode to Hartalihaat		166.50		166.50	166.50	166.50	166.50			



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
89	R73		217.00		217.00	217.00	217.00	217.00			
90	R6	Bata Galli	269.00		269.00	269.00	269.00	269.00			
91	R9 (R41-R7)		194.80		194.80	194.80	194.80				
92	R44	Thakurbari Road	357.50		357.50	357.50					
93	R102	Main	140.00		140.00	140.00	140.00				
94	R102	Branch	71.30		71.30	71.30					
95	R103		170.40		170.40	170.40					
96	R32		188.00		188.00	188.00	188.00	188.00			
97	T2L18Y		116.20		116.20	116.20	116.20				
98	R20		108.00		108.00	108.00	108.00				





SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
99	R82	Everest School	530.00		530.00	530.00	530.00	530.00			
100	T1L5		140.00		140.00	140.00	140.00	140.00			
101	T3L23C	Jay Nepal	220.20		220.20	220.20	75.00				
102	T3L25B		195.00		195.00	195.00					
103	T3L25C		140.00		140.00	140.00					
104	R3	T3 Trunk	465.00		465.00	465.00					
105	Nagmandir to R3		55.00		55.00	55.00	55.00	55.00			
106	R75		130.00		130.00	130.00	130.00	130.00			
107	R43		250.00		250.00	250.00					
108	T219P			90.00	90.00	90.00	90.00				



SN	Road Number	Name of Road	Length in m			Work Completed					Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC	Paint	
			Previous (Revised)	This Month		m	m	m	m	m	
109	T219Q			100.00	100.00	100.00	100.00				
	Total		46,399.11	590.00	46,989.11	46,989.11	39,579.32	36,192.04	210.00	14,395.30	



**Table No:-4.1 Footpath (Work Progress till date)**

SN	Road Number	Type*	Progress in m			Footpath			Remarks
			Previous (Revised)	This Month	Cumulative	Length (m)	Avg. Breadth (m)	Quantity (m <sup>2</sup> )	
1	R2	Precast block		602.00	602.00	602.00	1.10	662.20	RHS
2	R2	Precast block		602.00	602.00	602.00	1.10	662.20	LHS
3	R29	Precast block		320.00	320.00	320.00	0.90	288.00	RHS
4	R29	Precast block		322.00	322.00	322.00	0.90	289.80	LHS
5	R28	Precast block		322.00	322.00	322.00	0.90	289.80	RHS
6	R28	Precast block		322.00	322.00	322.00	0.90	289.80	LHS
7	R21	Precast block	280.00	85.00	365.00	365.00	1.00	365.00	RHS
8	R21	Precast block		765.00	765.00	765.00	1.00	765.00	LHS
9	R78	Precast block		75.00	75.00	75.00	1.20	90.00	RHS
10	R78	Precast block		75.00	75.00	75.00	1.20	90.00	LHS
11	R77	Precast block		115.00	115.00	115.00	0.90	103.50	RHS
12	R77	Precast block		115.00	115.00	115.00	0.90	103.50	LHS
13	R76	Precast block		275.00	275.00	275.00	0.95	261.25	RHS
14	R76	Precast block		275.00	275.00	275.00	0.95	261.25	LHS
15	R75	Precast block		160.00	160.00	160.00	0.95	152.00	RHS
16	R75	Precast block		160.00	160.00	160.00	0.95	152.00	LHS
17	R10	Precast block		630.00	630.00	630.00	0.95	598.50	RHS



SN	Road Number	Type*	Progress in m			Footpath			Remarks
			Previous (Revised)	This Month	Cumulative	Length (m)	Avg. Breadth (m)	Quantity (m <sup>2</sup> )	
18	R10	Precast block		630.00	630.00	630.00	0.95	598.50	LHS
19	R31	Precast block		175.00	175.00	175.00	0.95	166.25	RHS
20	R31	Precast block		175.00	175.00	175.00	0.95	166.25	LHS
21	R32	Precast block		100.00	100.00	100.00	0.30	30.00	RHS
22	R32	Precast block		100.00	100.00	100.00	0.30	30.00	LHS
23	R33	Precast block		285.00	285.00	285.00	0.90	256.50	RHS
24	R33	Precast block		170.00	170.00	170.00	0.90	153.00	LHS
25	R16	Precast block	170.00	-	170.00	170.00	1.20	204.00	RHS
26	R16	Precast block	170.00	-	170.00	170.00	1.20	204.00	LHS
27	R6	Precast block	554.00	146.00	700.00	700.00	1.20	840.00	RHS
28	R6	Precast block		700.00	700.00	700.00	1.20	840.00	LHS
29	B1	Precast block		490.00	490.00	490.00	1.20	588.00	RHS
30	B1	Precast block		490.00	490.00	490.00	3.40	1,666.00	LHS
31	B2 (2)	Precast block		715.00	715.00	715.00	0.59	421.85	RHS
32	B2 (2)	Precast block		715.00	715.00	715.00	1.65	1,179.75	LHS
33	B2 (1)	Precast block		131.00	131.00	131.00	2.60	340.60	RHS
34	B2 (1)	Precast block		131.00	131.00	131.00	0.90	117.90	LHS
35	B3	Precast block	1,300.00	-	1,300.00	1,300.00	0.70	910.00	RHS



SN	Road Number	Type*	Progress in m			Footpath			Remarks
			Previous (Revised)	This Month	Cumulative	Length (m)	Avg. Breadth (m)	Quantity (m <sup>2</sup> )	
36	B3	Precast block	901.00	399.00	1300.00	2,201.00	0.70	1,540.70	LHS
37	S11	Precast block	112.00	-	112.00	112.00	0.95	106.40	RHS
38	S11	Precast block	75.00	-	75.00	75.00	1.21	90.75	LHS
39	Rani	Precast block	425.00	-	425.00	425.00	1.00	425.00	RHS
40	Rani	Precast block	425.00	-	425.00	425.00	1.00	425.00	LHS

**Table No:-4.2 Road improvement Works (Work Progress till date)**

SN	Description	Unit	Proposed	Total Up to Previous Month	This Month	Total Up to this Month	Progress
1	Subgrade	m	73,860.00	44,359.41	2,629.70	46,989.11	63.62%
2	Sub Base	m	73,860.00	44,219.21	2,769.90	46,989.11	63.62%
3	Base	m	73,860.00	38,242.22	1,337.10	39,579.32	53.59%
4	Prime/Tack	m	73,860.00	34,530.14	1,661.90	36,192.04	49.00%
5	Asphalt	m	73,860.00	34,530.14	1,661.90	36,192.04	49.00%
6	Paint	m	73,860.00	14,395.30	-	14,395.30	19.49%



### 3.1.4. ROAD SIDE DRAIN

Most of the roads under this project for upgrading is without drain or existing drain are in poor condition, on instruction from the employer at various stretches the construction works were ongoing and some of them have been completed. The project has provisioned drain at both sides or one side as per available RoW of the road. The contractor has already started drain works at many locations. The progress for the drain works is listed below:

**Table No:-4a PROPOSED and PHYSICAL PROGRESS of Road side drain works till date.**

SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
1	B1	Kanchan Marg	90.00		90.00	90.00		
2	R29	Shanti Marg	256.52		256.52	256.52		
3	N36		185.88		185.88	185.88		
4	R8		219.83		219.83	219.83		
5	R7	Devi Marg and Pipal Marg	89.58		89.58	89.58		
6	R63	DSP Road	418.79		418.79	418.79		
7	R9	Baglamukhi path	103.20		103.20	103.20		
8	S13	Udaya Marga	158.10		158.10	158.10		
9	N33		70.00		70.00	70.00		
10	R28	Pustakalaya Marg	278.00		278.00	278.00		
11	R90	Shakti Marg	313.25		313.25	313.25		
12	R114	Dharanidhar Marg	312.33		312.33	312.33		





SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
13	R11	Om Shiv Marg	225.17		225.17	225.17		
14	R18		381.50		381.50	381.50		
15	R17		75.00		75.00	75.00		
16	R113	Kavi Lekhnath Marg	72.45		72.45	72.45		
17	R77	Arniko Marg	80.00		80.00	80.00		
18	R76	Mitra Marg	270.00		270.00	270.00		
19	N9	Devi Marga	22.70		22.70	22.70		
20	N4		146.38		146.38	146.38		
21	R33	Tarun Marg	264.48		264.48	264.48		
22	R36	Gaurav Marg	216.45		216.45	216.45		
23	R86	Janpath Marg	187.55		187.55	187.55		
24	R183	Nava Jyoti Marg	211.05		211.05	211.05		
25	R7a		65.00		65.00	65.00		
26	Rani site	Rani B	530.00		530.00	530.00		
27	Rani site	Rani A	270.00		270.00	270.00		
28	N3		110.00		110.00	110.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
29	N5		65.00		65.00	65.00		
30	R21	Binayak Marga	388.25		388.25	388.25		
31	R2	Main Road	1,992.50		1,992.50	1,992.50		
32	T1L16B	Xenial Front	205.68		205.68	205.68		
33	T1L16A	Xenial South	150.20		150.20	150.20		
34	R75	Tintoliya Marga	127.50		127.50	127.50		
35	R122	Amar Marga	250.48		250.48	250.48		
36	R18 Branch		30.00		30.00	30.00		
37	R7(b) (Neuro to sidhartha chowk)	Siddhartha Marga	330.00		330.00	330.00		
38	R12	Sukra Path	290.00		290.00	290.00		
39	R42	Jahada Marga	171.00		171.00	171.00		
40	R6	Shahi Marg	760.00		760.00	-	760.00	
41	R21(a)	DharamBadh Junction	80.00		80.00	80.00		
42	R78	Binayak Marga	70.00		70.00	70.00		
43	R188	Shakti Marg	115.60		115.60	115.60		
44	R40	Brahma Kumari Marga	350.00		350.00	350.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
45	Rani Site C		97.50		97.50	97.50		
46	Ranit Site D		131.45		131.45	131.45		
47	T3L21	Moti Marga	360.95	25.00	385.95	385.95		
48	T3L39	Gaheli Marga	340.00		340.00	340.00		
49	T3 Line 39A		90.00		90.00	90.00		
50	T3 L39B		90.00		90.00	90.00		
51	T2L27	Bhumi Prashasan Junction	79.50		79.50	79.50		
52	T4 Line 1	Sailesh Marg	100.00		100.00	100.00		
53	N2		95.00		95.00	95.00		
54	T2 Line 26E	College Road	90.00		90.00	90.00		
55	T2 Line 18C	Maisthan Marga	102.00		102.00	102.00		
56	T2Line 18A	Makalu Marga	60.00		60.00	60.00		
57	R6 (T3L11i)		247.50		247.50	247.50		
58	R9 (T3L11k)	Tathasthu Marga	180.00		180.00	180.00		
59	R45 (T3Line10D)	Dadhiram Marga	260.00		260.00	260.00		
60	R9, T2 L19	Fanindra Marga	380.00		380.00	380.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
61	R7c (Neuro to Shanti Chowk)	Siddhartha Marga	305.00		305.00	305.00		
62	R84	School Marga	663.00		663.00	663.00		
63	R85	Lekhanath Marga	150.00		150.00	150.00		
64	R87	Byas Marga	150.00		150.00	150.00		
65	Rani B (Bus park)		90.00		90.00	90.00		
66	R8(a)	Madhumara Marg	285.00		285.00	285.00		
67	T3L23A		100.00		100.00	100.00		
68	Rani E		85.00		85.00	85.00		
69	R102	Hamro Marg	132.50		132.50	132.50		
70	R10/R10a	Ram Marga	740.36		740.36	740.36		
71	N10	APF	150.00		150.00	150.00		
72	R23	Bani Marg	200.00		200.00	200.00		
73	R103	Vibuti Marga	162.50		162.50	162.50		
74	T3L6	Sahid Marga	350.00		350.00	350.00		
75	P1, T3L6A	Pandit Meghnath Marga	260.00		260.00	260.00		
76	T2 L24C & D	Hanuman Das Marga	130.00		130.00	130.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
77	R99	APF	187.00		187.00	187.00		
78	T2 L25		150.00		150.00	150.00		
79	R20		60.00		60.00	60.00		
80	T2L24F		60.00		60.00	60.00		
81	R105		150.00		150.00	150.00		
82	R34	Prabhu Marg	158.35		158.35	158.35		
83	R35	Garima Marg	138.00		138.00	138.00		
84	R107		160.00		160.00	160.00		
85	T3L13D		70.63		70.63	70.63		
86	T3L13E		62.40		62.40	62.40		
87	T3L11E		110.00		110.00	110.00		
88	B2		76.50		76.50	76.50		
89	R78		35.00		35.00	35.00		
90	R7b	in between R26 & R27	288.50		288.50	288.50		
91	T3L21A		25.00		25.00	25.00		
92	R74		96.00		96.00	96.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
93	R46		120.00		120.00	120.00		
94	R101		160.00		160.00	160.00		
95	T3L7A		125.00		125.00	125.00		
96	T3L8		75.00		75.00	75.00		
97	R20		100.00		100.00	100.00		
98	R5		200.00		200.00	200.00		
99	R67		110.00		110.00	110.00		
100	R82		350.00		350.00	350.00		
101	T1L13A		100.00		100.00	100.00		
102	T1L14A		150.00		150.00	150.00		
103	R68		200.00		200.00	200.00		
104	T3L22A		335.00		335.00	335.00		
105	T3L22B		120.00		120.00	120.00		
106	T3L25C		130.00		130.00	130.00		
107	T3L11B		60.00		60.00	60.00		
108	T3L11M		50.00		50.00	50.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
109	R106		70.00		70.00	70.00		
110	R41		520.00		520.00	520.00		
111	T2L19B		110.00		110.00	110.00		
112	R30		180.00		180.00	180.00		
113	T3L13C		225.00		225.00	225.00		
114	T3L13J		72.53		72.53	72.53		
115	T2L18Y		100.00		100.00	100.00		
116	T2L19P		114.38		114.38	114.38		
117	T2L19Q		126.55		126.55	126.55		
118	R9A		208.73		208.73	208.73		
119	R9B		25.00		25.00	25.00		
120	T3L7	Sahid Marga	355.00		355.00	355.00		
121	T2L18K		40.00		40.00	40.00		
122	T3L23C		105.00		105.00	105.00		
123	T2L24E	Mahabir Marga	60.00		60.00	60.00		
124	R44		390.00		390.00	390.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
125	R110		150.00		150.00	150.00		
126	Parichaya Marga		130.00		130.00	130.00		
127	T3L25B		200.00		200.00	200.00		
128	T1L5, 5A		590.00		590.00	590.00		
129	R82		110.00		110.00	110.00		
130	T2L19Y		150.00		150.00	150.00		
131	T3 Trunk	Tinpaini to Devkota Chowk	520.00	420.00	940.00	940.00		
132	T2L19F		55.00		55.00	55.00		
133	T2L18D		20.00		20.00	20.00		
134	R19		175.00		175.00	175.00		
135	R83	Shiva Marga	125.00		125.00	125.00		
136	T310B, T3L7D (R46)	Rangeli Road	320.00	40.00	360.00	360.00		
137	T2L19G		45.00		45.00	45.00		
138	R4 (T2 Trunk)	Jatuwa Marga	25.00	25.00	50.00	-	50.00	
139	T3L22	Rangeli Road	25.00	45.00	70.00	70.00		
140	T3L25B, Outlet	Madhumara	96.00		96.00	96.00		





SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
141	T3L7B	Matrika Marga	75.00		75.00	75.00		
142	T3L5	Sanihat Marga		100.00	100.00	100.00		
143	T2L19X	Parichaya Marga		60.00	60.00	60.00		
144	T2L19H			30.00	30.00	30.00		
145	R181			150.00	150.00	150.00		
	<b>Total</b>		<b>27,382.19</b>	<b>895.00</b>	<b>28,277.19</b>	<b>27,467.19</b>	<b>810.00</b>	



### 3.2. ENVIRONMENTAL ASPECT

The environment has been defined to mean surrounding area including human and natural resources to be affected by execution and after completion of works. The Contractor shall take all precautions for safeguarding the environment during the course of the construction of the works. He shall abide by all prevalent laws, rules and regulations governing pollution and environmental protection mitigation measure specified in the latest publication of “Environmental Management Guidelines” published by the GoN and Projects Environmental management plan.

The Contractor shall prohibit employees from unauthorized use of explosives, poaching wildlife and cutting trees. The contractor shall be responsible for the action of his employees. Environmental protection works, among others, shall also include the following.

#### 3.2.1. BORROW/ QUARRY SITES

The engineer shall have the power to disallow the method of construction and / or the use of borrow or quarry area, if in this opinion, the stability and safety of the works or any adjacent structure is endangered, or there is undue interference with the natural or artificial drainage or the method or use of area will promote undue erosion.

Since the contractor has made agreement with the owner of crusher plant for the supply of required materials from the crusher, no approval for quarry and borrow sites are required till date.

#### 3.2.2. DISPOSAL OF SPOIL AND CONSTRUCTION WASTE

Material excess of the requirements for permanent works and unsuitable materials shall be disposed off in location and in the manner as agreed with the Engineer. The location of disposal site shall be such as not to promote instability, destruction of properties and public service system. Exposed area of such disposal site shall be suitably dressed and be planted with suitable vegetation.

The contractor has already provided the safe tipping sites and the excess materials are dumped as per the approved tipped sites. Spoil and construction wastes are disposed at Madhumara site similarly excess construction materials are stocked at Madhumara site and at the open space of north side of Degree College (Rani Site).

##### **Provision for maintenance of Camps/Office/Stores/Equipment.**

This section describes about the works related to maintenance and upgrading of labor camps, contractor's employees camp, contractor's site office, contractor's equipment store yards, contractor's equipment store yards, contractor's precast production yards. The camp should have the proper roofing system. Besides that, it should be spacious, should have proper circulation of the fresh air, should be hygienic, and should have proper electric lightening system & water supply system. It should be neat and clean.

Labor camps are provided at various locations as per requirement and these sites are frequently visited and monitored. The condition is found to be satisfactory. The details of the labor camp is provided in annex.



### **3.2.3. PROVISION AND MAINTENANCE OF TOILETS**

Provision of toilets for labor and employees shall be made to avoid public nuisance as well as pollution of water courses and air. The Contractor shall construct suitable septic tanks and soak pit along with rooms for pit type latrines. Sufficient water must be provided and maintained in the toilets.

Toilets have been provided at each labor camp. The contractor has been instructed to improve the toilet conditions where required.

The numbers of toilets in each camp is also attached hereby in annex. Toilets in all the camps are found to be in the acceptable condition.

### **3.2.4. CRUSHING PLANTS**

Crushing plants shall be located away from the population centers, water intakes, and should not disturb the sensitive echo system. Suitable dust control device should be fitted with crusher to control emission of dust from plant. The crusher plant is located at around 42 km north-east of Biratnagar at a place called Chis yang.

Since the contractor has made agreement with the owner of crusher plant for the supply of required materials from the crusher, no approval for quarry and borrow sites are required till date certainly minimize the dust pollution.

### **3.2.5. ASPHALT PLANTS AND BATCHING PLANTS**

Hot mix plant and batching plant shall be located away from the population centers. The Contractor shall take every precaution to reduce levels of noise, vibration, dust and emission from his plants. No Bituminous material shall be discharged in to drains, nearby trees vegetation; property shall be protected during spray of bitumen etc.

As the concrete quantity of the project is very minimal, there is no need of the separate batch plant for concrete mixing. However, as there are a lot of asphalt concrete works to be done in the project, a separate asphalt plant has been installed, especially for the project, at about 6 Km south of the Biratnagar DSC office at a place called Rani.

### **3.2.6. OCCUPATIONAL HEALTH AND SAFETY MEASURES**

The contractor shall provide personnel protective equipment (PPE) (Helmet, Boots, masks, gloves, jacket, protective glasses etc.) to use. Public notification, safety and warning signs and informative signboards in working sites for work safety shall be provided. The DSC engineer and DSC Environmental safeguard expert supervise and monitor the use of PPEs and other necessary safety measures regularly.

The project is the environmental improvement project and mainly constitutes sewerage and drainage improvement works in BMC besides others. As per ADB guide-lines on Environmental Assessment requirements, this project is classified as Environment Category B. According to Environmental Protection Regulation-2054BS, First Revised (2055 BS) schedule-3, IEE is required for Operations of Sewerage Schemes under Schedule 1.h.2.e (pertaining to Rule3). The final report was submitted to MoUD on 14th May, 2013 and has already been approved.

Installation of functioning sewers and functioning drainage system including roads/lanes improvement in BMC does not possess any adverse environmental impacts to its surrounding. In fact, these will greatly enhance the living conditions/hygiene of the in habitants and facilitate transportation. Nevertheless, it is imperative to look into positive as well as negative impacts of such infrastructure development works in the urban area.



Training and awareness program regarding health, safety and disease at Labour camps and yards on 3 and 4 March 2018 by Safety Prevention Officer Er. Dhiraj Sardar.

A regular monitoring visit by DSC was carried out and a standard site specific environmental monitoring checklist was used to record the present status of the project to verify if work has been done as per EMP Guidelines. A sample of environmental checklist is attached herewith as Annex.

### **3.3. SOCIAL ASPECT**

Regional Urban development Project (RUDP) in Biratnagar has implemented to improve the quality of life and help to achieve higher and more socially inclusive economic growth of people through effective, efficient, and reliable delivery of improved and affordable municipal services. Infrastructure development of drainage and sewerage system as well as roads and lane improvement are the major components of RUDP in Biratnagar Metropolitan City (BMC). Establishment and functioning of Social Safeguard Desk in PIU is a major milestone of social development aspect which has been effective to address all social/community development issues and concerns with active initiation of the DSC. Local labors have been deployed in civil construction works (i.e. in Road side drain / Sub grading works). The Engineer has issued the format of Social Safeguard Monitoring plan which is attached here with.

### **3.4. SAFEGUARD/ GESI COMPONENT**

#### **3.4.1. COMMUNITY AWARENESS:**

Conduct regular Community Awareness Consultations within Project Areas to build awareness on Project Objectives, Activities and implementation during site observation, Monitoring and Meetings. Different site visit has been conducted during May, 2018 such as DDC Pre cast yard, Chyangbari Naala Biratnagar-16, Asphalt work at Sai Marg, Sewer Line construction work at Hanumandas Road and Asphalt Plant at Rani Site. Except of Minor, no any major conflict has been found during construction work. The visit was conducted jointly with Environment Safeguard Expert and Social Safeguard Expert. Before commissioning of any works at any stretches, we paste the information templates at certain interval and provide sufficient information to the users regarding it.

#### **3.4.2. GRIEVANCE REDRESSES MECHANISM:**

Although many grievances were received verbally, only 9 (Nine) grievances have been registered formally which have immediately been addressed and resolved. This month, some grievances for some stretches were received verbally and were addressed immediately. Refer semi - annual report for details.

#### **3.4.3. GENDER EQUITY AND SOCIAL INCLUSION (GESI):**

Activities related to GESI has been monitored and supervised in all Construction sites. During site visit female workers were found in significant minority (7 numbers) at Construction sites, thus Contractor was instructed as follow:

- i. Encourage to Local female Employment as Labor and skilled man power.
- ii. Manage separate Camp and necessary facilities for female workers to encourage of female Employment. Camps and construction sites are regularly been monitored to find the status of



working force.

### 3.4.4. STATUS OF SOCIAL AND ENVIRONMENTAL SAFEGUARD MEASURES

The present status to this regard has been reported as below:

During the site visit for Socio Environment monitoring by DSC Environmental and Social Safeguard Expert on date 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> December, 2018 following issues were found. Social Safeguard revisited the site on 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> December.

- Efforts are being made to control dust emission at construction site by sprinkling water. As personal safety was given prime importance, construction workers were made to use helmet, globe and jacket while on the construction site.
- Besides that, special attentions were given on the placement of safety board and traffic signboards, safety tools, barricades, tapes, etc. and special care were taken to make sign boards big enough to make them visible from distant.
- Taking into consideration of the fact that the involvement of the significant numbers of female as employee in ADB project is the main project objective of ADB, contractor paid especial attention to have a separate toilet and separate labor camp for female that facilitates and encourages female to get work in the construction field.
- Significant improvement was found to be done in health and sanitation issues in the labor camp than in the previous monitoring visit; like, quality and quantity of drinking water was improved and condition of toilet was found to be enhanced. However, to meet the sanitation condition to predetermined level, further instructions were given by contractor to make provision for sufficient water in toilet and soap for hand-wash. Furthermore, yard in charge was suggested to have sufficient medications, bandages and other necessary first aid equipment's.

The implementation of Social and Environmental Safeguard measures during this month were found partially satisfactory.

### 3.4.5. STATUS OF RELOCATION OF SERVICES

Relocation of water supply pipe lines were ongoing at R6, Tinpaini chowk and in front of Balaji Temple, etc. & the laying of pipes completed this month at Nag Mandir west till R105, B1, T3L39, T3L39A, T3L39B, Jai Nepal chowk and Thakurbari road, etc. The supply has been providing temporarily as per site condition where required. Relocation of electric poles in R7 & R3 are going on.

**Table – 5: Status of Labor at Site**

Labour class	Labour		Composition		Ethnic composition				
	Skilled	Unskilled	Male	Female	Janjati	Dalit	Muslim	Madhesi	Brahmin/Chhetri
Local	26	84	110	0	10	5	0	95	0
Non local	50	201	251	0	43	59	10	139	0
Indian	2	7	9	0	0	0	0	9	0
<b>TOTAL</b>	<b>78</b>	<b>292</b>	<b>370</b>	<b>0</b>	<b>53</b>	<b>64</b>	<b>10</b>	<b>243</b>	<b>0</b>



### 3.5. FINANCIAL PLAN

The Sub-project cost will be disbursed in three years starting from FY2074/2075 to 2076/2077

#### 3.5.1. DISBURSEMENT RECORDS IN CONSTRUCTION

**Table – 6: DISBURSEMENT RECORDS in CONSTRUCTION**

S. No.	Description	Submission date	Covering date	Submitted Amount(NRs)	Remarks
1	IPC 01	15 <sup>th</sup> October 2017		339,105,000.00	Mobilization Advance
2	IPC 02	2 <sup>nd</sup> April 2018	2nd November 2017 to 31st March 2018	261,501,492.21	
3	IPC 03	1 <sup>st</sup> July 2018	1st April 2018 to 30th June 2018	316,582,708.58	
4	IPC 04	1 <sup>st</sup> October 2018	1st July 2018 to 31st September 2019	105,227,887.16	
5	IPC 05	2 <sup>nd</sup> December 2018	1st October 2018 to 30th November 2018	95,951,603.44	
6	IPC 06	31 <sup>st</sup> January 2019	1st December 2018 to 31st January 2019	264,937,394.98	
7	IPC 07	12 <sup>th</sup> April 2019	1st February 2019 to 31st March 2019	308,805,662.97	
8	IPC 08	9 <sup>th</sup> May 2019	1st April 2019 to 30th April 2019	106,210,198.68	
9	IPC 09	10 <sup>th</sup> June 2019	1st May 2019 to 31st May 2019	90,419,375.33	
10	IPC 10	11th July 2019	1st June 2019 to 30th June 2019	67,863,056.59	
<b>Total amount excluding PA &amp; Mobilization advance till date =</b>				<b>1,617,499,379.94</b>	



## 4. OBJECTIVES AND SCOPE OF WORKS

### 4.1. OBJECTIVES

The following are the expected physical infrastructure improvement outputs of the project in Biratnagar:

- Drainage and sewerage systems improvement.
- Urban roads and lanes improvement.

Reference to the deliverables identified in the Project, indicates that there are a number of deliverables related specifically to the design aspects of the above infrastructure improvements with construction works.

### 4.2. SCOPE OF WORKS

The scope of works for consultant's services is fairly detailed in the TOR attached with contract Agreement. The main points are summarized below:

- Detailed Design and Procurement Assistance Phase for integrated solid waste management design (ISWM)
- Monthly progress report and quarterly progress report.
- Semi- annual Environmental monitoring report.
- Semi-annual Safeguard monitoring report.
- Annual progress report including annual Environmental / Social safeguard monitoring report, assets.
- Detailed draft final report for our puts, including to assist the PIU (Employer), status of all supervision and construction works issues, all deliverables under the contacts.
- Sub project completion report, and summary of all other reports, progress and issues under the project.



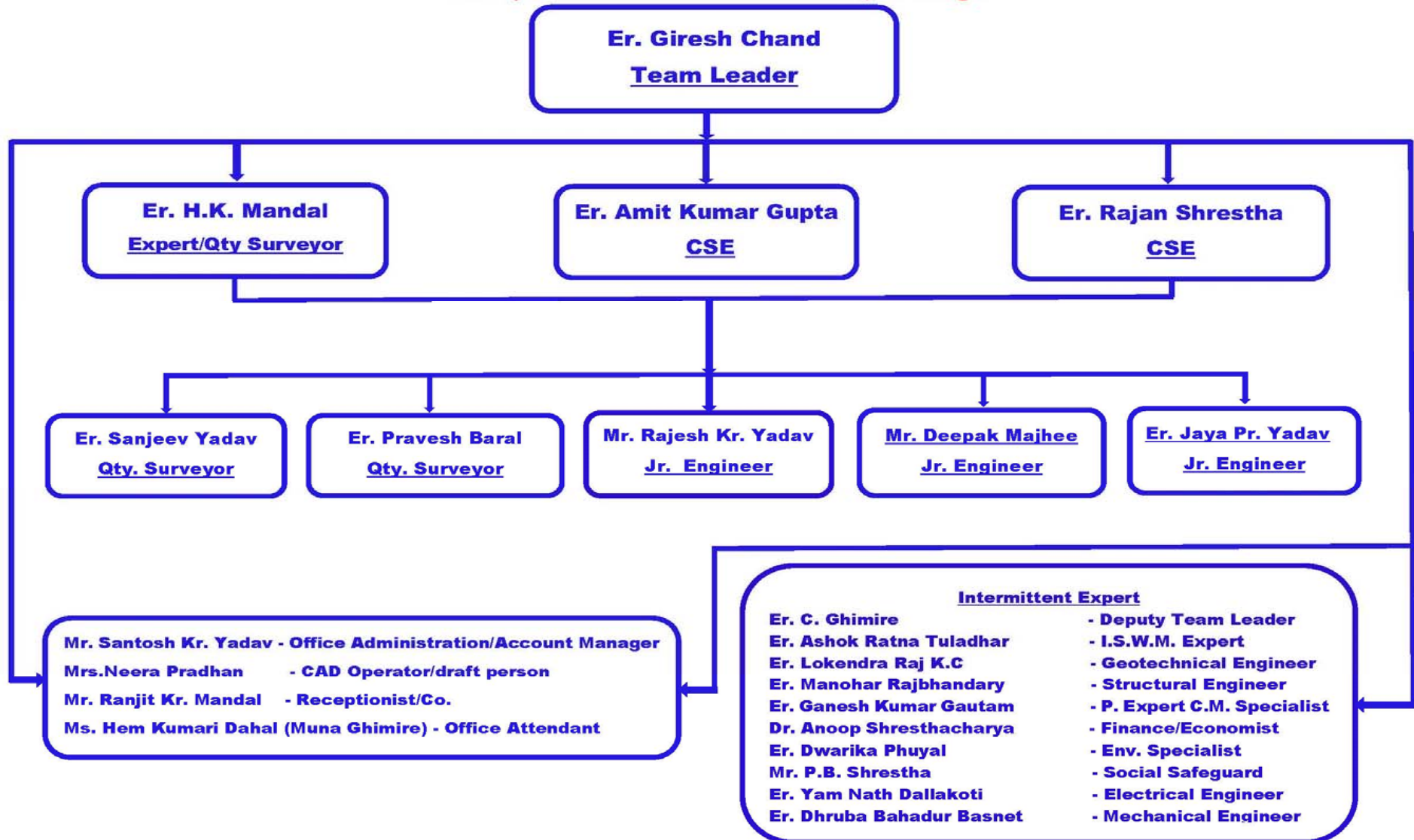
#### 4.3. ORGANIZATION AND STAFFING

Attached





**ORGANIZATION CHART**  
**RUDP (ADB Loan No - 47252 Site Office, Biratnagar)**



## 4.4. CONSULTANT'S ACTIVITIES IN CONSTRUCTION PHASE

The current staffing of the consultant at project site is as follows:

**Table 7: CONSULTANT'S STAFF at Project Site, Biratnagar**

SN	Name	Designation	Joining date	Remarks
1	Mr. Giresh Chand	Team Leader	6 <sup>th</sup> Sep 2017	
2	Mr. Ashok Ratna Tuladhar	ISWM ( Designer)	6 <sup>th</sup> Sep 2017	Intermittent
3	Mr. Dwarika Phuyal	Environmental Safeguard Expert	1 Nov 2017	Intermittent
4	Mr. Prakash Bhakata Shrestha	Social Safeguard Monitoring Expert	26 <sup>th</sup> dec-2017	Intermittent
5	Mr. Hare Krishna Mandal	Expert/Quantity surveyor	1 <sup>st</sup> Nov 2017	
6	Mr. Amit Kumar Gupta	Construction Supervision Engineer	1 <sup>st</sup> March 2018	
7	Mr. Rajan Shrestha	CSE/Quantity Surveyor	7 <sup>th</sup> Nov 2017	Working as CSE from 1 <sup>st</sup> May 2019.
8	Mr. Rajesh Kumar Yadav	Junior Engineer-1	6 <sup>th</sup> Sep 2017	
9	Mr. Sanjeev Yadav	Qty. Surveyor	5 <sup>th</sup> Nov 2017	
10	Mr. Santosh Kumar Yadav	Office Administration/Account Manager	6 <sup>th</sup> Sep 2017	
11	Mr. Hem Kumari Dahal (Muna Ghimire)	Office Attendant	6 <sup>th</sup> Sep 2017	
12	Mr. Ranjit Kumar Mandal	Receptionist	10 <sup>th</sup> Dec 2017	
13	Mr. Pravesh Baral	Junior Engineer-2	10 <sup>th</sup> Dec 2017	
14	Mr. J.P Yadav	Junior Engineer-3	1 <sup>st</sup> March 2018	
15	Mr. Deepak Majhi	Junior Engineer-4	1 <sup>st</sup> March 2018	
16	Mrs. Neera Pradhan	CAD operator/Draft Person	10 <sup>th</sup> Dec 2017	
17	Mr. Yubraj Poudel	Driver	10 <sup>th</sup> Feb-2019	



The consultant has been constantly supervising the contractor's work in daily basis. The consultant is mainly focusing in construction management, contract administration and the following activities but not limited as listed below:

- i. Daily Construction supervision/Surveying works etc.
- ii. Quality control, cost control and time control
- iii. Measurement and Certification of Interim Payment Certificates (IPC)
- iv. Modification and design of Road side drain, storm drainage and sewer lines, manholes etc. as per site condition and approve working drawings as discussed/advised by employer.
- v. Supervise construction material testing and sampling
- vi. Monitor Environment Management Plan and its compliance
- vii. Monitor Social safeguard and Resettlement Plan and its compliance
- viii. Prepare Due Diligence Report of the Project
- ix. Maintain correspondences with the Employer and the Contractor
- x. Assisting PIU



## 5. PROGRESS OF SUB – PROJECT COMPONENTS

### 5.1. CONSTRUCTION MATERIALS.

Before using any construction material in the project, as per clause 7.3, engineer gave prior notice to contractor for joint inspection of the construction materials and all materials have been jointly checked and verified. Team leader issued letter to contractor to do the lab test of the construction materials from the authorized organizations and lab reports of the tested materials have been submitted by contractor. Engineer has emphasized on the production of the pre-cast item like (Kerb stone, drain cover slab, manhole etc.) for better work progress of the project. The Contractor has established three production yards at Koshi project, Madhumara and Judi contractor camp for pre-cast items like Kerb stone, drain cover slab, sewer precast elements, etc. and production are going on.

The Contractor has informed to borrow RCC NP-3 pipes from Itahari Hume pipe factory or other location and also requested for three Edge bearing test. It has been tested in presence of consultant TL, PIU and contractor representative.

### 5.2. PROGRESS ACHIEVED TILL DATE

Month	Target This Month		Achievement This Month		Leading		Lagging		Remarks
	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	
July-18	0.15%	25.17%	0.78%	25.18%	0.63%	0.01%			Leading
August-18	0.15%	25.32%	2.32%	27.50%	2.17%	2.18%			Leading
September-18	5.71%	31.03%	1.22%	28.72%				-2.31%	Lagging
October-18	7.72%	38.75%	2.30%	31.03%				-7.72%	Lagging
November-18	7.72%	46.47%	5.20%	36.22%				-10.25%	Lagging
December-18	7.95%	54.41%	3.40%	39.62%				-14.79%	Lagging
January-19	7.96%	62.37%	5.65%	45.27%				-17.10%	Lagging
<del>February-19</del>	<del>7.96%</del>	<del>70.33%</del>	<del>5.11%</del>	<del>50.38%</del>				<del>-19.95%</del>	Lagging
February-19 (after Revision)	5.33%	50.03%	5.11%	50.38%		0.35%			Leading
March -19	7.75%	57.77%	7.84%	58.21%		0.44%			Leading
April-19	6.82%	64.59%	4.53%	62.74%				-1.85%	Lagging
May-19	6.49%	71.08%	4.54%	67.28%				-3.80%	Lagging



Month	Target This Month		Achievement This Month		Leading		Lagging		Remarks
	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	
June-19	3.95%	75.03%	2.05%	69.33%				-5.70%	Lagging
July-19	3.90%	78.93%	2.19%	71.52%				-7.41%	Lagging
August-19	4.97%	83.90%	2.01%	73.53%				-10.37%	Lagging

### 5.3. KEY EVENTS

The consultant has noted the following key dates for this month.

**Table 8: KEY DATES of EVENTS / ACTIVITIES**

S. No.	Date	Activities/Events	Remarks
1		Frequent visit of sites by the representatives of the employer.	
2	11 <sup>th</sup> August, 2019	<b>Variation order – 01</b> under RUDP has been already submitted to the Project Implementation Office (PIU) for further action dated 11 <sup>th</sup> August, 2019.	<ul style="list-style-type: none"> <li>Draft report on Variation order – 1 sent to PIU on 30<sup>th</sup> December 2018.</li> </ul>

**Note:** *Due to monsoon, delay in relocation of electric & telecom services and unclear of Right of Way (RoW), the work progress found very slow.*



## 6. DETAILS OF PRE CAST ACTIVITIES.

**Table 9: PHYSICAL PROGRESS in PRODUCTION OF PRECAST ITEMS till date,**

Physical Progress till date							
S.N.	Description	Unit	Progress			Total to Date (RM.)	Remarks
			BoQ	Up to Previous month (RM.)	This Month (RM.)		
1	Precast Slab	No		57,871.00	8,000.00	65,871.00	Under progress
2	Kerb Stone	Rm	147,729.68	79,293.30	5,000.00	84,293.30	57.05%

**Table 10: PHYSICAL PROGRESS in PRODUCTION/PURCHASE OF RCC Hume Pipe at Itahari till date,**

Physical Progress till date							
S.N.	Description	Diameter (mm)	BoQ (RM)	Progress		Total to Date (RM.)	Remarks
				Up to Previous month (RM.)	This Month (RM.)		
1	RCC Pipe	300	336.00	336.00	-	336.00	
2	RCC Pipe	450	681.00	681.00	-	681.00	
3	RCC Pipe	500	842.00	842.00	-	842.00	
4	RCC Pipe	600	382.00	382.00	-	382.00	
	<b>Total</b>						



**Table 11: PHYSICAL PROGRESS in PRODUCTION/PURCHASE OF HDPE Pipe till date.**

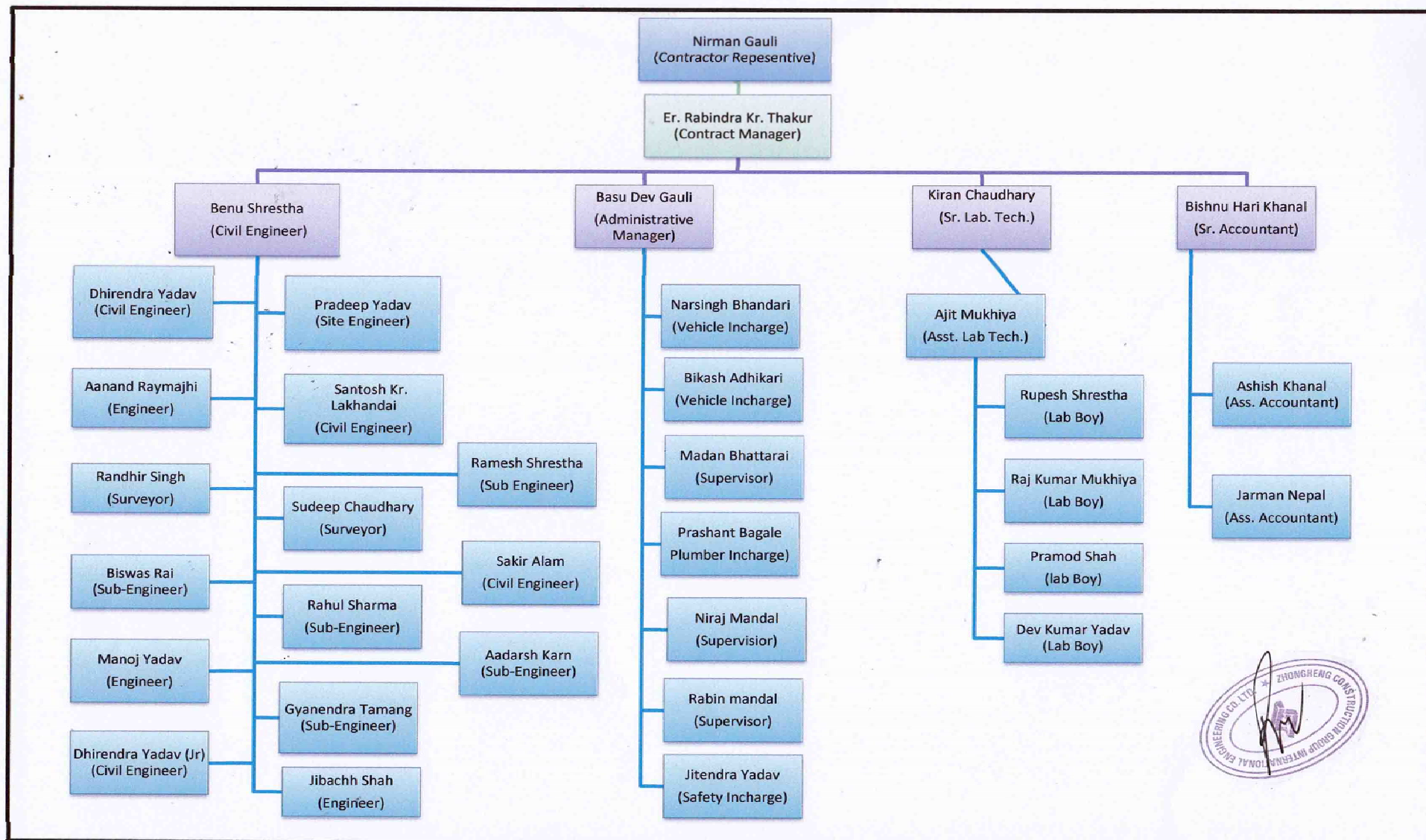
<i>Physical Progress till date</i>							
<b>S.N.</b>	<b>Description</b>	<b>Diameter (mm)</b>	<b>Progress</b>			<b>Total to Date (RM.)</b>	<b>Remarks</b>
			<b>BoQ (RM)</b>	<b>Up to Previous month (RM.)</b>	<b>This Month (RM.)</b>		
1	HDPE Pipe	110.00	1,987.20	4,487.20	-	4,487.20	<b>Under process</b>
2	HDPE Pipe	200.00	16,656.00	16,500.00	-	16,500.00	
3	HDPE Pipe	250.00	115.00	450.00	-	450.00	
	<b>Total</b>						

**Table 12: PHYSICAL PROGRESS in PRODUCTION/PURCHASE OF UPVC Pipe till date.**

<i>Physical Progress till date</i>							
<b>S.N.</b>	<b>Description</b>	<b>Diameter (mm)</b>	<b>Progress</b>			<b>Total to Date (RM.)</b>	<b>Remarks</b>
			<b>BoQ (RM)</b>	<b>Up to Previous month (RM)</b>	<b>This Month (RM.)</b>		
1	UPVC Pipe	160.00	5,050.00	5,050.00	0.00	5,050.00	
2	UPVC Pipe	110.00	5,050.00	5,050.00	0.00	5,050.00	



**Details of Contractor's Site Personnel**





## 7. CONTRACTOR'S MANPOWER

Table 13: CONTRACTOR'S KEY STAFFS

S. No.	Position	Minimum Number Required as per Contract	ZHONGHENG CONSTRUCTION Group	Remarks
1	Project/Contract Manager (1 No) 15/10 Yrs. (Total/Similar Exp.)	1	1	
2	Civil Engineer-10/6	2	2	
3	Sanitary Engineer- (1no.)-12/8	1	-	
4	Road Engineer- (1no.)-12/8	1	1	
5	Electromechanical Engineer-(1no)-10/5	1	-	
6	Safety Engineer	-	1	
7	Site Engineer	-	8	
8	Sub- Engineer	-	7	
9	Accountant	-	3	
10	Lab Technician	-	6	
11	Store Keeper	-	1	
12	Vehicle In charge	-	2	
13	Skilled Labors		78	
14	Unskilled Labors		292	

## 8. CONTRACTOR'S EQUIPMENT

**Table 14: CONTRACTOR'S EQUIPMENT**

S. No.	Equipment Type and Characteristics	Min Number required as per Contract	ZHONGHENG CONSTRUCTION Group	Remarks
1	Excavator (200 above)	5	2	Backhoe loader-9 nos.
2	Crane (10 ton capacity)	3	-	
3	Asphalt plant of adequate capacity	1	1	
4	Asphalt pavers	1	1	
5	Vibrating roller	2	5	Among 5nos., 2ton rollers -2nos.
6	Pneumatic tyre roller 8 to 10 ton	2	1	
7	Smooth wheeled roller 8 to 10 ton	1	0	
8	Grader	1	2	
9	Track Dozer (120 to 180 HP)	1	-	
10	Bitumen distributor (4 to 6 Kilo Litres)	1	1	
11	Water browser ( minimum 5000 Litres)	3	4	
12	Chips spreader	1	-	
13	Bitumen decanter minimum 4000 Litres. ( preheating container)	2	2	
	Air compressor	2	2	
14	Tipping Trucks	5	2	
15	Service vehicle	15	4	
16	Survey equipment (Total station with accessories)	2	1	

S. No.	Equipment Type and Characteristics	Min Number required as per Contract	ZHONGHENG CONSTRUCTION Group	Remarks
17	Theodolite	1	-	
18	Levelling	2	27	
19	Mobile Generator 15-20 KVA	5	10	
20	Mixer Machine	3	5	
21	Concrete Batching Plant	1	-	
22	Concrete pump	1	-	
23	Drain cleaner/ Nala cleaner	2	-	
24	Broomer	-	1	
25	Motor Bike	-	11	
26	Plate Compactor	-	5	
27	Water Pump	-	14	

## 9. WORK PLAN FOR THE NEXT MONTH

Following are the Contractor's works in the next month program.

- Detail Surveying works at various Road sections.
- Road works
- Precast elements production works at contractor's yard.
- Road Side drain works.
- Laying of Kerb Stone, cover slab and interlocking tiles, etc.
- Placement of Sewer inlet and House Connection works, etc.
- Relocation of electric poles and water supply works, etc.



## ANNEX-1: Photographs of August, 2019





Base laying at R20



Density test of Subgrade





Cleaning of existing drain



Interlocking on footpath at R10



Interlocking on footpath at R21



Interlocking work on footpath at R2





Drain cover slab & kerb stone works at R3



Placement of House Connection Chamber (HCC) at T3L12



ANNEX-2: Minutes of Meeting August, 2019

**Not Any**



ANNEX-3: Laboratory Test Results of August, 2019  
**ATTACHED**



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Mortar Test Report

							Month		August		
							Year		2019		
							Description of Sample		Brick Wall		
S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand	Date of Casting	Date of Testing		Strength, N/mm <sup>2</sup>		Type of Grade
							7 Days	28 Days	7 Days	28 Days	
33	T3L Trunk line	MR-2169	Saptakoshi	OPC	Chisang Khola	4-Aug-19	11-Aug-19	1-Sep-19	6.43	✓	7.5
34	R-46	MR-2170	Saptakoshi	OPC	Chisang Khola	4-Aug-19	11-Aug-19	1-Sep-19	6.01	✓	7.5
35	R-46	MR-2171	Saptakoshi	OPC	Chisang Khola	6-Aug-19	13-Aug-19	3-Sep-19	6.57	✓	7.5
36	R-3	MR-2172	Saptakoshi	OPC	Chisang Khola	6-Aug-19	13-Aug-19	3-Sep-19	5.59	✓	7.5
37	T3L Trunk line	MR-2173	Saptakoshi	OPC	Chisang Khola	6-Aug-19	13-Aug-19	3-Sep-19	6.29	✓	7.5
38	T3L Trunk line	MR-2174	Saptakoshi	OPC	Chisang Khola	6-Aug-19	13-Aug-19	3-Sep-19	6.01	✓	7.5
39	R-46	MR-2175	Saptakoshi	OPC	Chisang Khola	6-Aug-19	13-Aug-19	3-Sep-19	6.01	✓	7.5
40	R-46	MR-2176	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	5.87	✓	7.5
41	R-46	MR-2177	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	6.15	✓	7.5
42	T3L Trunk line	MR-2178	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	6.15	✓	7.5
43	R-3	MR-2179	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	6.57	✓	7.5
44	T3L5	MR-2180	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	5.87	✓	7.5
45	R-46	MR-2181	Saptakoshi	OPC	Chisang Khola	10-Aug-19	17-Aug-19	7-Sep-19	6.29	✓	7.5
46	R-3	MR-2182	Saptakoshi	OPC	Chisang Khola	10-Aug-19	17-Aug-19	7-Sep-19	5.45	✓	7.5
47	T3L Trunk line	MR-2183	Saptakoshi	OPC	Chisang Khola	10-Aug-19	17-Aug-19	7-Sep-19	6.29	✓	7.5
48	T3L5	MR-2184	Saptakoshi	OPC	Chisang Khola	10-Aug-19	17-Aug-19	7-Sep-19	6.01	✓	7.5
49	R-46	MR-2185	Saptakoshi	OPC	Chisang Khola	10-Aug-19	17-Aug-19	7-Sep-19	6.15	✓	7.5
50	T3L Trunk line	MR-2186	Saptakoshi	OPC	Chisang Khola	10-Aug-19	17-Aug-19	7-Sep-19	6.01	✓	7.5
51	T3L5	MR-2187	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	6.85	✓	7.5
52	R-46	MR-2188	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	5.78	✓	7.5
53	R-46	MR-2189	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	5.59	✓	7.5
54	R-3	MR-2190	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	6.01	✓	7.5
55	R-3	MR-2191	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	5.31	✓	7.5
56	T3L Trunk line	MR-2192	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	5.73	✓	7.5
57	R-46	MR-2193	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	6.01	✓	7.5
58	T3L5	MR-2194	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	5.87	✓	7.5
59	T3L Trunk line	MR-2195	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	5.73	✓	7.5
60	R-3	MR-2196	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	5.59	✓	7.5
61	R-181A	MR-2197	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	5.87	✓	7.5
62	T3L19G	MR-2198	Saptakoshi	OPC	Chisang Khola	15-Aug-19	22-Aug-19	12-Sep-19	5.59	✓	7.5
63	T3L5	MR-2199	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	5.45	✓	7.5
64	R-46	MR-2200	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19	5.87	✓	7.5

<b>Contractor</b>  <b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b>		<b>Consultant</b> <b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b> 	
 <b>Checked By</b> <b>Engineer</b> <b>Benu Shrestha</b>	 <b>Submitted By</b> <b>Contract Manager</b> <b>Rabindra Kr. Thakur</b>	 <b>Verified By</b> <b>Expert Qty Surveyor/CSE</b> <b>H.K. Mandal/Rajan Shrestha</b>	 <b>Approved By</b> <b>Team Leader</b> <b>Giresh Chand</b>









## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Monthly Test Report of Concrete Sand

Month												August							
Year												2019							
Type of Material												Concrete Sand							
S.n.	Lab.Ref.no.	Date of Testing	Location of Sample	Source of Sample	Sieve Size in mm / % Passing by weight							Clay Content%	Remarks						
					10	5.0	2.36	1.18	0.600	0.300	0.150								
21	RUDP-CS-409	7-Aug-19	T3L Trunk line	Chisang Khola	100.00	93.87	80.08	52.35	21.73	13.02	6.58	1.20							
22	RUDP-CS-410	8-Aug-19	R-4	Chisang Khola	100.00	91.87	68.87	41.28	18.28	11.66	6.03	1.07							
23	RUDP-CS-411	8-Aug-19	R-46	Chisang Khola	100.00	92.43	71.23	39.29	25.66	9.82	4.56	1.04							
24	RUDP-CS-412	8-Aug-19	T3L39	Chisang Khola	100.00	95.00	76.88	45.23	32.47	16.44	6.13	1.41							
25	RUDP-CS-413	8-Aug-19	T3L Trunk line	Chisang Khola	100.00	91.18	62.66	41.80	24.98	11.31	4.55	1.32							
26	RUDP-CS-414	9-Aug-19	S13-A	Chisang Khola	100.00	94.57	71.51	46.01	24.58	16.93	5.97	1.09							
27	RUDP-CS-415	9-Aug-19	R-4	Chisang Khola	100.00	91.44	65.80	41.98	27.44	15.26	5.31	1.42							
28	RUDP-CS-416	9-Aug-19	T3L39	Chisang Khola	100.00	91.30	61.64	39.32	25.71	14.29	4.97	1.42							
29	RUDP-CS-417	9-Aug-19	T3L39	Chisang Khola	100.00	92.37	84.66	48.75	24.49	11.34	4.91	1.56							
30	RUDP-CS-418	9-Aug-19	B-1	Chisang Khola	100.00	93.17	84.97	44.36	26.38	14.16	6.83	1.30							
31	RUDP-CS-419	9-Aug-19	B-1	Chisang Khola	100.00	95.56	74.75	40.77	22.63	11.08	5.96	1.48							
32	RUDP-CS-420	11-Aug-19	R-46	Chisang Khola	100.00	93.90	64.97	41.63	25.14	12.38	5.29	1.65							
33	RUDP-CS-421	11-Aug-19	S13-A	Chisang Khola	100.00	92.20	62.96	47.80	21.32	10.94	4.78	1.33							
34	RUDP-CS-422	11-Aug-19	R-2	Chisang Khola	100.00	94.29	78.43	51.88	42.41	12.16	5.11	1.28							
35	RUDP-CS-423	12-Aug-19	S13-A	Chisang Khola	100.00	92.91	79.78	60.59	44.27	17.12	7.72	1.27							
36	RUDP-CS-424	12-Aug-19	R-9(T3L11K)	Chisang Khola	100.00	93.44	68.31	53.43	42.00	13.63	6.63	1.00							
37	RUDP-CS-425	13-Aug-19	T3L Trunk line	Chisang Khola	100.00	91.66	65.43	46.43	31.99	14.36	7.91	1.16							
38	RUDP-CS-426	14-Aug-19	T3L39	Chisang Khola	100.00	93.42	69.80	58.72	45.17	9.46	3.36	1.35							
39	RUDP-CS-427	14-Aug-19	T3L39	Chisang Khola	100.00	91.83	65.09	53.31	41.92	10.29	3.74	1.23							
40	RUDP-CS-428	15-Aug-19	R-2	Chisang Khola	100.00	93.33	66.15	52.31	31.59	18.77	9.74	1.44							
Spec. Limit :					100	89-100	60-100	30-100	15-100	5-70	0-15	<3%							
Contractor					Consultant														
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD					BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL														
 Checked By Engineer Benu Shrestha					 Submitted By Contract Manager Rabindra K. Thakur					 Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha					 Approved By Team Leader Giresch Chand				


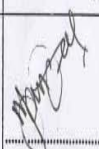



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Monthly Test Report of Concrete Sand

REGIONAL URBAN DEVELOPMENT PROJECT																			
Biratnagar Metropolitan City																			
Contract No:- RUDP/ICB/BRT-02																			
Summary Sheet of Monthly Test Report of Concrete Sand																			
<table border="1"> <tr> <td>Month</td> <td>August</td> </tr> <tr> <td>Year</td> <td>2019</td> </tr> <tr> <td>Type of Material</td> <td>Concrete Sand</td> </tr> </table>													Month	August	Year	2019	Type of Material	Concrete Sand	
Month	August																		
Year	2019																		
Type of Material	Concrete Sand																		
S.n.	Lab Ref no.	Date of Testing	Location of Sample	Source of Sample	Sieve Size in mm / % Passing by weight							Clay Content%	Remarks						
					10	5.0	2.36	1.18	0.600	0.300	0.150								
1	RUDP-CS-389	1-Aug-19	R-82	Chisang Khola	100.00	95.41	70.82	46.50	36.78	18.76	3.01	1.65							
2	RUDP-CS-390	1-Aug-19	Judi-yard	Chisang Khola	100.00	94.50	63.16	40.36	31.71	20.96	4.51	1.53							
3	RUDP-CS-391	2-Aug-19	T3L22	Chisang Khola	100.00	92.04	84.99	64.39	45.15	26.81	5.08	1.43							
4	RUDP-CS-392	2-Aug-19	B-1	Chisang Khola	100.00	91.04	81.12	36.08	29.81	10.69	4.78	1.23							
5	RUDP-CS-393	2-Aug-19	B-1	Chisang Khola	100.00	94.40	79.78	39.20	33.35	10.64	5.91	1.56							
6	RUDP-CS-394	2-Aug-19	R-4	Chisang Khola	100.00	91.49	75.40	34.52	27.02	10.75	4.69	1.60							
7	RUDP-CS-395	3-Aug-19	R-82	Chisang Khola	100.00	92.96	77.93	36.34	28.41	13.37	6.08	1.32							
8	RUDP-CS-396	3-Aug-19	R-4	Chisang Khola	100.00	92.87	75.03	35.29	28.79	15.02	5.38	1.64							
9	RUDP-CS-397	3-Aug-19	R-46	Chisang Khola	100.00	94.43	71.91	36.63	30.29	15.79	5.83	1.31							
10	RUDP-CS-398	3-Aug-19	R-4	Chisang Khola	100.00	91.42	80.00	46.67	36.26	27.31	8.13	1.31							
11	RUDP-CS-399	3-Aug-19	R-2	Chisang Khola	100.00	92.78	69.35	51.13	38.42	28.66	7.01	1.51							
12	RUDP-CS-400	4-Aug-19	Madhumara-yard	Chisang Khola	100.00	93.16	73.96	51.76	38.41	28.97	6.51	1.19							
13	RUDP-CS-401	5-Aug-19	Judi-yard	Chisang Khola	100.00	94.11	70.46	53.05	43.07	27.74	6.59	1.49							
14	RUDP-CS-402	5-Aug-19	R-4	Chisang Khola	100.00	94.09	74.73	49.58	37.34	25.69	5.14	1.50							
15	RUDP-CS-403	6-Aug-19	T3L39	Chisang Khola	100.00	90.98	66.11	50.06	28.26	18.99	6.33	1.33							
16	RUDP-CS-404	7-Aug-19	R-2	Chisang Khola	100.00	94.65	65.17	44.91	28.31	17.78	6.42	1.03							
17	RUDP-CS-405	7-Aug-19	R-82	Chisang Khola	100.00	93.27	63.85	44.65	30.24	19.31	6.32	1.46							
18	RUDP-CS-406	7-Aug-19	R-4	Chisang Khola	100.00	93.81	71.78	34.82	27.17	13.85	5.29	1.57							
19	RUDP-CS-407	7-Aug-19	B-1	Chisang Khola	100.00	94.07	82.22	52.20	20.32	15.35	4.18	1.50							
20	RUDP-CS-408	7-Aug-19	R-4	Chisang Khola	100.00	94.68	81.01	53.28	23.47	17.65	5.32	1.49							
Spec. Limit :					100	89-100	60-100	30-100	15-100	5-70	0-15	<3%							
Contractor					Consultant														
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD					BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL														
 Checked By Engineer Benu Shrestha					 Submitted By Contract Manager Rabindra K. Thakur					 Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha					 Approved By Team Leader Gireesh Chand				



### Summary Sheet of Monthly Test Report of Concrete Sand



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Mortar Test Report

							Month		August		
							Year		2019		
							Description of Sample		Brick Wall		
S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand	Date of Casting	Date of Testing		Strength, N/mm2		Type of Grade
							7 Days	28 Days	7 Days	28 Days	
1	T2L19G	MR-2137	Saptakoshi	OPC	Chisang Khola	5-Jul-19	12-Jul-19	2-Aug-19		8.79	7.5
2	R-9	MR-2138	Saptakoshi	OPC	Chisang Khola	5-Jul-19	12-Jul-19	2-Aug-19		8.79	7.5
3	T3L7C	MR-2139	Saptakoshi	OPC	Chisang Khola	5-Jul-19	12-Jul-19	2-Aug-19		9.20	7.5
4	R-9	MR-2140	Saptakoshi	OPC	Chisang Khola	18-Jul-19	25-Jul-19	15-Aug-19		8.38	7.5
5	T3L22	MR-2141	Saptakoshi	OPC	Chisang Khola	18-Jul-19	25-Jul-19	15-Aug-19		9.62	7.5
6	T3L39	MR-2142	Saptakoshi	OPC	Chisang Khola	18-Jul-19	25-Jul-19	15-Aug-19		8.65	7.5
7	R-9	MR-2143	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		9.48	7.5
8	T3L39	MR-2144	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		9.34	7.5
9	T3L22	MR-2145	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		9.89	7.5
10	R-9	MR-2146	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		8.38	7.5
11	T3L Trunk line	MR-2147	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	5.87	8.65	7.5
12	T3L22	MR-2148	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	5.87	9.07	7.5
13	T3L39	MR-2149	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	6.29	9.20	7.5
14	R-3	MR-2150	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	6.01	8.79	7.5
15	T3L Trunk line	MR-2151	Saptakoshi	OPC	Chisang Khola	27-Jul-19	3-Aug-19	24-Aug-19	5.87	9.89	7.5
16	T3L22	MR-2152	Saptakoshi	OPC	Chisang Khola	27-Jul-19	3-Aug-19	24-Aug-19	5.87	8.93	7.5
17	T3L22	MR-2153	Saptakoshi	OPC	Chisang Khola	27-Jul-19	3-Aug-19	24-Aug-19	5.87	9.20	7.5
18	R-46	MR-2154	Saptakoshi	OPC	Chisang Khola	27-Jul-19	3-Aug-19	24-Aug-19	5.87	9.62	7.5
19	T3L Trunk line	MR-2155	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	6.43	9.62	7.5
20	R-46	MR-2156	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	6.29	9.75	7.5
21	T3L39	MR-2157	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	6.57	8.24	7.5
22	T3L Trunk line	MR-2158	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	5.59	7.97	7.5
23	T3L22	MR-2159	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	6.29	8.52	7.5
24	T3L Trunk line	MR-2160	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	6.29	9.07	7.5
25	T3L Trunk line	MR-2161	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	6.15	8.24	7.5
26	T3L39	MR-2162	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	5.59	8.65	7.5
27	R-46	MR-2163	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	6.01	9.07	7.5
28	R-46	MR-2164	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	6.43	8.93	7.5
29	T3L22	MR-2165	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	6.15	8.93	7.5
30	T3L Trunk line	MR-2166	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	6.29	9.07	7.5
31	R-46	MR-2167	Saptakoshi	OPC	Chisang Khola	4-Aug-19	11-Aug-19	1-Sep-19	5.45	7.5	7.5
32	R-46	MR-2168	Saptakoshi	OPC	Chisang Khola	4-Aug-19	11-Aug-19	1-Sep-19	6.99	7.5	7.5

Contractor		Consultant	
<b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b>		<b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b>	
Checked By Engineer Benu Shrestha	Submitted By Contract Manager Rabindra Kr. Thakur	Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha	Approved By Team Leader Giresch Chand





## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02





## Summary Sheet of Mortar Test Report

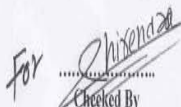



							Month		August		
							Year		2019		
							Description of Sample		Brick Wall		
S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand	Date of Casting	Date of Testing		Strength, N/mm2		Type of Grade
							7 Days	28 Days	7 Days	28 Days	
65	T3L Trunk line	MR-2201	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	5.59		7.5
66	T3L5	MR-2202	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	5.59		7.5
67	T3L5	MR-2203	Saptakoshi	OPC	Chisang Khola	18-Aug-19	25-Aug-19	15-Sep-19	6.29		7.5
68	T3L5	MR-2204	Saptakoshi	OPC	Chisang Khola	18-Aug-19	25-Aug-19	15-Sep-19	5.59		7.5
69	T3L Trunk line	MR-2205	Saptakoshi	OPC	Chisang Khola	18-Aug-19	25-Aug-19	15-Sep-19	5.87		7.5
70	R-181A	MR-2206	Saptakoshi	OPC	Chisang Khola	20-Aug-19	27-Aug-19	17-Sep-19	6.43		7.5
71	R-3	MR-2207	Saptakoshi	OPC	Chisang Khola	20-Aug-19	27-Aug-19	17-Sep-19	5.59		7.5
72	T3L Trunk line	MR-2208	Saptakoshi	OPC	Chisang Khola	20-Aug-19	27-Aug-19	17-Sep-19	6.01		7.5
73	T3L5	MR-2209	Saptakoshi	OPC	Chisang Khola	22-Aug-19	29-Aug-19	19-Sep-19	5.87		7.5
74	R-181A	MR-2210	Saptakoshi	OPC	Chisang Khola	22-Aug-19	29-Aug-19	19-Sep-19	5.73		7.5
75	R-3	MR-2211	Saptakoshi	OPC	Chisang Khola	22-Aug-19	29-Aug-19	19-Sep-19	5.45		7.5
76	T3L Trunk line	MR-2212	Saptakoshi	OPC	Chisang Khola	22-Aug-19	29-Aug-19	19-Sep-19	6.43		7.5
77	R-181A	MR-2213	Saptakoshi	OPC	Chisang Khola	24-Aug-19	31-Aug-19	21-Sep-19	5.59		7.5
78	R-3	MR-2214	Saptakoshi	OPC	Chisang Khola	24-Aug-19	31-Aug-19	21-Sep-19	6.43		7.5
79	T3L Trunk line	MR-2215	Saptakoshi	OPC	Chisang Khola	24-Aug-19	31-Aug-19	21-Sep-19	6.01		7.5
80	T3L5	MR-2216	Saptakoshi	OPC	Chisang Khola	24-Aug-19	31-Aug-19	21-Sep-19	6.29		7.5
							</				

Contractor		Consultant	
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD		BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL	
 Checked By Engineer Benu Shrestha	 Submitted By Contract Manager Rabindra Kr. Thakur	 Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha	 Approved By Team Leader Gireh Chand

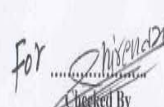



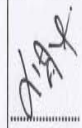





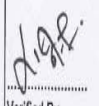



REGIONAL URBAN DEVELOPMENT PROJECT																							
Biratnagar Metropolitan City																							
Contract No: RUDP/ICB/BRT-02																							
Daily Application Rate Check for Priming work																							
Type of Bitumen: 80/100 P.G						SUMMARY FOR THE MONTH OF AUGUST 2019																	
Cutter Percentage: MC 70:MC30																							
SN NO	Location	Date of Priming	Station From	Station to	Side of Priming	Area of Priming (M)	Intersection Area m2	Total Area M2	Bitumen Consumption (Ltr)	Application Rate By Deep Ltr/m2	Application Rate Bl Tray Test Ltr/m2												
1	R-87	4-Aug	0+000	0+094	Both side	611	0	611	650	1.06	1.05												
2	R-12	4-Aug	0+000	0+300	Both Side	1905	0	1905	2050	1.08	1.04												
3	R-82	5-Aug	0+000	0+529	Both Side	2930.66	0	2930.66	3150	1.07	1.04												
4	T1L5A	6-Aug	0+000	0+137	Both Side	624.72	0	624.72	650	1.04	1.06												
5	R-7	08-Aug-19	0+000	0+127	Both Side	452.12	0	452.12	475	1.05	1.06												
6	R-16	08-Aug-19	0+000	0+030	Both Side	97.5	0	97.5	100	1.03	1.05												
7	R-21, Prativa Chwok	08-Aug-19	0+000	0+030	Both Side	150	0	150	150	1.00	1.07												
8	T3L11(R-6)	09-Aug-19	0+000	0+260	Both Side	842.4	0	842.4	900	1.07	1.06												
Total									8125														
Required specification for Prime coat 1.0 Lit/M2 $\pm$ 5% Specific Gravity of Bitumen 1.033																							
Contractor						Consultant																	
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD.						BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL																	
 Checked By Engineer Benu Shrestha						 Submitted By Contract Manager Rabindra Kr. Thakur						 Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha						 Approved By Team Leader Giresh Chand					

REGIONAL URBAN DEVELOPMENT PROJECT											
Biratnagar Metropolitan City											
Contract No: RUDP/ICB/BRT-02											
Daily Application Rate Check for TACK COAT											
Type of Bitumen: 80/100 P.G			SUMMARY FOR THE MONTH OF AUGUST 2019								
S.N.	Location	Date of Tack coat	Station		Side of Tack coat	Area of Tack coat	Intersection Area m <sup>2</sup>	Total Area M <sup>2</sup>	Bitumen Consumption	Application Rate By Dip Lit/m <sup>2</sup>	Application Rate Bt Tray Test Lit/m <sup>2</sup>
			From	to							
1	R-87	6-Aug-19	0+000	0+094	BHS	611	0	611.00	350	0.57	0.56
2	R-12	6-Aug-19	0+000	0+110	BHS	697.4	0	697.4	400	0.57	0.5
3	R-12	7-Aug-19	0+110	0+300	BHS	1204.6	0	1204.60	700	0.58	0.52
4	R-82	7-Aug-19	0+000	0+201	BHS	1278.36	0	1278.36	700	0.55	0.52
5	R-82	8-Aug-19	0+201	0+272	BHS	335.12	0	335.12	200	0.60	0.51
6	R-82	9-Aug-19	0+272	0+529	BHS	1220.75	0	1220.75	700	0.57	0.51
7	T1L5A	9-Aug-19	0+000	0+137	BHS	671.3	0	671.30	400	0.60	0.53
Required tack coat is 0.40 to 0.60 Lit/M <sup>2</sup> According to Road Note -3, Section 711.2											
Specific Gravity of Bitumen 1.034											
Contractor						Consultant					
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD						BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL					
 Checked By Engineer Benu Shrestha						 Submitted By Contract Manager Rabindra Kr. Thakur					
 Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha						 Approved By Team Leader Giresch Chand					



REGIONAL URBAN DEVELOPMENT PROJECT											
Biratnagar Metropolitan City											
Contract No: RUDP/ICB/BRT-02											
Daily Application Rate Check for TACK COAT											
Type of Bitumen: 80/100 P.G											
SUMMARY FOR THE MONTH OF AUGUST 2019											
S.N.	Location	Date of Tack coat	Station From	Station to	Side of Tack coat	Area of Tack coat	Intersection Area m2	Total Area M2	Bitumen Consumption	Application Rate By Dip Lit/m2	Application Rate By Tray Test Lit/m2
8	T3L11(R-6)	10-Aug-19	0+000	0+260	BHS	873.6	0	873.60	500	0.57	0.52
9	R-7	10-Aug-19	0+000	0+127	BHS	450.85	0	450.85	250	0.55	0.52
10	R-16	10-Aug-19	0+000	0+030	BHS	97.5	0	97.50	50	0.51	0.56
								Total	4250		
Required tack coat is 0.40 to 0.60 Lit/M2 According to Road Note -3, Section 711.2											
Specific Gravity of Bitumen 1.034											
Contractor						Consultant					
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD						BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL					
 Checked By Engineer Benu Shrestha						 Submitted By Contract Manager Rabindra Kr. Thakur					
											
 Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha						 Approved By Team Leader Gireesh Chand					

REGIONAL URBAN DEVELOPMENT PROJECT																															
Biratnagar Metropolitan City																															
Contract No: RUDP/ICB/BRT-02																															
Test Result BY MARSHALL METHOD (AASHTO T 245-78)																															
SUMMARY FOR THE MONTH OF AUGUST 2019													P.g 1 of 1																		
S. No.	LAB REF. NO.	Date of Laying	Location of Work ch:	Mix Agg Gradation % Passing Sieve Sizes mm							Bitumen Content From Extraction Test %	Mix Density gm/cc	Air Voids %	VMA %	Stability N	Flow mm															
				20	16	9.5	4.75	2.36	0.6	0.075																					
1	93	6/8/2019	R-87, 0+000 to 0+094	100	100	77.71	54.78	33.45	16.14	6.27	5.79	2.372	3.02	16.29	11830	2.22															
2	94	6/8/2019	R-12, 0+000 to 0+110	100	100	77.47	56.43	34.86	21.25	7.12	5.90	2.366	3.05	16.55	11819	2.62															
3	95	7/8/2019	R-12, 0+110 to 300	100	100	77.10	57.49	34.69	20.38	6.28	5.68	2.376	3.17	16.22	11731	2.42															
4	96	7/8/2019	R-82, 0+000 to 0+201	100	100	81.86	57.47	34.67	17.59	7.20	5.71	2.375	3.19	16.30	11808	2.60															
5	97	8/8/2019	R-82, 0+201 to 0+272	100	100	77.2	58.01	36.90	20.78	6.04	5.70	2.378	3.07	16.18	11720	2.65															
6	98	9/8/2019	R-82, 0+272 to 0+529	100	100	77.07	57.96	36.94	17.94	8.16	5.81	2.374	3.07	16.41	11731	2.45															
7	99	9/8/2019	TILSA, 0+000 to 0+137	100	100	78.57	57.45	36.76	18.62	7.48	5.75	2.377	3.02	16.24	11531	2.57															
8	100	10/8/2019	R-6(T3L11i), 0+000 to 0+260	100	100	78.78	57.78	36.67	18.1	6.86	5.73	2.377	3.08	16.25	11576	2.47															
9	101	10/8/2019	R-7&R-16, 0+000 to 0+127 & 0+000 to 0+030	100	100	77.2	56.42	34.99	16.54	6.79	5.70	2.374	3.24	16.32	11598	2.47															
Specifications				100	100-100	76-82	64-69	33-37	16-21	6 to 9	5.703	Min 2.358	3-6%	≥ 16	≥ 8500	2-3															
Job Mix Tolerances from RUDP Specification Table 2.4-10				±5%	Nil	±5%	±5%	±2%	±1%	Nil	±0.3%	For (25-51)mm Thickness W/C Course																			
REMARKS:																															
Contractor								Consultant																							
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD								BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL																							
 Checked By Engineer Benu Shrestha								 Submitted By Contract Manager Rabindra Kr. Thakur								 Verified By Expert City Surveyor/CSE H.K. Mandal/Rajan Shrestha								 Approved By Team Leader Giresh Chand							





## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

Summary Sheet Of Monthly Test Report

S.N.	Lab Ref. No.	Testing Date	Location of Sample	Source of Brick	Name of Brick	Water Absorption of Brick(%)	Strength of Brick(N/mm <sup>2</sup> )	Month	Year	Type of Material	Brick	Remarks
								August	2019			
1	718	2-Aug-19	T3L22	Dadarbairya	ACC	13.02 ✓	12.04 ✓					
2	719	2-Aug-19	T3L39	Dadarbairya	ACC	12.05 ✓	14.66					
3	720	4-Aug-19	R-46	Dadarbairya	ACC	10.80 ✓	12.44					
4	721	5-Aug-19	R-46	Dadarbairya	ACC	13.16 ✓	14.19					
5	722	5-Aug-19	T3L22	Dadarbairya	ACC	10.11 ✓	13.86					
6	723	5-Aug-19	R-46	Dadarbairya	ACC	13.78 ✓	12.91					
7	724	5-Aug-19	T3L22	Dadarbairya	ACC	14.10 ✓	12.21					
8	725	7-Aug-19	R-46	Dadarbairya	ACC	10.81 ✓	13.10					
9	726	8-Aug-19	T3L Trunk line	Dadarbairya	ACC	14.65 ✓	14.55					
10	727	13-Aug-19	R-3	Dadarbairya	ACC	12.49	14.05					
11	728	13-Aug-19	R-46	Dadarbairya	ACC	14.88	13.88					
12	729	13-Aug-19	T3L Trunk line	Dadarbairya	ACC	13.35	14.47					
13	730	13-Aug-19	R-46	Dadarbairya	ACC	12.84	14.75					
14	731	13-Aug-19	R-3	Dadarbairya	ACC	15.11 ✓	12.42					
15	732	13-Aug-19	T3L Trunk line	Dadarbairya	Aanand	13.90 ✓	13.85 ✓					
16	733	14-Aug-19	T3L5	Dadarbairya	ACC	14.66 ✓	14.96					
17	734	14-Aug-19	R-3	Dadarbairya	ACC	13.96 ✓	14.88					
18	735	14-Aug-19	T3L5	Dadarbairya	ACC	13.69 ✓	13.99					
19	736	14-Aug-19	R-46	Dadarbairya	ACC	12.92 ✓	11.45					
20	737	16-Aug-19	T3L Trunk line	Dadarbairya	ACC	13.02 ✓	13.33					
21	738	17-Aug-19	T3L Trunk line	Dadarbairya	Aanand	13.53 ✓	12.39 ✓					
22	739	18-Aug-19	R-3	Dadarbairya	ACC	14.53 ✓	15.03					
23	740	18-Aug-19	T3L5	Dadarbairya	ACC	14.11 ✓	13.94					
24	741	18-Aug-19	T3L Trunk line	Dadarbairya	ACC	14.24 ✓	12.98					
25	742	19-Aug-19	R-46	Dadarbairya	ACC	13.73	13.36					
26	743	20-Aug-19	T3L5	Dadarbairya	ACC	16.04 ✓	13.70					
27	744	21-Aug-19	R-3	Dadarbairya	ACC	14.24 ✓	13.59					
28	745	22-Aug-19	R-3	Dadarbairya	ACC	15.64 ✓	12.82					
29	746	22-Aug-19	R-181A	Dadarbairya	ACC	15.63 ✓	12.04					
30	747	23-Aug-19	T3L Trunk line	Dadarbairya	ACC	14.86 ✓	11.91					
31	748	25-Aug-19	R-3	Dadarbairya	ACC	15.31 ✓	12.64					
32	749	26-Aug-19	R-46	Dadarbairya	ACC	15.45 ✓	12.15					
33	750	26-Aug-19	T3L Trunk line	Dadarbairya	ACC	13.86 ✓	12.42 ✓					
Sp. Limit						<20%	>8 to 10 N/mm <sup>2</sup>					
Comments:-												
Contractor						Consultant						
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD.						BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL						
 Checked By Engineer Benu shrestha						 Verified By Expert Qty Surveyor/CSE H.K.Mandal/Rajan Shrestha						
Submitted By Contract Manager Rabindra Kr. Thakur						Approved By Team Leader Giresch Chand						



### Summary Sheet of Monthly Test Report

Location:-R-7

Month:	August
Year	2019
Type of Material	Sub-base

[illegible]

<p><b>Contractor</b></p> <p>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD.</p> 	<p><b>Consultant</b></p> <p>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p> 
<p><i>For</i></p> <p><i>Benu Shrestha</i></p> <p>.....</p> <p>Checked By Engineer Benu Shrestha</p>	<p><i>H.K. Mandal</i></p> <p>.....</p> <p>Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p>
<p><i>Rajendra Kr. Thakur</i></p> <p>.....</p> <p>Submitted By Contract Manager Rajendra Kr. Thakur</p>	<p><i>Girish Chandra</i></p> <p>.....</p> <p>Approved By Team Leader Girish Chandra</p>



## REGIONAL URBAN DEVELOPMENT PROJECT

### Biratnagar Metropolitan City

**Contract No:- RUDP/ICB/BRT-02**

### Summary Sheet of Field Density Test

**Location:-R-7 (South of Neuro Chowk)**

[illegible]

ZHONGHENG CONSTRUCTION GROUP  
INTERNATIONAL ENGINEERING CO. LTD

**Consultant**  
**BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N.**  
**CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD,**  
**KATHMANDU, NEPAL**

Checked By  
Engineer  
Benu Shrestha

Submitted By  
Contract Manager  
Rabindra kr. Thakur

**Verified By**  
Expert Qty Surveyor/CSE  
H.K. Mandal/Rajan Shrestha

Approved By  
Team Leader  
Giresch Chand

## REGIONAL URBAN DEVELOPMENT PROJECT

## Biratnagar Metropolitan City

**Contract No:- RUDP/ICB/BRT-02**

### Summary Sheet of Monthly Test Report

Location:-R-46

[illegible]

6

<p><b>Contractor</b></p> <p>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p> 	<p><b>Consultant</b></p> <p>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p>
<p>FOO </p> <p>Checked By Engineer Benu Shrestha</p> <p></p> <p>Submitted By Contract Manager Rabindra kr. Thakur</p>	<p></p> <p>Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p>  <p></p> <p>Approved By Team Leader Gireesh Chand</p>



### Summary Sheet of Field Density Test

Location:-R-46







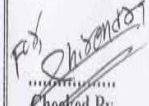

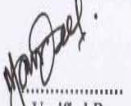



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Monthly Test Report of 20mm Agg.

												Month	August				
												Year	2019 ✓				
												Type of Material	20 mm Agg ✓				
S.n.	Lab.Ref no.	Date of Testing	Location of Sample	Source of Sample	Sieve Size in mm / % Passing by weight					L.A.A. %	Fl and El %	A.I.V. %	Remarks				
					37.5	20	14	10	5								
1	RUDP-CA-387	2-Aug-19	Madhumara Yard	Chisang Khola	100.00	89.70	37.43	4.78	1.87	28.10	19.21/17.10	21.81					
2	RUDP-CA-388	2-Aug-19	R-82	Chisang Khola	100.00	89.36	39.67	4.33	1.18	26.30	17.23/16.28	21.61					
3	RUDP-CA-389	2-Aug-19	Judi-yard	Chisang Khola	100.00	88.65	42.72	6.27	3.27	28.78	17.46/16.02	21.13					
4	RUDP-CA-390	2-Aug-19	R-2	Chisang Khola	100.00	88.64	41.65	6.42	3.37	27.00	17.16/15.72	20.47					
5	RUDP-CA-391	3-Aug-19	B-1	Chisang Khola	100.00	88.70	41.26	6.29	3.36	26.40	17.65/16.60	17.77					
6	RUDP-CA-392	4-Aug-19	T3L39	Chisang Khola	100.00	87.83	41.11	6.56	1.01	27.76	18.97/16.92	21.38					
7	RUDP-CA-393	5-Aug-19	R-9	Chisang Khola	100.00	86.34	39.52	3.39	1.12	26.10	19.45/17.67	20.51					
8	RUDP-CA-394	8-Aug-19	S13-A	Chisang Khola	100.00	89.45	46.20	5.78	3.30	25.10	18.70/17.69	21.15					
9	RUDP-CA-395	8-Aug-19	R-4	Chisang Khola	100.00	87.28	39.76	6.16	3.55	28.40	18.75/17.86	22.27					
10	RUDP-CA-396	9-Aug-19	R-46	Chisang Khola	100.00	88.47	42.05	6.30	3.63	23.10	18.06/16.97	20.91					
11	RUDP-CA-397	9-Aug-19	Madhumara Yard	Chisang Khola	100.00	89.05	41.47	5.34	2.39	26.30	18.62/17.43	21.00					
12	RUDP-CA-398	10-Aug-19	T3L23C	Chisang Khola	100.00	89.45	45.33	4.92	2.18	28.60	19.69/17.04	20.77					
13	RUDP-CA-399	10-Aug-19	S13-A	Chisang Khola	100.00	88.64	43.69	4.02	2.01	26.10	18.41/17.52	21.63					
14	RUDP-CA-400	15-Aug-19	R-2	Chisang Khola	100.00	87.83	27.43	10.76	1.54	28.28	19.53/17.59	21.00					
15	RUDP-CA-401	16-Aug-19	Judi-yard	Chisang Khola	100.00	88.78	22.01	10.79	1.92	27.34	17.94/15.33	20.80					
16	RUDP-CA-402	17-Aug-19	T3L Trunk line	Chisang Khola	100.00	94.78	45.41	14.55	2.24	28.10	19.13/17.97	20.88					
17	RUDP-CA-403	17-Aug-19	Madhumara Yard	Chisang Khola	100.00	93.65	42.34	14.69	2.11	25.72	18.93/16.38	20.76					
18	RUDP-CA-404	18-Aug-19	Madhumara Yard	Chisang Khola	100.00	95.47	42.77	14.95	2.29	24.70	20.26/19.36	21.52					
19	RUDP-CA-405	20-Aug-19	R-181A	Chisang Khola	100.00	94.21	44.45	16.12	2.81	26.90	21.06/19.22	20.22					
Spec. Limit :					100	✓ 85-100	✓ 0-70	✓ 0-25	✓ 0-5	✓ <35	✓ <25	✓ <25					
Contractor												Consultant					
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD 												BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT/ LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL 					
Checked By Engineer Benu Shrestha 												Submitted By Contract Manager Rabindra K. Thakur 		Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha 		Approved By Team Leader Gireesh Chand 	

### Summary Sheet of Monthly Test Report of 20mm Agg.

[illegible]



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Concrete Cube Test Report

S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand+Agg.	Date of Casting	Month		August	
							Year		2019	
							Type of Material		Conc. Cube	
							Date of Testing		Strength, N/mm2	
							7 Days	28 Days	7 Days	28 Days
1	R-7	RUDP-2370	Saptakoshi	OPC	Chisang Khola	4-Jul-19	11-Jul-19	1-Aug-19		23.10
2	Madhumara site	RUDP-2371	Saptakoshi	OPC	Chisang Khola	6-Jul-19	13-Jul-19	3-Aug-19		22.66
3	T3L5	RUDP-2372	Saptakoshi	OPC	Chisang Khola	6-Jul-19	13-Jul-19	3-Aug-19		22.26
4	R-87	RUDP-2373	Saptakoshi	OPC	Chisang Khola	6-Jul-19	13-Jul-19	3-Aug-19		23.40
5	R-12	RUDP-2374	Saptakoshi	OPC	Chisang Khola	17-Jul-19	24-Jul-19	14-Aug-19		24.10
6	R-6	RUDP-2375	Saptakoshi	OPC	Chisang Khola	17-Jul-19	24-Jul-19	14-Aug-19		23.33
7	R-82	RUDP-2376	Saptakoshi	OPC	Chisang Khola	17-Jul-19	24-Jul-19	14-Aug-19		22.21
8	R-9	RUDP-2377	Saptakoshi	OPC	Chisang Khola	18-Jul-19	25-Jul-19	15-Aug-19		22.63
9	T3L22	RUDP-2378	Saptakoshi	OPC	Chisang Khola	18-Jul-19	25-Jul-19	15-Aug-19		23.18
10	T3L39	RUDP-2379	Saptakoshi	OPC	Chisang Khola	18-Jul-19	25-Jul-19	15-Aug-19		22.88
11	T3L39	RUDP-2380	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		22.73
12	R-9	RUDP-2381	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		23.21
13	T3L22	RUDP-2382	Saptakoshi	OPC	Chisang Khola	20-Jul-19	27-Jul-19	17-Aug-19		22.70
14	R-82	RUDP-2383	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	14.23	22.21
15	R-9,(T3L11K)	RUDP-2384	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	14.68	23.10
16	T3L Trunk line	RUDP-2385	Saptakoshi	OPC	Chisang Khola	25-Jul-19	1-Aug-19	22-Aug-19	15.20	23.85
17	Madhumara -yard	RUDP-2386	Saptakoshi	OPC	Chisang Khola	26-Jul-19	2-Aug-19	23-Aug-19	17.44	27.01
18	Judi-yard	RUDP-2387	Saptakoshi	OPC	Chisang Khola	26-Jul-19	2-Aug-19	23-Aug-19	15.80	23.10
19	S13-A	RUDP-2388	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	14.53	22.18
20	R-2	RUDP-2389	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	15.20	23.36
21	T3L22	RUDP-2390	Saptakoshi	OPC	Chisang Khola	28-Jul-19	4-Aug-19	25-Aug-19	15.65	23.03
22	R-9,(T3L11K)	RUDP-2391	Saptakoshi	OPC	Chisang Khola	29-Jul-19	5-Aug-19	26-Aug-19	14.46	22.03
23	S13-A	RUDP-2392	Saptakoshi	OPC	Chisang Khola	29-Jul-19	5-Aug-19	26-Aug-19	14.53	22.96
24	T3L Trunk line	RUDP-2393	Saptakoshi	OPC	Chisang Khola	29-Jul-19	5-Aug-19	26-Aug-19	14.83	23.28
25	Judi-yard	RUDP-2394	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	15.28	23.43
26	R-82	RUDP-2395	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	14.61	23.21
27	T3L22	RUDP-2396	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	14.53	23.80
28	S13-A	RUDP-2397	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	14.83	22.29
29	R-2	RUDP-2398	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	15.35	23.95
30	T3L Trunk line	RUDP-2399	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	14.61	22.38
31	T3L Trunk line	RUDP-2400	Saptakoshi	OPC	Chisang Khola	30-Jul-19	6-Aug-19	27-Aug-19	14.53	23.40
32	Judi-yard	RUDP-2401	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	15.57	24.10
33	Madhumara-yard	RUDP-2402	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	17.74	27.01
34	Madhumara-yard	RUDP-2403	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	13.94	22.11
35	Judi-yard	RUDP-2404	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	14.46	22.59
36	B-1	RUDP-2405	Saptakoshi	OPC	Chisang Khola	2-Aug-19	9-Aug-19	30-Aug-19	14.61	22.84
37	R-2	RUDP-2406	Saptakoshi	OPC	Chisang Khola	3-Aug-19	10-Aug-19	31-Aug-19	14.08	23.36
38	S13-A	RUDP-2407	Saptakoshi	OPC	Chisang Khola	3-Aug-19	10-Aug-19	31-Aug-19	15.28	23.88
39	R-82	RUDP-2408	Saptakoshi	OPC	Chisang Khola	3-Aug-19	10-Aug-19	31-Aug-19	14.31	22.73
40	T3L Trunk line	RUDP-2409	Saptakoshi	OPC	Chisang Khola	3-Aug-19	10-Aug-19	31-Aug-19	15.72	23.77
41	R-4	RUDP-2410	Saptakoshi	OPC	Chisang Khola	5-Aug-19	12-Aug-19	2-Sep-19	12.75	
42	R-46	RUDP-2411	Saptakoshi	OPC	Chisang Khola	5-Aug-19	12-Aug-19	2-Sep-19	14.68	
43	T3L23C	RUDP-2412	Saptakoshi	OPC	Chisang Khola	5-Aug-19	12-Aug-19	2-Sep-19	13.93	
44	Judi-yard	RUDP-2413	Saptakoshi	OPC	Chisang Khola	5-Aug-19	12-Aug-19	2-Sep-19	14.01	
45	Judi-yard	RUDP-2414	Saptakoshi	OPC	Chisang Khola	5-Aug-19	12-Aug-19	2-Sep-19	15.72	
46	Judi-yard	RUDP-2415	Saptakoshi	OPC	Chisang Khola	6-Aug-19	13-Aug-19	3-Sep-19	14.08	
47	Madhumara-yard	RUDP-2416	Saptakoshi	OPC	Chisang Khola	7-Aug-19	14-Aug-19	4-Sep-19	14.01	

ZHONGHENG CONSTRUCTION GROUP  
INTERNATIONAL ENGINEERING CO. LTD

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N.  
CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P)  
LTD, KATHMANDU, NEPAL

Checked By  
Engineer  
Benu Shrestha

Submitted By  
Contract Manager  
Rabindra K.Thakur

Verified By  
Expert Qty Surveyor/CSE  
H.K. Mandal/Rajan Shrestha

Approved By  
Team Leader  
Giresch Chand





## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Concrete Cube Test Report

S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand+Agg.	Date of Casting	Month		August	
							Year		2019	
							Type of Material		Conc. Cube	
							Date of Testing		Strength, N/mm2	
							7 Days	28 Days	7 Days	28 Days
48	Madhumara-yard	RUDP-2417	Saptakoshi	OPC	Chisang Khola	7-Aug-19	14-Aug-19	4-Sep-19	17.90	✓
49	B-1	RUDP-2418	Saptakoshi	OPC	Chisang Khola	7-Aug-19	14-Aug-19	4-Sep-19	14.31	✓
50	R-2	RUDP-2419	Saptakoshi	OPC	Chisang Khola	7-Aug-19	14-Aug-19	4-Sep-19	15.28	✓
51	R-4	RUDP-2420	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	12.19	✓
52	T3L Trunk line	RUDP-2421	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	15.35	✓
53	Judi-yard	RUDP-2422	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	16.77	✓
54	Judi-yard	RUDP-2423	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	14.23	✓
55	T3L39	RUDP-2424	Saptakoshi	OPC	Chisang Khola	9-Aug-19	16-Aug-19	6-Sep-19	14.68	✓
56	R-9,(T3L11K)	RUDP-2425	Saptakoshi	OPC	Chisang Khola	11-Aug-19	18-Aug-19	8-Sep-19	16.10	✓
57	R-4	RUDP-2426	Saptakoshi	OPC	Chisang Khola	11-Aug-19	18-Aug-19	8-Sep-19	16.25	✓
58	T3L5	RUDP-2427	Saptakoshi	OPC	Chisang Khola	11-Aug-19	18-Aug-19	8-Sep-19	14.75	✓
59	R-3	RUDP-2428	Saptakoshi	OPC	Chisang Khola	11-Aug-19	18-Aug-19	8-Sep-19	14.83	✓
60	Madhumara-yard	RUDP-2429	Saptakoshi	OPC	Chisang Khola	11-Aug-19	18-Aug-19	8-Sep-19	14.90	✓
61	Madhumara-yard	RUDP-2430	Saptakoshi	OPC	Chisang Khola	11-Aug-19	18-Aug-19	8-Sep-19	17.74	✓
62	R-82	RUDP-2431	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	15.28	✓
63	B-1	RUDP-2432	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	14.53	✓
64	T3L23C	RUDP-2433	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	15.43	✓
65	T3L39	RUDP-2434	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	15.28	✓
66	Judi-yard	RUDP-2435	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	16.62	✓
67	Judi-yard	RUDP-2436	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	14.38	✓
68	Judi-yard	RUDP-2437	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	14.61	✓
69	R-4	RUDP-2438	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	11.89	✓
70	T3L Trunk line	RUDP-2439	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	15.13	✓
71	R-2	RUDP-2440	Saptakoshi	OPC	Chisang Khola	12-Aug-19	19-Aug-19	9-Sep-19	15.43	✓
72	Madhumara-yard	RUDP-2441	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	14.01	✓
73	Madhumara-yard	RUDP-2442	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	15.28	✓
74	Madhumara-yard	RUDP-2443	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	22.18	✓
75	Madhumara-yard	RUDP-2444	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	17.74	✓
76	R-4	RUDP-2445	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	12.52	✓
77	T3L23C	RUDP-2446	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	16.39	✓
78	T3L5	RUDP-2447	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	14.38	✓
79	R-4	RUDP-2448	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	12.42	✓
80	Judi-yard	RUDP-2449	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	15.43	✓
81	Judi-yard	RUDP-2450	Saptakoshi	OPC	Chisang Khola	13-Aug-19	20-Aug-19	10-Sep-19	14.46	✓
82	R-4	RUDP-2451	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	16.25	✓
83	R-2	RUDP-2452	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	16.25	✓
84	T3L Trunk line	RUDP-2453	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	15.05	✓
85	T3L Trunk line	RUDP-2454	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	14.38	✓
86	R-3	RUDP-2455	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	15.28	✓
87	T3L5	RUDP-2456	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	14.16	✓
88	Madhumara-yard	RUDP-2457	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	14.16	✓
89	Madhumara-yard	RUDP-2458	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	15.28	✓
90	Madhumara-yard	RUDP-2459	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	17.74	✓
91	Judi-yard	RUDP-2460	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	14.98	✓
92	R-4	RUDP-2461	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	11.89	✓
93	R-4	RUDP-2462	Saptakoshi	OPC	Chisang Khola	14-Aug-19	21-Aug-19	11-Sep-19	13.32	✓
94	R-3	RUDP-2463	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.13	✓


Contractor

Consultant

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Benu ShresthaSubmitted By  
Contract Manager  
Rabindra K.ThakurVerified By  
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H.K. Mandal/Rajan ShresthaApproved By  
Team Leader  
Giresh Chand



REGIONAL URBAN DEVELOPMENT PROJECT											
Biratnagar Metropolitan City											
Contract No:- RUDP/ICB/BRT-02											
Summary Sheet of Concrete Cube Test Report											
S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand+Agg.	Date of Casting	Month		August		Concrete Grade
							Year		2019		
							Type of Material		Conc. Cube		
							Date of Testing		Strength, N/mm <sup>2</sup>		
							7 Days	28 Days	7 Days	28 Days	
95	R-3	RUDP-2464	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	13.86	✓	M20
96	T3L Trunk line	RUDP-2465	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	14.68	✓	M20
97	T3L Trunk line	RUDP-2466	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.72	✓	M20
98	T3L5	RUDP-2467	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	14.90	✓	M20
99	T2L19G	RUDP-2468	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.43	✓	M20
100	T3L39	RUDP-2469	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	14.38	✓	M20
101	T3L39	RUDP-2470	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.80	✓	M20
102	Judi-yard	RUDP-2471	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.13	✓	M20
103	Judi-yard	RUDP-2472	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	14.61	✓	M20
104	Judi-yard	RUDP-2473	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.80	✓	M20
105	R-4	RUDP-2474	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	13.05	✓	M15
106	R-4	RUDP-2475	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	12.12	✓	M15
107	R-4	RUDP-2476	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	15.28	✓	M20
108	Madhumara-yard	RUDP-2477	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	14.53	✓	M20
109	Madhumara-yard	RUDP-2478	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	13.93	✓	M20
110	Madhumara-yard	RUDP-2479	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	18.12	✓	M25
111	T3L Trunk line	RUDP-2480	Saptakoshi	OPC	Chisang Khola	16-Aug-19	23-Aug-19	13-Sep-19	14.61	✓	M20
112	R-3	RUDP-2481	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	13.86	✓	M20
113	T3L39	RUDP-2482	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	15.72	✓	M20
114	T3L5	RUDP-2483	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	15.87	✓	M20
115	Judi-yard	RUDP-2484	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	16.17	✓	M20
116	Judi-yard	RUDP-2485	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	13.93	✓	M20
117	R-4	RUDP-2486	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	11.97	✓	M15
118	R-4	RUDP-2487	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	12.19	✓	M20
119	Madhumara-yard	RUDP-2488	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	15.05	✓	M20
120	Madhumara-yard	RUDP-2489	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	14.53	✓	M20
121	T3L Trunk line	RUDP-2490	Saptakoshi	OPC	Chisang Khola	17-Aug-19	24-Aug-19	14-Sep-19	13.93	✓	M30
122	T3L Trunk line	RUDP-2491	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	14.68	✓	M20
123	T3L Trunk line	RUDP-2492	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	13.93	✓	M20
124	R-3	RUDP-2493	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	15.05	✓	M20
125	R-181A	RUDP-2494	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	15.20	✓	M20
126	T3L5	RUDP-2495	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	14.31	✓	M20
127	R-4	RUDP-2496	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	16.17	✓	M20
128	R-4	RUDP-2497	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	14.90	✓	M20
129	Judi-yard	RUDP-2498	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	16.32	✓	M20
130	Judi-yard	RUDP-2499	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	15.35	✓	M20
131	Madhumara-yard	RUDP-2500	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	14.46	✓	M20
132	Madhumara-yard	RUDP-2501	Saptakoshi	OPC	Chisang Khola	19-Aug-19	26-Aug-19	16-Sep-19	22.43	✓	M30
133	T3L Trunk line	RUDP-2502	Saptakoshi	OPC	Chisang Khola	21-Aug-19	28-Aug-19	18-Sep-19	15.43	✓	M20
134	T3L Trunk line	RUDP-2503	Saptakoshi	OPC	Chisang Khola	21-Aug-19	28-Aug-19	18-Sep-19	14.08	✓	M20
135	T3L5	RUDP-2504	Saptakoshi	OPC	Chisang Khola	21-Aug-19	28-Aug-19	18-Sep-19	14.23	✓	M20
136	R-4	RUDP-2505	Saptakoshi	OPC	Chisang Khola	21-Aug-19	28-Aug-19	18-Sep-19	12.27	✓	M15
137	R-4	RUDP-2506	Saptakoshi	OPC	Chisang Khola	21-Aug-19	28-Aug-19	18-Sep-19	13.90	✓	M15
138	Judi-yard	RUDP-2507	Saptakoshi	OPC	Chisang Khola	23-Aug-19	30-Aug-19	20-Sep-19	16.25	✓	M20
139	Judi-yard	RUDP-2508	Saptakoshi	OPC	Chisang Khola	23-Aug-19	30-Aug-19	20-Sep-19	14.08	✓	M20
140	Madhumara-yard	RUDP-2509	Saptakoshi	OPC	Chisang Khola	23-Aug-19	30-Aug-19	20-Sep-19	14.38	✓	M20
141	Madhumara-yard	RUDP-2510	Saptakoshi	OPC	Chisang Khola	23-Aug-19	30-Aug-19	20-Sep-19	18.33	✓	M25

<b>Contractor</b>  <b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b>	<b>Consultant</b> <b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b>
<b>Checked By</b> Engineer Benu Shrestha	<b>Submitted By</b> Contract Manager Rabindra K. Thakur
<b>Verified By</b> Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha	<b>Approved By</b> Team Leader Giresch Chand

## ANNEX-4: SOCIAL & ENVIRONMENT SAFEGUARD

### **Monitoring Formats Attached – August 2019**





Rigional Urban Development Project (RUDP)										
Project Implementation Unit (PIU)										
Biratnagar, Nepal										
LABOUR DATA SUMMARY										
LABOUR CLASSIFICATION	LABOUR		COMPOSITION		ETHNIC COMPOSITION					BRAHMIN/CHHETRI
	SKILLED	UNSKILLED	MALE	FEMALE	JANJATI	DALIT	MUSLIM	MADHESI		
LOCAL	26	84	110	0	10	5	0	95	0	0
NON LOCAL	50	201	251	0	43	59	10	139	0	0
INDIAN	2	7	9	0	0	0	0	9	0	0
TOTAL	78	292	370	0	53	64	10	243	0	0



Regional Urban Development Project (RUDP) Project Implementation Unit (PIU) Biratnagar, Nepal LABOUR DATA													Month/Year: August 2019		
S.NO	LOCATION	TYPES OF WORK	TYPES OF WORKERS	LABOUR	COMPOSITION		ETHNIC COMPOSITION		MUSLIM	MADHESI	BRAHMIN/CHHETRI				
				SKILLED	UNSKILLED	MALE	FEMALE	JANJATI	DALIT						
1	Madhumara Yard	Production	LOCAL												
			NON LOCAL	8	41	49			15	5		29			
			INDIAN												
			TOTAL	49											
2	T3L5	Drain	LOCAL	3	15	18					18				
			NON LOCAL												
			INDIAN												
			TOTAL	18											
3	R181A	Drain	LOCAL	2	13	15			5		10				
			NON LOCAL												
			INDIAN												
			TOTAL	15											
4	T3 Trunk line (Group 'A')	Drain	LOCAL												
			NON LOCAL	5	13	18			5	5		8			
			INDIAN												
			TOTAL	18											
5	R9	Site Clearance	LOCAL	2	5	7					7				
			NON LOCAL												
			INDIAN												
			TOTAL	7											
6	T3 Trunk line (Group 'B')	Drain	LOCAL												
			NON LOCAL	3	12	15			3	7		5			
			INDIAN												
			TOTAL	15											



7	T3 Trunk line (Group 'C')	Drain	LOCAL NON LOCAL INDIAN TOTAL	4   20	16	20		5	5			10
8	R7	Sub-base	LOCAL NON LOCAL INDIAN TOTAL	3   9	6	9						9
9	T1L6	Drain	LOCAL NON LOCAL INDIAN TOTAL	2   12	10	12						12
10	T3L1E	House Connection	LOCAL NON LOCAL INDIAN TOTAL	3   7	4	7						7
11	R107	House Connection	LOCAL NON LOCAL INDIAN TOTAL	4   13	9	13			2			11
12	B1	Drain Rising	LOCAL NON LOCAL INDIAN TOTAL	3   12	9	12						12
13	R46	Kerb Stone Laying	LOCAL NON LOCAL INDIAN TOTAL	4   16	12	16			5			11
14	B1	Weep Hole	LOCAL NON LOCAL INDIAN TOTAL	2   8	6	8						8







**Regional Urban Development Project (RUDP)**  
**Social Safeguard Monitoring**  
**Status of Key Social Issues Compliance**

Subproject Road : -RUDP/ICB/BRT/2

Month/Year: August 2019

Name of Contractor :-ZHONGGHENG Construction  
 GroupInternational Engineering Co pvt Beijing China.

Contract Package: RUDP/ICB/BRT/2

S.N	Key Social Issue	Compliance Status			Implementing Agency	Note of Remarks	Deadline
		Full	Partial	None			
1	Availability of drinking water services	✓					
2	Availability of toilet facility in campsite	✓					
3	Legal source of fuel wood use			✓			
4	Legal document of fuel wood source			✓			
5	Use of safety accessories	✓					
6	Availability of first aid facility	✓					
7	Basic wage rate to construction workers	✓					
8	Equal wage rate to male and female workers		✓				
9	Compensation of temporarily occupied land	✓					
10	Compensation of temporarily occupied buildings	✓					
11	Legal document of temporarily occupied assets	✓					
12	Non use of child labour in construction activities	✓					



Prepared by:

Verified by:

Monitored by:



**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: August 2019

**Checklist**

SN	Activity	Description/Present Status (Compliance/Partially Compliance/Non Compliance)	Remarks/ Corrective actions for Non-Compliance
<b>1</b>	<b>Training</b>		
1.1	Health, Safety and EMP trainings and awareness	Yes	
1.2	Others awareness and skill trainings	No	
<b>2</b>	<b>Occupational health and safety</b>		
2.1	Insurance for workers	Yes	
2.2	Personal Protective Equipment (PPE) provided to labors and is using (helmet, facemasks, muffles, gloves, boots, jacket, goggles etc.)	Daily Provided	
2.3	Public notification Safety and warning signs and informative signboards in working sites for work safety	Yes Provided	
2.4	Use of barricades, caution tape and flag	Daily Used	
<b>3</b>	<b>Campsite management</b>		
3.1	Location	Pichra, Judi, Shanti Chowk, Rani	
3.2	First aid facilities available at camp and worksites	Yes	
3.3	Drinking water supply and sanitation facilities/ pit latrines	Tap water/ Hand Pump	
3.4	Waste Disposal and Management facilities	Yes	
3.5	Type of fuel used for cooking	L.P.G	
<b>4</b>	<b>Spoil and Construction material Management</b>		
4.1	Cut and fill balance maintained or not, Reuse of spoil materials	Cut & Fill balance maintained	
4.2	Use of safe spoil disposal locations	Not Applicable	
4.3	Disturbance to Pedestrian and traffic movement	No any disturbance to pedestrians & traffic	





4.4	Use of private land and agreement with land owners	movement Yes	
5	<b>Air, Noise and Water Pollution</b>		
5.1	Dust emission and Noise pollution sites	Water sprinkled by tanker on such sites.	
5.2	Water quality monitoring result and locations	ok	
5.3	Block age of natural drainages ,water logging, drain water discharge into farmland/risky areas	Not Applicable	
6	<b>Quarrying of construction materials and Plants Installment</b>		
6.1	Quarry/borrow operation sites	Not Applicable	
6.2	Crusher plant and Asphalt plant operation restoration	Asphalt Plant	
7	<b>Impact/Disruption of Private properties</b>		
7.1	Building structures	Not Applicable	
7.2	Other utilities	Not Applicable	
8	<b>Impact/disruption of public infrastructures</b>		
8.1	Irrigation canal	Not Applicable	
8.2	Water supply pipe	Not Applicable	
8.3	Access road	Not Applicable	
8.4	Electric/Telephone pole	Not Applicable	
8.5	Others	Not Applicable	
9	<b>Sites for cultural and religious values</b>		
9.1	Cultural and religious sensitive spots (if any)	Not Applicable	
10	<b>Forest and vegetation</b>		
10.1	Number of trees removal	00	
10.2	No of tree plantation (Roadside)	Not Applicable	
11	<b>Accident cases and records</b>	No any records	
12	<b>Employment to local people</b>		
12.1	Men and women	Yes, both men and women	
12.2	Child labor (if any)	No	
13	<b>Establishment of Safeguard desk and meeting</b>	Yes	
14	<b>Grievances from local people and addressed</b>	Yes	

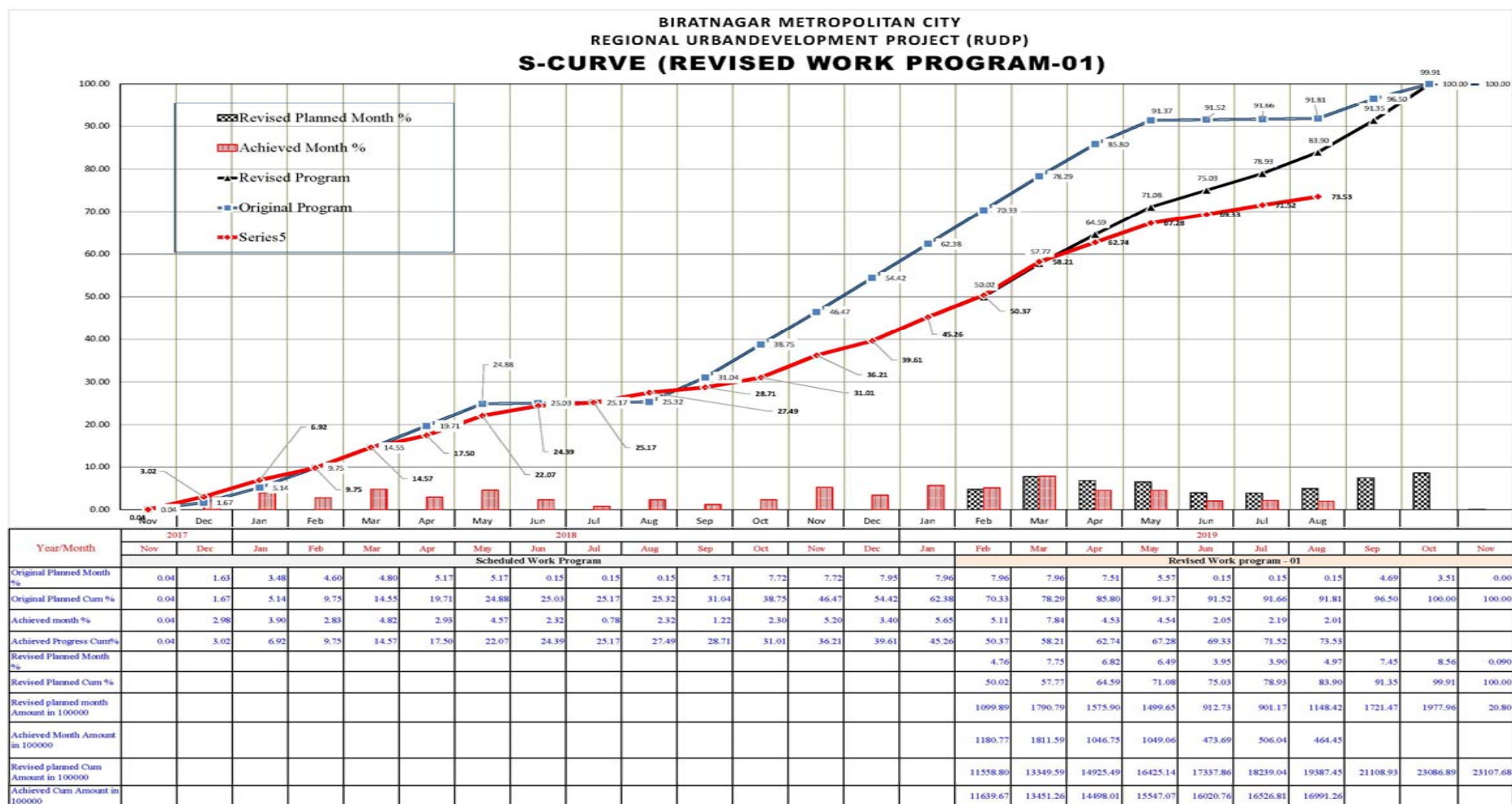


ANNEX-5: S-Curve

**ATTACHED – August 2019**







## Annex-6: Master Plan of RUDP Project



