In association with

Brisbane City Enterprise Pty Ltd, Australia
AQUA Consultant and Associates Ltd, Bangladesh
Building Design Authority, Nepal
CEMAT Consultants, Nepal

SMEC

Monthly Progress Report (May, 2016)

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar, Nepal

06 June, 2016

Biratnagar Sub - Metropolitan City, Nepal

AUSTRALIA | ASIA | MIDDLE EAST | AFRICA | PACIFIC

Project Name:	Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP)
Project Number:	56064023
Report for:	Biratnagar Sub Metropolitan City, Nepal

PREPARATION, REVIEWand AUTHORISATION

Revision	Date	Prepared by	Reviewed by	Approved for Issue by
	06 June 2016	DSC		

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1. SALIENT FEATURE of Contract Package: STIUEIP/W/BRT/ICB-01

General Features	
Name of Project	Secondary Towns Integrated Urban Environmental Improvement Project(STIUEIP)
Executing Agency	Government of Nepal, Ministry of Urban Development Department of Urban Development and Building Construction (DUDBC)
Implementing Agency	Biratnagar Sub-Metropolitan City, Biratnagar
Funded By	Asian Development Bank &Government of Nepal
Package	Sewerage and Drainage Network, Wastewater Treatment Plant and Road and Lanes Improvement Sub Project
Contract No.	STIUEIP/W/BRT/ICB-01
Location	Biratnagar Sub-Metropolitan City, Biratnagar
Consultant	SMEC in association with Brisbane/AQUA/BDA/CEMAT
Contractor	CTCE-KALIKA Joint Venture
Date of Commencement	8th December, 2013
Original Date of Completion	25th May, 2016
Contract Period	900 days from date of commencement
Revised Contract Period	19th May, 2017
Original Contract Amount with PS and VAT	NRs. 2,391,332,117.06
Variation Order No 01 with VAT	NRs 99,753,095.43
Total Contract Amount with VO 01 including PS and VAT	NRs. 2,491,085,212.49
Variation Order No 02 including PS and VAT)	NRs. 228,531,856.73
Total Contract Amount with VO 01 and VO 02 including PS and VAT	NRs 2,719,617,069.21
Paid Amount up to IPC 16	NRs. 1,408,145,253.74 (Including PS & VAT)
Financial Progress wrt VO-02	51.78%

2 INTRODUCTION/BACKGROUND

1. SMEC International Pty (Australia)in association with Brisbane City Enterprise Pty Ltd (Australia), AQUA Consultant and Associates Ltd (Bangladesh),Building Design Authority (Nepal) and CEMAT Consultants(Nepal) have entered for a Contract of Consulting Services with Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP),Project Implementation Unit(PIU), Biratnagar Sub metropolitan City on 7th December 2011. This monthly Progress Report of May, 2016 has been submitted to the PIU as per the Work Program proposed in the consultant's technical proposal as well as TOR of the consultant.

2. Secondary Towns Integrated Urban Environmental Improvement Project(STIUEIP), 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 2650-NEP. As per PAM contribution from GoN is 3.99 million USD, Asian Development Bank (ADB) 18.86 million USD and Biratnagar Sub-metropolitan City (BSMC) 1.99 million USD while contingency is 2.88 million USD for Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar. The cost sharing has been revised in April, 2013as: Government of Nepal (GoN) is 5.960 Million USD, Asian Development Bank(ADB)24.214 Million USD, TDF loan 4.098 Million USD and Biratnagar Sub-metropolitan City(BSMC)2.980 Million USD and in total **37.252** Million USD.

3. In line with ADB's Strategy 2020 and based on Nepal's fundamental longterm 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 proposed project Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) is another step forward to promote healthy cities by creating healthier urban environments and was formulated under the PPTA 2010.

- Contract of consulting services signed on 07December 2011.
- Design works commenced on 01 January 2012.
- Final design works submitted to the Client on March 2013
- Contract of construction works signed on 02 December 2013
- Construction works commenced on 08 December 2013
- Contractor's Work Program (Revision 02) 05 December 2014, this has to be revised as the work progress is not consistent. The Contractor is advised to revise the work program and it is expected to receive by the end of August 2015. The Contractor has officially submitted the third (3rd) revised work program through the Contractor's letter in 15th September 2015 (received on 23rd September 2015). The third revised work program is under review.

3. SUB-PROJECTCOMPONENTS

3.1 SEWER LINES

4. TheprioritizedsewerlinesforFinalDetailedEngineeringReportofBSMCareas follows:

Table1: Proposed Sewer Lines in BSMC

S N.	Description	Unit	Quantity
1	**Sewerage Pipe Supply and Installation**	m	**63,964.0**
	Reinforced Concrete Pipe laying and jointing		**16,612.0**
	Line T1 (Secondary Line T2 (Trunk)	m m	3,788.0 8,370.0
	Line T3 (Trunk)	m	4,136.0
	Line T4 (Secondary)	m	318.0
	HDPE laying and jointing	m	**47,352.0**
	Line T1 (Secondary	m	7,124.0
	Line T2 (Trunk)	m	19,410.0
	Line T3 (Trunk)	m	18,606.0
	Line T4 (Secondary)	m	22,12.0
2	**Manhole (Brick / RCC)**	**no.**	**2,036**
3	**Sewer Inlet**	**no.**	**3,766.00**
4	**House Connection**	**no.**	**5,930.00**
5	**Reinstatement of Roads**	**km**	**66.06**

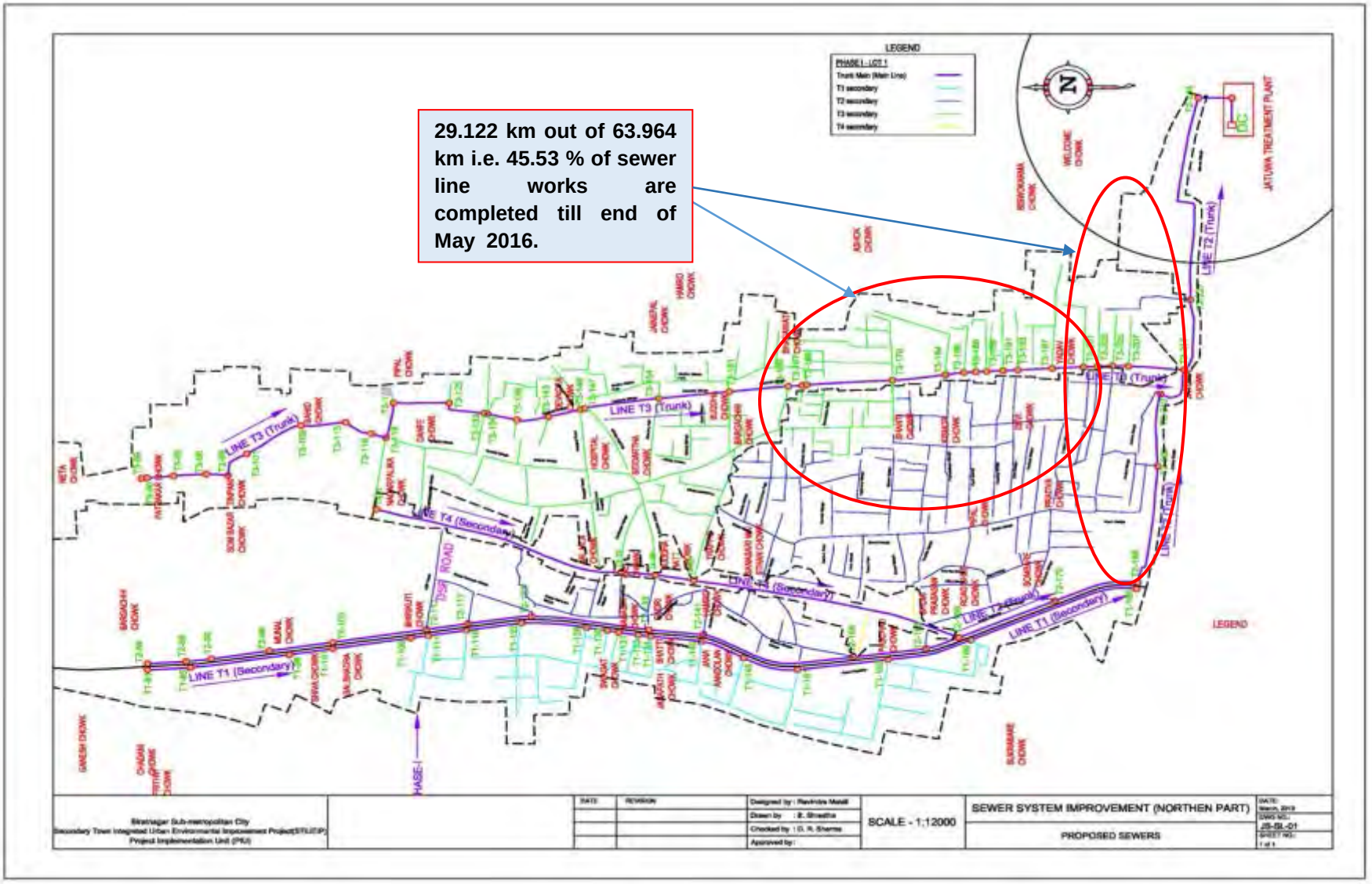


FIGURE. 1PROPOSED SEWER LINES IN BSMC

3.2 Storm Water Drains

5. Most of the storm drains(S13,S11,S9,S5,B1,B2,B3,CN2,CN3 and southern parts) have been provisioned as Phase I priority works. The major storm drain outlets as planned are14 numbers and catchment areas and discharges are respectively1,324.2Ha and 73.21 cum/sec.

Table2: Proposed Storm Water Drains in BSMC

S.No.	Description	Unit	Quantity
A	**Storm Drain for Northern Parts**		**28,491.00**
I	Storm Drain Lines	m	28,491.00
II	Culvert	no	41
III	Outfall	no	15
IV	Rain Inlet	no	30
V	Manhole	no	30
VI	Canal Crossing	no	11
B	**Storm Drain for Southern Part**		
I	Brick Masonry Drain	m	8,483
II	Cleaning and Maintenance of Existing Drain	m	7,273
III	Culverts	no	38
C	**Rehabilitation of Existing Drain**		
I	Drain Cover	m	30,467
II	Cleaning and Maintenance of Existing Drain	m	33,601

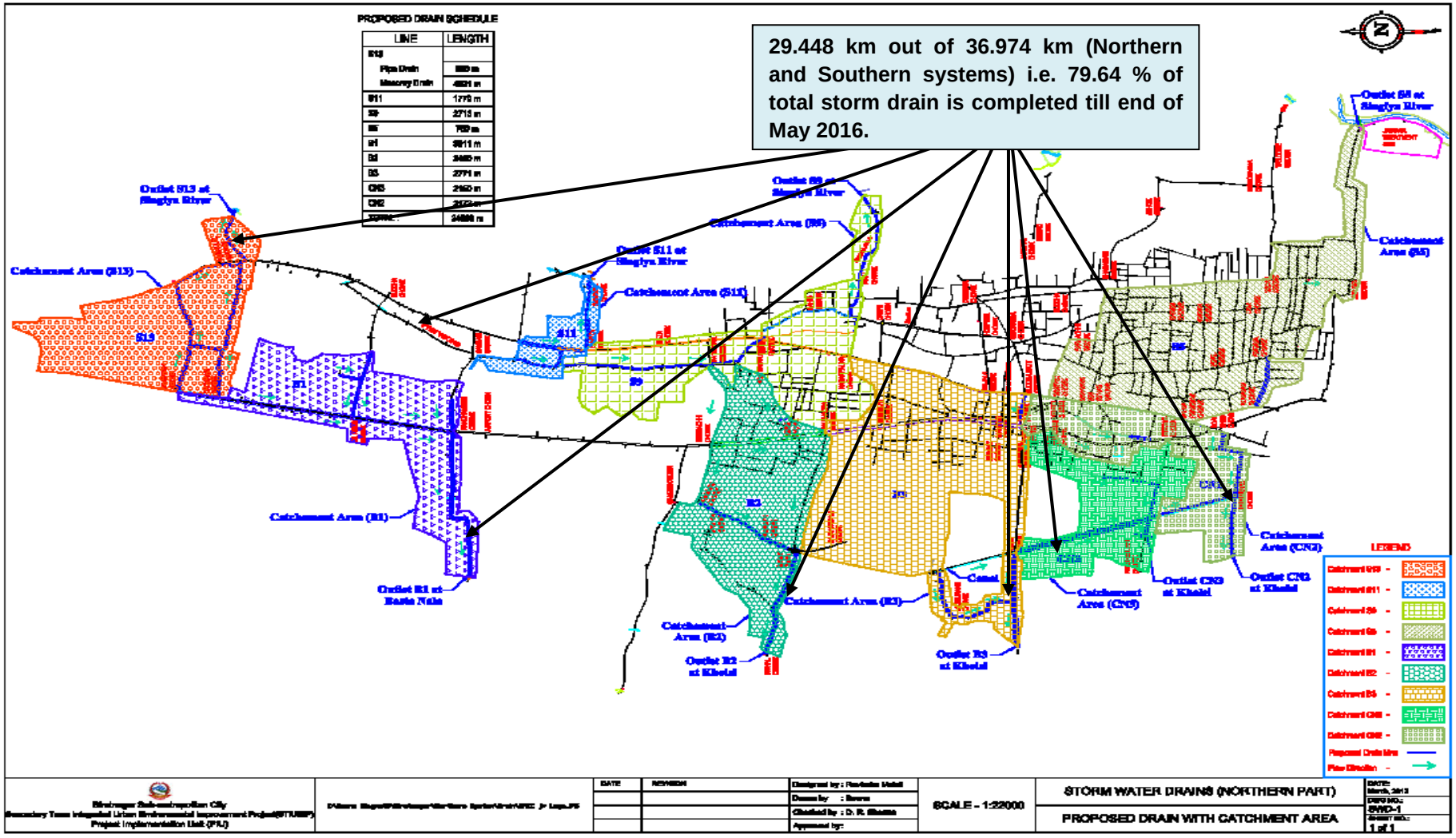


Figure 2: Proposed Storm Water Drains in BSMC (Northern Drainage System)

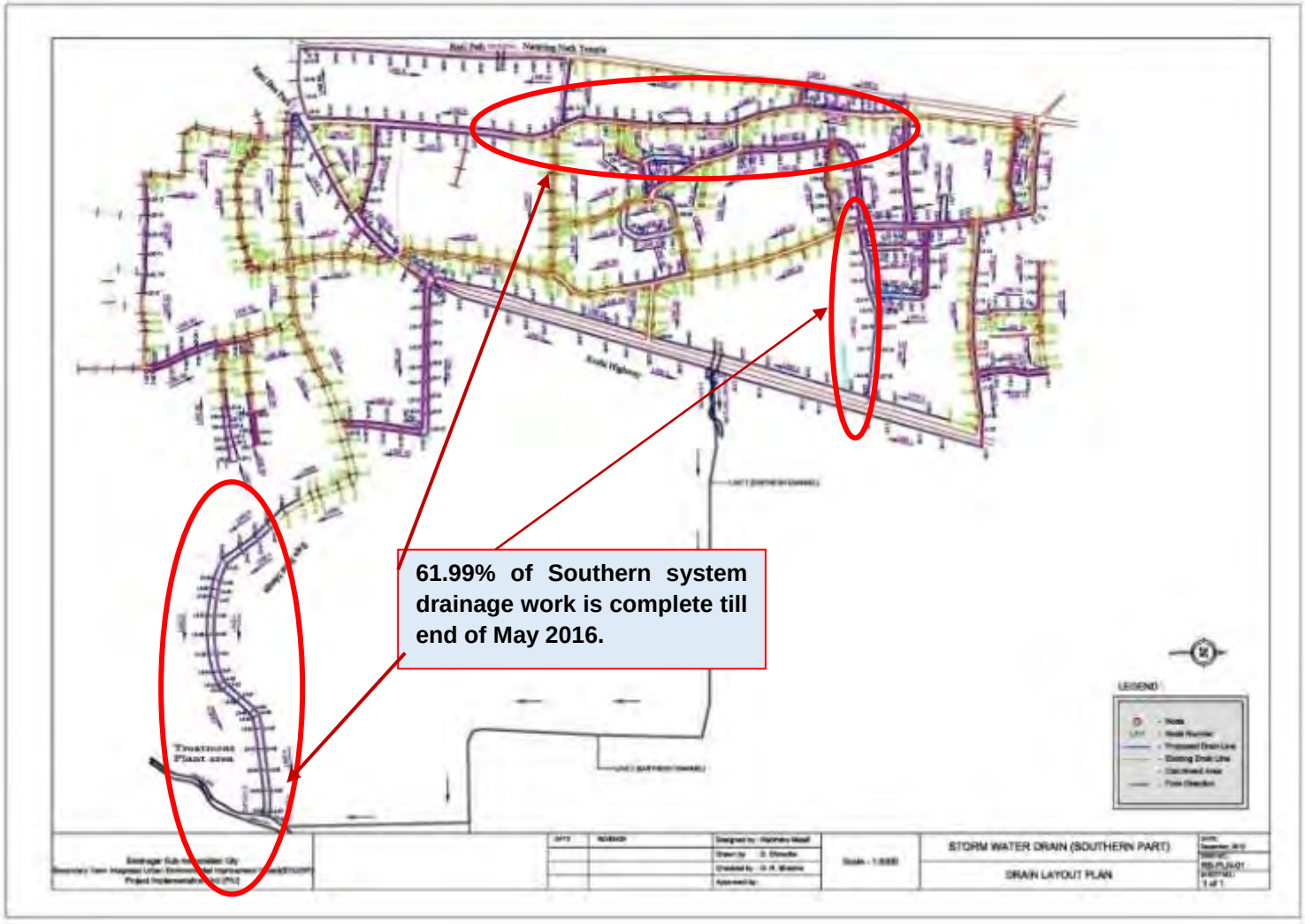


Figure 3: Proposed Storm Water Drains in BSMC (Southern Drainage System)

3.3 WASTE WATER TREATMENT PLANTS

6. The quantity of domestic waste water is calculated using water supply rate at 90 liters per person per day in the design year 2035, out of which 80% is converted into waste water. Maximum quantity of waste water is calculated taking peak factor of 1.99 to 2.5. Minimum quantity of sewage is taken as 30% of the average quantity. Commercial / Institutional / Industrial waste water quantity is calculated as 0.10 LPS/ha. While infiltration quantity is calculated as 0.14 LPS/ha in the design year 2035.The total quantity of commercial / institutional / industrial and infiltration waste water estimated as 237.79 LPS in the design year 2035 which is very large in comparison with domestic waste water quantity of 207.18 LPS. The maximum quantity (peak flow) of waste water in the design year 2035 for both Phase I and Phase II are as is estimated at 650.08 LPS. The maximum quantity of the waste water for Phase I are as only is estimated at 213.97 LPS. The capacity of the Phase I WWTP has been adopted as 214 LPS. The capacity of the Phase II WWTP will be thus 436 LPS. Features of WWTP at Jatuwa are as follows:

Table 3: Proposed Waste Water Components in BSMC

S.N.	Description	Unit	No
	Waste Water Treatment Plant Component		
1	By Pass Chamber	No	1
2	Distribution Chamber	No	1
3	Bar Screen Chamber	No	2
4	Sump well with Pumping Station	No	2
5	Collection Chamber1	No	1
6	Oil &Grease Chamber	No	2
7	CollectionChamber2	No	1
8	Grit Chamber	No	2
9	CollectionChamber3	No	1
10	Anaerobic Pond	No	3
11	Facultative Pond	No	3
12	Collection Chamber4	no	1
13	Outfall Structure	no	1
14	Sludge Drying Bed	no	10
15	Enclosure Chamber Shed	no	1
16	Guard House	no	1
17	Office Cum Lab Building	no	1
18	Workshop Building	no	1
19	Generator/Changing House	no	1
20	Entrance Gate	no	1
21	Boundary wall	m	1,340
22	Shallow Tube Well with water Tank	set	1
23	Landscaping and Plantation works	sqm	99,915
24	Site clearance, grubbing, surface dressing	sqm	99,915

25	Road and Drain Improvement	m	1,440
26	River training works	m	600
27	Electromechanical works	Set	1
28	Lab Equipment and installation	Set	1

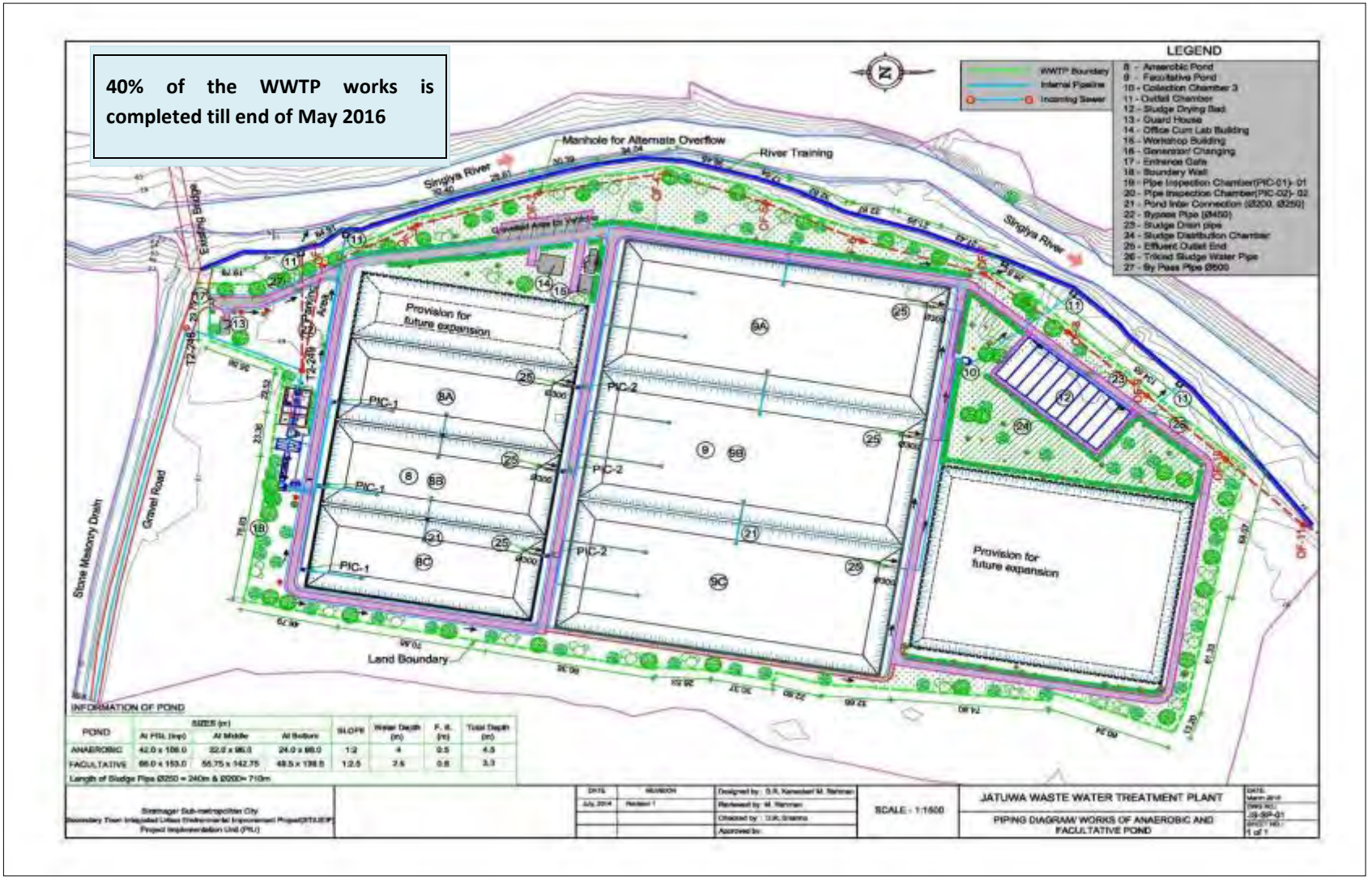


Figure 4: Proposed Waste Water Treatment Plant at Jatuwa in BSMC

3.4 Roads and Lanes

7. 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. Almost necessary streets are already constructed and hence the Project has considered on design based on reinstatement, rehabilitation and upgrading of existing roads and lanes.

Table 4: Proposed Roads in BSMC

Description of Item	Quantity
Main Road Improvements(Road from Puspalal Chowk to Bhatta Chowk)	2.35 Km
Reinstatement and Road Improvements (under sewer line installation)	63.71Km

3.5 Environmental Aspect

8. The project is environmental improvement project and mainly constitutes works on sewerage and drainage improvement works in BSMC besides others. As per ADB guide lines on Environmental Assessment requirements, this project is classified as Environment Category B. According to Environmental Protection Guidelines, 2054BS, First Revised (2055BS) schedule-3, IEE is required for Operations of Sewerage Schemes under Schedule1.h.2.e (pertaining to Rule3). The final report on IEE was submitted and MoUD had approved the IEE on May14, 2013.

9. Installation of functioning sewers and functioning drainage system including roads/lanes improvement in BSMC 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.

10. DSC has prepared and submitted Environmental Progress Reports (Semi-Annual) October 2014 – March 2015 and Quarterly Updated Environmental Report, January – March on 27 May 2015.Recently, the DSC has received comments from PCO to revise semi-annual environmental report. The next Quarterly Updated Environmental Report for the months of April, May and June 2015 and semi –annual report will be submitted soon.

3.6 SOCIAL ASPECT

11. Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) in Biratnagar has commenced from 2010 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 STIUEIP in Biratnagar Sub-Metropolitan City (BSMC). Besides this, community development and institutional strengthening components, the two other objective focused components of STIUEIP Biratnagar are running various social development programs and activities.

Social development component is one of the major components of STIUEIP Biratnagar that comprises of various social development programs and activities like community development program (CDP), awareness raising, skill development, health and sanitation.

Social Development Specialist (SDS) in Design and Supervision Consultant (DSC) is deputed to assist the Project Implementation Unit (PIU) in implementing effectively the social activities to achieve the project goal as envisaged by the project. Monitoring of ongoing social development activities and consultation meetings with community people are the general tasks to be accomplished as regular basis.

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.

Based on the poverty indicators, all details have been documented and shown in the social map. The program area for community development programs has been extended to most poverty stricken area scattered across several wards of the BSMC. The Community Development Program includes meetings, orientation, awareness activities, skill development trainings and health, hygiene and sanitation activities which are conducted and organized by the NGO (FriPAD).

12. As there is slack period of the construction due to monsoon and till November 2015. Currently, the work has been resumed partially due to difficulties in fuel supply from NOC and Madhesh strike (bandh). Hence there is no change in the status of the social matters from the previous month.

3.7 Financial Plan

13. The Sub-project cost will be disbursed in three years starting from FY2013/14 to 2015/16.It has estimated that 20 percent of the Sub-project cost will be disbursed in first year. Similarly, in second year, 50 percent will be disbursed. Finally, remaining 30 percent of Sub-project cost will be disbursed in third year. Actual disbursement in the first fiscal year was 4.3 %(up to July 2014); 34.3% (up to July 2015 inclusive VO1) in second fiscal year. Hence the remaining disbursement 65.7 % is planned within 25 May 2016 but could not be achieved due to bandh and many other reasons.

3.8 DISBURSEMENT RECORDS IN CONSTRUCTION

Table 5: Disbursement Record in Construction to Date

.N.	Description of Payment	Total Bill Amount with VAT & PS	Amount in NRs.
1	IPC 01		209,400,000.00
2	IPC 02	29,553,479.92	27,853,500.98
3	IPC 03	50,406,775.75	47,507,270.95
4	IPC 04	44,819,505.68	42,241,392.52
5	IPC 05	23,380,168.96	22,035,291.99
6	IPC 06	90,796,339.68	85,573,541.38
7	IPC 07	80,854,600.52	76,203,672.17
8	IPC-08	122,334,488.86	115,297,549.23
9	IPC-09	116,092,187.14	109,414,317.97
10	IPC-10	132,327,417.89	124,715,663.77
11	IPC-11	169,853,829.07	160,083,476.07
12	IPC-12	23,121,515.46	16,931,906.24
13	IPC-13	85,563,926.44	62,658,539.06

14	IPC-14	163,562,505.71	119,776,967.67
15	IPC-15	139,008,112.96	101,795,764.14
16	IPC- 16	137,640,413.95	100,794,196.94
	Total payment to date including PS & VAT and Excluding mobilization	**1,408,145,253.74**	1,212,883,051.07

4. OBJECTIVES AND SCOPE OF WORKS

4.1 OBJECTIVES

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

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

15. 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

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

A. Detailed Design and Procurement Assistance Phase
   1. Surveys verification of Feasibility Studies and GIS Base Maps
   2. Finalization of Design Criteria, Preparation of Manuals, Guidelines and Systems.
   3. Specific design requirements for the sub-projects
      - Improvement and development of drainage and sewerage systems
      - Improvement of urban roads and lanes
   4. Project Planning and Management Support to PIU
   5. Detailed Engineering Design

B. Construction and Post Construction Management Phase
   1. Construction Management and Contract Administration
   2. Environmental and Social Compliance Monitoring
   3. Implementation of Community Development Program, Community Mobilization and GESI Action Plan
   4. Capacity Building of the Municipality and Service Providers for Operational Sustainability

C. Communications, Reporting and Deliverables (Inception Report, Monthly Progress Reports, Interim Report for each of the outputs, Annual Progress Report, Draft Final Report for each of the outputs and Final Report).

5 PROGRESS OF SUB-PROJECT COMPONENTS

5.1 STORM WATER DRAINS

17. The Contractor has resumed the works from mid December 2015 in difficult situation due to Madesh Strikes and partial fuel supply. Storm drains at B1, B2, B3, S9, S5 and Rani Area are being continued.

The contractor has completed storm water drain about 29.448km out of 36.974km, 79.64% till May, 2016.

5.2 SEWER LINES

18. The Contractor has resumed the sewer works from mid December 2015 in difficult situation due to Madesh Strikes and partial fuel supply. Sewer lines with HDPE pipes are being continued as well as RCC pipes are also being continued with full strength.

The Contractor has completed sewer lines with HDP and RCC pipes about 29.122km out of 63.964 km which is 45.53%, till May, 2016.

The proposal of the precast concrete manholes, sewer inlets and house connection chambers has been submitted for review and approval. A conditional approval in consultation with the Employer has been given to the Contractor to prepare few numbers and to demonstrate at site. If the proposal comes out to be economical, time effective and environmental friendly and structurally strong enough to carry out the function of their respective items. Now, the Consultant has been approved the same as revised design.

The precast concrete house connection chambers, sewer inlets and manholes were installed at sites and found to be effective and we were able to open traffic at the shortest possible time. Especially where the business center with crowds (in R5 and R65 Roads) were very efficient and effective. This has reduced disturbances to the local people and road users, dumping of construction materials, workers and working for long period. This is found to be environment friendly too. Hence, the adaptation of precast units for sewer lines found to be effective and efficient.

During the site visit of delegate at different time in the construction period from BSMC, PMSC, ADB, PCO, local political representatives, TLO, Executive Director of TDF and the Secretary of Ministry of Urban Development have commended.

The payment for the respective item of works as appropriate is being paid under each IPCs for the cash flow and to account disbursement in ADB's disbursement book.

5.3 WASTE WATER TREATMENT PLANT

19. Office cum laboratory building, workshop building and generator / changing house at WWTP, Jatuwa are completed. The Contractor had stopped all activities at WWTP site. There is no change in the progress from July 2015.

Now the Contractor is carrying out landscaping, embankment filling, remaining boundary wall and sump well excavation at WWTP from mid December 2015. Structure work in Sump well has been revised as per site condition.

5.4 ROAD AND LANES IMPROVEMENT WORKS

20. The Contractor has completed the rehabilitation / repair of existing drain of about 6.6 km in R2 road. The Contractor has completed the shifting/ relocating electric poles up to Bhatta Chowk on both sides. During the monsoon, the Contractor has continued to excavate

the trenches for electric poles but the rate of the progress is in a very slow pace. The Contractor has assured that the road works on R2 road will not be affected due to delay in shifting of the electric poles.

The Contractor had started to prepare sub-grade and sub-base after discussion held at ADB Office Kathmandu on 25th May 2015.

The Contractor has been completed sub-grade preparation, sub-base, base course, prime and Tack coat and asphalt concrete in R2 road upto batta chowk . Road works have been frequently disturbed due to the existing water supply network and house connection pipes. The Contractor has completed 100% of road side drain of R2 road upto Pani tanki and along the sewer lines about 12.596km out of 127.138 km, 9.91% till May, 2016.

5.5 CONSTRUCTION MATERIALS

21. The fabrication of steel moulds for precast units- manholes, sewer inlets and house connection chamber are continuing after the strikes at Madesh / Terai similarly, other item of works inside the Contractor's yard is also going on smoothly..

The Contractor has resumed to produce the precast items (manholes, sewer inlets, house connection chambers, kerb stones, drain cover slabs etc.) at the Contractor's Camp, Katahari from mid December 2015.

5.6 CONSTRUCTION MATERIAL TESTING LAB

22. Construction material testing laboratory has been set up at the Contractor's camp at Katahari. No activities of lab tests in the period of Madhesh Banda/Strike.

As regular, Three Edge Bearing Test for RCC pipes of different diameter has been conducted on 20 January 2016 at Itahari in presence of Consultant (TL, CSE) and PM/PIU. And results were found satisfactory.

Now, construction material testing lab is working in full swing for testing of sub grade material, sub base material, base material, prime coat, asphalt concrete, concrete, brick, sand and aggregates.

5.7 PHYSICAL PROGRESS TILL MAY, 2016

23. Total physical progress till May 2016 is about 54.30% whereas the cumulative planned progress till 25th May 2016 is 100%, wrt work program rev. no 03. The progress of the work is lagging behind by 45.70% compared to the planned works till end of May, 2016(**based on workscheduled Rev 03, which is under review**).

Table 6: Plan Vs Actual Progress till May 2016

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar Plan Vs Progress																
Month	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	**May-15**	**Jun-15**	**Jul-15**	**Aug-15**	**Sep-15**	**Oct-15**	**Nov-15**	**Dec-15**
Cumulative Planned work Rev 01 (%)	17.098	18.514	26.588	36.398	46.281	56.947	67.003	76.728	86.593	94.037	95.75	95.99	96.16	96.3	96.45	96.59
Cumulative Planned work Rev 02 (%)				14.04	20.11	28.74	37.22	44.94	51.60	57.295	59.33	60.92	60.99	61.07	64.65	71.29
Cumulative Planned work Rev 03 (%)													41.847	45.447	47.767	58.037
Cumulative Actual Achievements (%)	5.81	5.98	9.29	10.77	12.57	17.57	21.82	25.25	27.85	34.317	34.317	34.317	34.317	34.317	34.317	34.94
Progress lagging to date wrt the revised work plan rev 03 (%)		(12.53)	(17.30)	(3.27)	(7.54)	(11.17)	(15.40)	(19.69)	(23.75)	(22.98)	(22.98)	(22.98)	(7.53)	(11.13)	(13.45)	(23.09)

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar Plan Vs Progress																
Month		**Jan-16**	**Feb-16**	**Mar-16**	**Apr-16**	**May-16**										
Cumulative Planned work Rev 01 (%)		**96.74**	**97.38**	**97.18**												
Cumulative Planned work Rev 02 (%)		**79.29**	**88.71**	**96.41**												
Cumulative Planned work Rev 03 (%)		**69.51**	**80.67**	**91.46**	**97.82**	**100.00**										
Cumulative Actual Achievements (%)		**35.64**	**38.97**	**42.57**	**51.07**	**54.30**										
Progress lagging to date wrt the revised work plan rev 03 (%)		**(33.87)**	**(41.70)**	**48.89**	**46.75**	**45.70**										

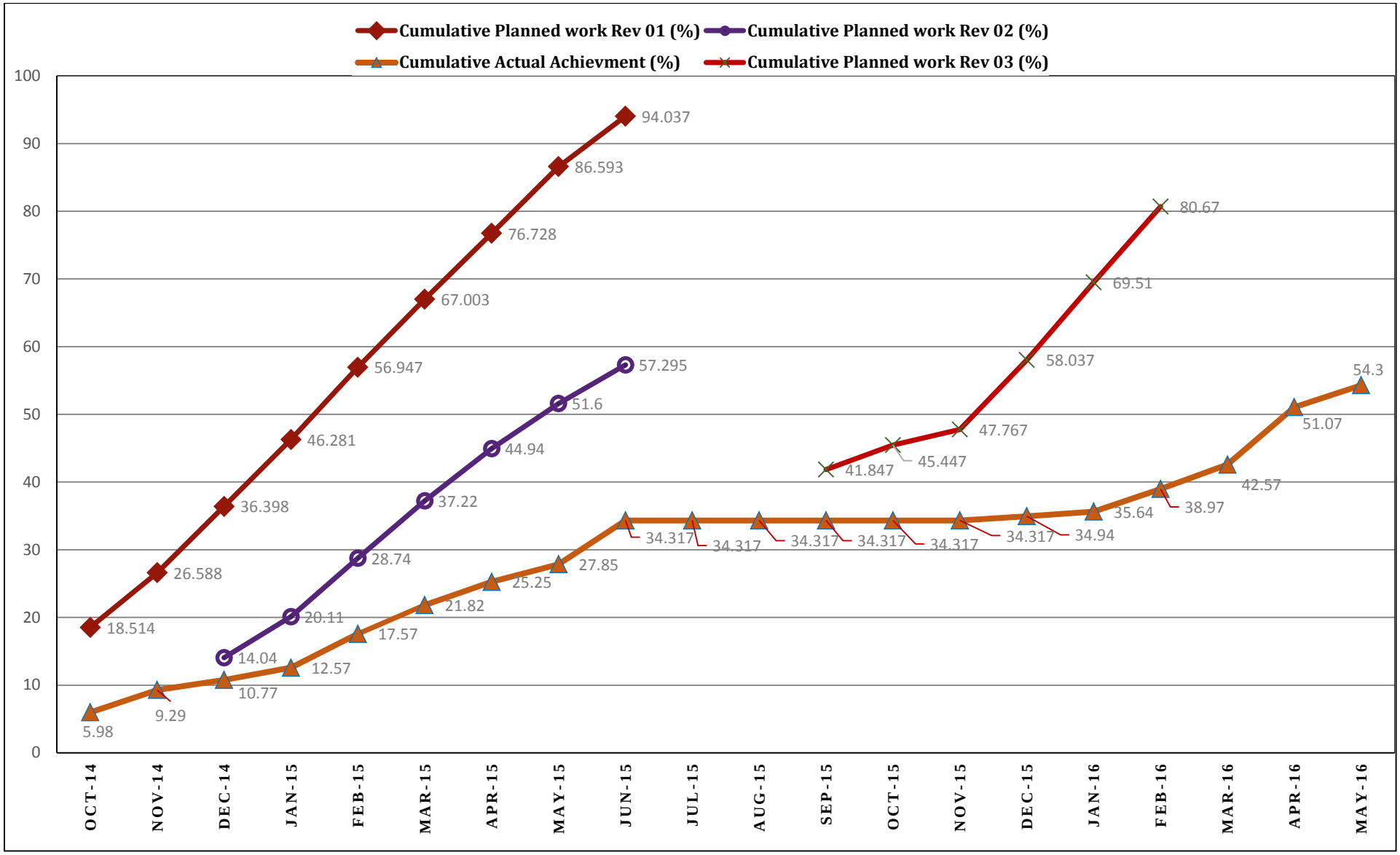


Figure 5: Plan Vs Actual Progress till May, 2016

6 SUMMARY OF ACTIVITIES CARRIED OUT UP TO PREVIOUS MONTHS

6.1 ORGANIZATION AND STAFFING

The Project has involvement of different organization and the staffing as shown below.

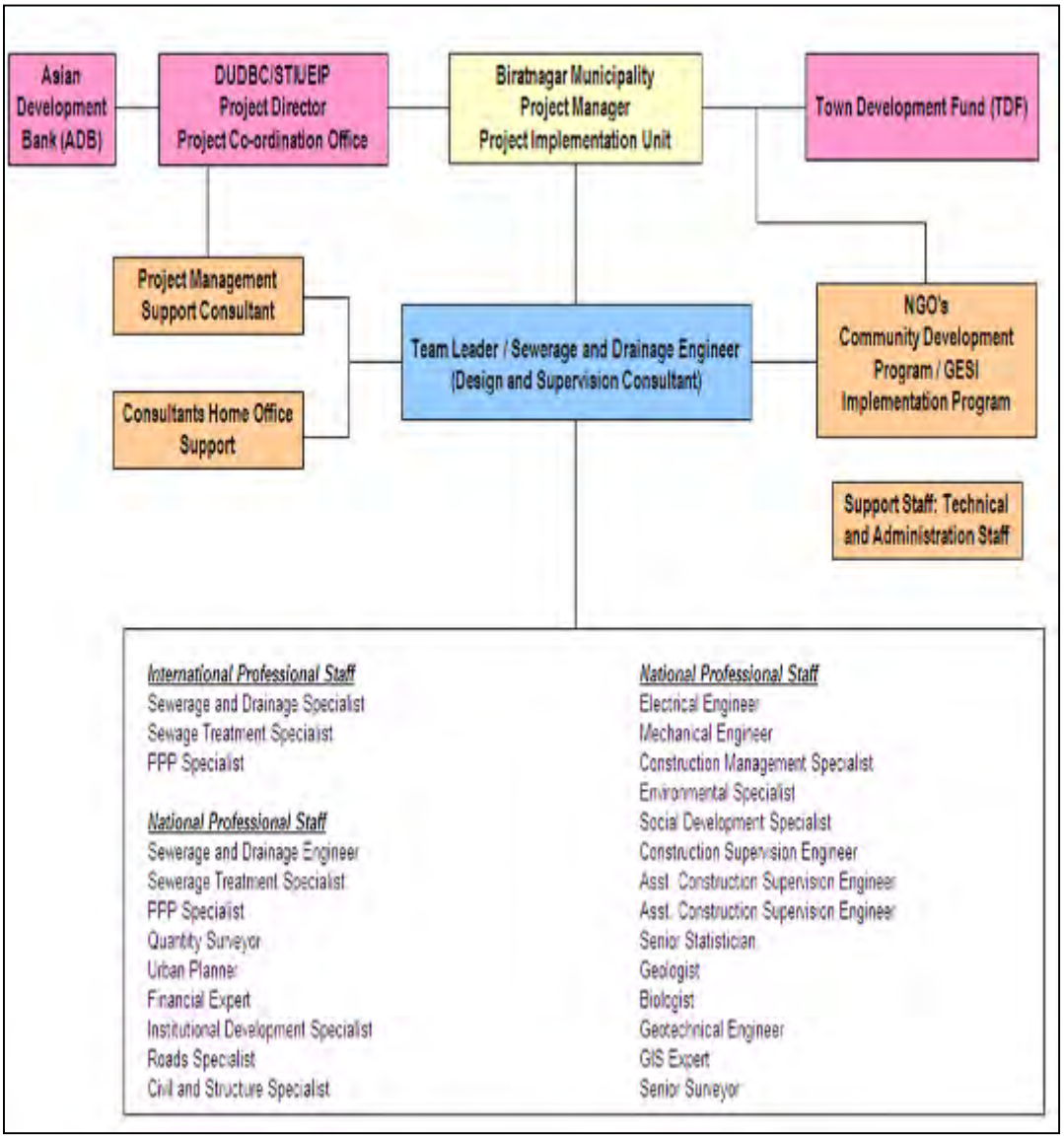


Figure 6: Organization and Staffing of STIUEIP, Biratnagar

6.2 Inception Report

24. The Inception Report was prepared and submitted on 29 February, 2012.

6.3 CONCEPTUAL CATCHMENT PLAN AND DESIGN CRITERIA

25. The Conceptual Catchment Plan and Design Criteria was prepared and presented in PCO on 30March, 2012.

6.4 SURVEY

26. The survey was completed in August, 2012

6.5DESIGN

27. The design of sewer lines, storm drains, WWTPs and appurtenances and final detailed design and estimates were submitted in March 2013.

28. During construction B2, B3 and S5 alternate design was also submitted. Similarly, CN2 and CN3 were submitted as the community request to reduce the size. The size was reviewed with 1 year return period as per the suggestion made by PMSC during field visit. Minor modifications in drawings are being carried out for considering the site condition and progress.

6.6PRE-CONSTRUCTION ACTIVITY

29. After successful completion of one stage two envelope bidding procedure the construction contract for STIUEIP/W/BRT/ICB-01 was signed on December 2, 2013 with M/S CTCE-Kalika JV, Baluwatar, Kathmandu.

6.7 DRAFT REPORT

30. Theconstruction/contract timing schedule was needed to incorporate some additional time ofabout4-5 months to account for decision re-making process, tender award procedures.

31. The total cost as per PPTA and earlier designs increased drastically and came to beNRs.**7, 274,465,206.69** and therefore needs curtailments and revisions had to be made as per suggestions by PIU in final report.

32. The overall works proposed in the PPTA and the area coverage with connection was thus needed to be phased out.

6.8 FINAL REPORT

33. The DSC submitted the Final Reports adopting cost reduction exercise by phasing out of the works. The estimated cost of the Project was reduced and kept as NRs.**3, 278, 140, 000, 00 with a lot of exercises in March 2013.**

34. The sharing of cost by concerned institutions is as follows

Table7: Agency-wise Financial Contribution to BSMC

Contributors	Amount(US$)	Amount (NRs.)	%
Government of Nepal (GoN)	5,960,256	524,502,513	**16.0%**
Asian Development Bank (ADB)	24,213,539	2,130,791,460	**65.0%**
Biratnagar Sub-Metropolitan City (BSMC)	2,980,128	262,251,257	**8.0%**
Town Development Fund (TDF)	4,097,676	360,595,478	**11.0%**

6.9 CONSULTANT'S ACTIVITIES IN CONSTRUCTION PHASE

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

Table 8: Consultant's Staff at Project Site, Biratnagar

S. No	Name	Position
1	Mohan Kumar Tuladhar	Team Leader (On Leave)
2	Giresh Chand	Officiating Team Leader/CSE
3	Jaya Prakash Yadav	Asst. Construction Supervision Engineer-1
4	Dikendra Katwal	Asst. Construction Supervision Engineer-2
5	Rajesh Yadav	Junior Engineeer-1
6	Sujan Shrestha	Junior Engineeer-2
7	Ashok Kafle	Junior Engineeer-3 (Regined from 10 May)
8	Santosh Dahal	Junior Engineeer-4
9	Saroj Bhattrai	Junior Engineeer-5
10	Jay Prakash Yadav	Junior Engineer (Joined on 15 May,2016)
11	Santosh Yadav	Office Manager
12	Ramji Gimire	Driver-1
13	Suman Ghimire	Driver-2
14	Ramila Ghimire	Office Assistant

36. 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

ii. Quality control, cost control and time control

iii. Measurement and Certification of Interim Payment Certificates (IPC)

iv. Modification and design of storm drainage and sewer lines, manholes etc. as per site condition and approve working drawings

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. Meet obligation of reporting requirement – Updated Environmental Progress Report, Updated Resettlement Progress Report, Monthly Progress Report, Semi-Annual Updated Resettlement Progress Report

ix. Prepare Due Diligence Report of the Project

x. Maintain correspondences with the Employer and the Contractor

xi. Assist to PIU

6.10 KEY DATES

The consultant has noted the following key dates for the month of April 2016

Table 9: Key dates of events /activities:

S. No	Date	Activities/Events	Remarks
1	29 May,2016	Project Director visit	Mr. Raju Man Manandhar, PD has visited the site
2			

7DETAILS OF ACTIVITIES CARRIED OUT IN THIS MONTH

7.1 PHYSICAL PROGRESS IN THIS MONTH

Table 10: Physical Progress in Storm Water Drains:

Physical Progress till May 2016						
S.N.	Location	Proposed Length (m)	Progress		Total to Date (m)	Progress (%)
			Up to April 2016 (m)	This Month (m)		
1	B1	3,950	3,340	288.00	3628.00	91.85
2	B2	3,742	3,712	12.00	3724.00	99.52
3	B3	3,514	3,325	38.00	3363.00	95.69
4	S5	1,932	1,048	124.00	1172.00	60.67
5	S9	3,178	2,089	15.00	2104.00	66.21
6	S11	2,092	2,082	0	2082.00	99.52
7	S13	5,640	4,864	0	4864.00	86.23
8	CN2	2,273	2,112	20.00	2132.00	93.77
9	CN3	2,170	1,112	10.00	1122.00	51.68
10	Rani	8,483	4,911	348.00	5259.00	61.99
	Total	**36,974**	**28,593**	**855.00**	**29448.00**	**79.64**

Table 11: Physical Progress in Road Side Drains:

Physical Progress till May 2016							
S.N.	Location	Length (m)	Total Length (m)	Progress		Total to Date (m)	Progress (%)
				Up to April 2016 (m)	This Month (m)		
1	R2	6,440.0	12,880.0	6,325.0	0	6,325	49.11
2	R3	3,393.0	6,786.0	352.0	655	1,007	14.84
3	R4	970.0	1,940.0	660.0	0	660	34.02
4	R5	1,715.0	3,430.0	700.0	0	700	20.41
5	R13	220.0	440.0	390.0	0	390	88.64
6	R15	506.0	1,012.0	406.0	0	406	40.12
7	R16	796.0	1,592.0	200.0	0	200	12.56
8	R22	358.0	716.0	0.0	136	136	18.99
9	R24	396.0	792.0	0.0	180	180	22.73
10	R25	606.0	1,212.0	0.0	150	150	12.38
11	R26	861.0	1,722.0	595.0	238	833	48.37
12	R27	997.0	1,994.0	0.0	450	450	22.57
13	R64	121.0	242.0	121.0	0	121	50.00
14	R107	347.0	694.0	81.2	0	81	11.70
15	T2L18O	150.0	300.0	134.0	70	204	68.00
16	T3L26C	197.0	394.0	354.7	0	355	90.03

17	T3L26E	98.0	196.0	48	0	48	24.49
18	T3L26F	137.4	274.8	205	0	205	74.60
19	T3L28	74.0	148.0	145	0	145	97.97
20	Boundary Wall	1,322.7		1,053	0	1,053	79.61
21	Road Side Drain	127,138		10,717	1,879	12,596	9.91

Table 12: Physical Progress in Sewer Lines:

S.N.	Location	As per estimate		Update work		% work		Reming Quantity	
		Distance	Manhole No	Distance	Manhole No	Distance	Manhole No	Distance	Manhole No
1	HDPE (T1)	7124.00	220.00	3186.80	107.00	44.73	48.64	3937.20	113.00
2	HDPE (T2)	19410.00	663.00	11047.75	390.00	56.92	58.82	8362.25	273.00
3	HDPE (T3)	18606.00	597.00	6024.90	215.00	32.38	36.01	12581.10	382.00
4	HDPE (T4)	2212.00	72.00	112.00	3.00	5.06	4.17	2100.00	69.00
5	**Sub Total (HDPE)**	**47352.00**	**1552.00**	**20371.45**	**715.00**	**43.02**	**46.07**	**26980.55**	**837.00**
6	Hume pipe(T1)	3788.00	106.00	1641.50	44.00	43.33	41.51	2146.50	62.00
7	Hume pipe(T2)	8370.00	247.00	4967.50	115.00	59.35	46.56	3402.50	132.00
8	Hume pipe(T3)	4136.00	123.00	2141.30	45.00	51.77	36.59	1994.70	78.00
9	Hume pipe(T4)	318.00	8.00	0.00	0.00	0.00	0.00	318.00	8.00
10	**Sub Total (Hume pipe)**	**16612.00**	**484.00**	**8750.30**	**204.00**	**52.67**	**42.15**	**7861.70**	**280.00**
11	**Total (HDPE + Hum pipe)**	**63964.00**	**2036.00**	**29121.75**	**919.00**	**45.53**	**45.14**	**34842.25**	**1117.00**

Table 13: Physical Progress in Manholes, Sewer Inlet and House Connection Chamber:

Physical Progress till May 2016						
S.N.	Description	Proposed Quantity (no)	Progress		Total to Date (no)	Progress (%)
			Up to April 2016 (no)	This Month (no)		
1	Manholes	2036	855	64	919	45.13
2	Sewer Inlet	3766	1,271	18	1,289	34.22
3	House Connection Chamber	5930	1,335	4	1,339	22.56

Table 14: Physical Progress in Roads and Lanes:

Physical Progress till May 2016						
S.N.	Location	Proposed Length (km)	Progress		Total to Date (m)	Progress (%)
			Up to April 2016 (m)	This Month (m)		
1	All roads Including WWTP road	66.06	Sub-grade=2176m Sub Base=2176m Base=2066m Prime Coat=2066m Asphalt Concrete=2066m	Sub-grade=0m Sub-base=0m Base=110m Prime Coat=30m Asphalt Concrete=30m	Sub-grade=2,176m Sub-base=2,176m Base=2176m Prime Coat=2096m Asphalt Concrete=2096m	

Table 15: Physical Progress in Waste Water Treatment Plant (WWTP), Jatuwa:

Physical Progress till May 2016						
S.N.	Description	Proposed Quantity	Progress		Total to Date	Remarks
			Up to April 2016	This Month		
1	Anaerobic Pond	3 nos	3 (excavation)	0	3 (excavation)	
2	Facultative Pond	3 nos	2 (Excavation)	0	2 (excavation)	
3	River Training Work	600 m	600 m	0	600 m	
4	Boundary Wall	1322.70m	1053 m	0	1053 m	
5	Office cum Lab Building	1 no	1 no	0	1	
6	Workshop Building	1 no	1 no	0	1	
7	Generator / Changing House	1 no	1 no	0	1	
8	Sump Well	1 no	0	EW Excavation	EW Excavation	

Table 16: Physical Progress in Production of Precast Items at Katahari:

Physical Progress till May 2016						
S.N.	Description	Unit	Progress		Total to Date (no)	Remarks
			Up to April 2016 (no)	This Month (no)		
1	Precast Slab	No	74,300	3,000	77,300	
2	Precuts	No	7959	600	8559	
3	Kerb Stone	No	19,825	250	20075	
4	Manhole	No	2178	56	2234	
5	Sewer Inlet	No	1,480	33	1,513	
6	House Connection Chamber	No	1,330	16	1,346	

Table 17: Physical Progress in Production of RCC Pipes at Itahari :

Physical Progress till May 2016						
S.N.	Description	Diameter (mm)	Progress		Total to Date (no)	Remarks
			Up to April 2016 (no)	This Month (no)		
1	RCC Pipe	200	2,123	0	2,123	
2	RCC Pipe	300	328	0	370	
3	RCC Pipe	350	216	0	216	
4	RCC Pipe	400	370	0	370	
5	RCC Pipe	450	84	0	84	
6	RCC Pipe	500	513	0	513	
7	RCC Pipe	600	909	33	942	
8	RCC Pipe	700	1,275	21	1296	
9	RCC Pipe	900	278	0	278	
10	RCC Pipe	1000	1011	0	1,019	
11	RCC Pipe	1600	373	0	379	
	Total		**7,132**	**54**	**7,186**	

Contractor's Manpower

Table 18: Contractor's key staffs in April 2016:

Designation	No	Remarks
Project / Contract Manager	1	
Planning Engineer/Construction Engineer	1	
Construction Engineer	1	
Site Engineers	5	
Quality Control Manager	1	
Office/Bill Engineer	1	
Junior Engineer	10	
Sub Overseers	6	
Safety Manager / Senior Site Supervisor	1	

Accountant / Office Manager	1	
Lab Assistant	3	
Store Keeper	4	
Light Drivers	6	
Machine Operator	14	
Site Supervisor	5	
Other Supporting Staff	18	
Skilled Labor at Site	80	
Unskilled Labor at Site	240	

Contractor's Equipment:
Table 19: Contractor's Equipment:

Equipment	No	Remarks
Excavator	7	
Back Hoe JCB	8	
Grader	1	
Crane / Teller	3	
Water Tanker	3	
Tractor	9	
Tipper	17	
Light Vehicle	6	
Motorbike	10	
Kerb Stone Machine Set	1	
Generator	4	
Welding Machine	3	
Diesel Tank with Pump	1	
Stand Drill Machine	1	
Gas Cutter Set	1	
Pipe Cutter	1	
Hand Grinder	1	
Plate Compactor	2	
Monkey Jumper	1	
Concrete Batching Plant	1	
Electric Vibrator	10	
Bar Bending Machine	3	
Bar Cutter Machine	3	
Transit Mixer	1	
Concrete Mixer (Hydraulic)	2	
Concrete Mixer (Manual)	6	
Asphalt Concrete Plant	1	
Asphalt Paver Machine	1	

7.2 Cumulative Progress (S Curve)

Contractor's Revised Cumulative Progress S-Curve (Based on Work Program Rev. No 03)

Item No.	Description	Amount (NRs)	Relative Weight in %	Year / Month	2013 Dec	Year 2014 Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Year 2015 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year 2016 Jan	Feb	Mar	Apr	May
1	Preliminary and General Works	16,850,000.00	0.795	Program	0.000	0.326	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.119
				Achieve	0.000	0.326	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	Civil Works	1,972,492,008.90	93.08	Program	0.000	0.005	0.508	0.369	0.295	1.811	1.509	0.100	0.384	0.408	0.150	3.293	4.549	5.859	7.607	7.454	7.513	6.078	5.050	1.742	1.503	0.000	0.000	3.366	6.433	9.047	8.046	6.788	2.617	0.000
				Achieve	0.000	0.005	0.508	0.369	0.295	1.811	1.509	0.100	0.384	0.408	0.150	3.293	1.136	1.787	3.661	15.281	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	Electro-mechanical Works	18,884,000.00	0.89	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.365	0.438	0.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	Provisional Items and Provisional Sum	63,741,517.00	3.01	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.196	0.196	0.196	0.196	0.196	0.196	0.196	0.196	0.065	0.065	0.065	0.196	0.196	0.196	0.197	0.197	0.197	0.065
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	Operation & Maintenance Equipment and Machinaries	34,450,000.00	1.63	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	Laboratary Equipment	6,000,000.00	0.28	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.174	0.109
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	Operation and Maintenance	6,000,000.00	0.28	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.283
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	Dayworks	637,000.00	0.03	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total	2,119,054,525.90	100.00																															
Original Program		**% age**			0.347	0.074	3.181	6.282	7.931	3.017	2.219	1.212	0.476	2.710	3.643	3.662	3.700	4.435	4.401	4.460	4.456	4.401	3.802	1.168	3.018	3.658	4.413	3.645	3.597	4.707	4.728	3.150	2.891	0.616
		Cumulative % age			0.347	0.421	3.602	9.884	17.815	20.832	23.051	24.263	24.739	27.449	31.092	34.754	38.454	42.889	47.290	51.750	56.206	60.607	64.409	65.577	68.595	72.253	76.666	80.311	83.908	88.615	93.343	96.493	99.384	100.00
Revised Program-1		**% age**			0.000	0.286	0.449	0.329	2.288	6.606	4.806	1.003	0.183	0.576	1.416	8.074	9.810	9.883	10.666	10.056	9.725	9.865	7.445	2.284	0.247	0.159	0.145	0.145	0.145	0.145	0.644	0.601	1.227	0.787
		Cumulative % age			0.000	0.286	0.735	1.064	3.352	9.958	14.764	15.767	15.950	16.526	17.942	26.016	35.826	45.709	56.375	66.431	76.156	86.021	93.466	95.750	95.997	96.156	96.301	96.446	96.591	96.736	97.380	97.981	99.208	100.00
Revised Program-2		**% age**			0.000	0.286	0.449	0.329	0.265	1.575	1.314	0.097	0.343	0.363	0.140	2.855	4.760	6.070	8.630	8.478	7.724	6.654	5.699	2.040	1.581	0.079	0.079	3.577	6.643	9.257	9.423	7.700	3.002	0.577
		Cumulative % age			0.000	0.286	0.735	1.064	1.329	2.904	4.218	4.315	4.658	5.021	5.161	8.016	12.776	18.845	27.476	35.953	43.677	50.331	56.030	58.070	59.651	59.730	59.809	63.386	70.029	79.286	88.709	96.409	99.411	99.988
Revise Program 3		**% age**			0.000	0.286	0.449	0.329	0.265	1.575	1.314	0.097	0.343	0.363	0.140	2.855	0.991	2.712	3.232	3.939	2.764	2.246	5.421	0.302	0.302	7.530	3.600	2.320	10.210	11.470	11.165	10.790	10.360	2.630
		Cumulative % age			0.000	0.286	0.735	1.064	1.329	2.904	4.218	4.315	4.658	5.021	5.161	8.016	10.770	12.570	17.570	21.820	25.250	27.850	34.317	34.317	34.317	41.847	45.447	47.767	58.037	69.507	80.672	91.462	97.820	100.000
Achievement		**% age**			0.000	0.331	0.520	0.381	0.307	1.823	1.521	0.113	0.397	0.421	0.162	3.305	1.148	3.139	3.742	4.560	3.200	2.600	4.540	0.350	0.302	0.000	0.000	0.000	0.623	0.700	4.930	2.000	8.500	0.000
		Cumulative % age			0.000	0.331	0.851	1.232	1.539	3.362	4.883	4.996	5.392	5.813	5.975	9.280	10.770	12.570	17.570	21.820	25.250	27.850	34.317	34.317	34.317	34.317	34.317	34.317	34.940	35.640	40.570	42.570	51.070	54.300

Figure 7: S- Curve of Physical Progress (based on rev. no. 03, which is under review)

8 DETAILS OF SAFEGUARD ACTIVITIES (SOCIAL, ENVIRONMENTALANDRESETTLEMENT ACTIVITIESANDISSUES)

This report records the project implementation performance of social safeguard aspect for the duration of Novem**ber 2015** and highlights the key activities undertaken during the period. The activities on the social development during the period are summarized below:

8.1 SOCIAL ISSUES

8.1.1 OPERATIONAL GUIDE LINES FOR COMMUNITY MOBILIZATION AND IMPLEMENTATION OF CDP

- **VISIT, INTERACTION AND CONSULTATION WITH COMMUNITY PEOPLE**

37.Social Development Specialist (SDS) of the DSC is closely monitoring the social issues resulted due to the project activities. Visiting and interacting with people, Tole Lane Organizations (TLOs) and formal and informal consultation meetings are going on in this regard.

The project is regularly disseminating the information and message to community people about the project features, its purpose, methods of use and functionality of infrastructure under construction by the project through such consultation meetings. These meetings are fruitful to provide prior information regarding the project construction activities before execution at the community level. It is an appropriate platform to interact and make dialogue between 4 Cs (The Client, Consultant, Contractor and Community) about the project features, prime objectives, purpose, work methodology and potential threats/ cautions to be adopted during the project implementation.

The visits, meetings and consultations with community people at TLOs have provided many opportunities to obtain people's views and perception towards the project. Community people of those particular localities used to discuss extensively in the project features and have been provided some suggestions for efficient carryover of the project components and assured cooperation and coordination in the project execution in their localities.

Social Development Specialist (SDS)/ DSC along with of PIU, NGO staffs have been actively participated in the meetings. SDS/DSC as usual facilitate the consultation meetings, support to prepare meeting minutes and obtain decisions.

Apart from of this, many field visits and observations with community are also important to disseminate project message and monitor project features in the community. Monitoring visits along with Project Manager (PM), TL/DSC and TL/CDP to the core project area, community development program area and construction sites have been beneficial to make insight to the project progress, its effectiveness and challenges.

- **SAFEGUARD DESK**

38. A Safeguard Desk established in the project has been effective in planning, monitoring and follow up of all social development/ safeguard issues including the resettlement plan. It has been started as a functional mechanism consisting of PIU, NGO and DSC for this purpose. The desk consists of the Social Development Chief of PIU, Team Leader of CDP/ NGO and SDS of DSC with close consultation and guidance of PM/ PIU. It is in compliance with the Aide Memoire of last ADB Mission (21 April-12 May 2014). It is decided that the desk will review, update and discuss the progress, issues, constraints and challenges of social aspects, Community Development Program and implementation of resettlement plan as well as monitoring of social development activities.

- **ToT on Gender and Social Inclusion (GESI) Mainstreaming**

39. The project has been envisaged a 'Training of Trainers (ToT) on GESI Mainstreaming' for Biratnagar Sub Metropolitan City (BSMC) Office and STIUEIP project staff. The Aide Memoir Report of the ADB Review Mission has also noted about the training to be conducted in Biratnagar for the staff of municipality and related agencies. The Mission has recommended for conducting GESI training relating to urban infrastructure development to staff of municipality, municipal steering committee, PIU, local stakeholder agency and make them accountable for the better results. In line with this, the project is going to conduct Gender and Social Inclusion (GESI) Sensitization Training when it is approved. The revised ToT has been submitted to PIU, STIUEIP, Biratnagar incorporating the comments from PMSC and PCO.

Safeguard desk members discussed and reviewed the proposed 'ToT on GESI Mainstreaming' proposal. Social Development Specialist (SDS) of DSC has reviewed the detail proposal and adjusted budget accordingly for the 'Training of Trainers (ToT)' model. The training arrangement will be decided after the approval of this proposal by the project authority. Primarily it will be a 5 days training focusing mainly on Gender and Social inclusion Action Plan (GESIAP) comprising other project elements. About 35 participants from Biratnagar Sub Metropolitan City (BSMC) office and project staffs will participate in the training.

- **Update of Small Facilities Construction and other Activities in CDP/STIUEIP**

40.The latest safeguard desk meeting has reviewed all ongoing and completed small facilities infrastructure and other activities implemented under the Community Development Program (CDP), a component of STIUEIP. It provided a common understanding and status information of infrastructures and activities under the CDP program to all safeguard desk members.

A glimpse of community development program has been obtained by the presentation in the appraisal and interaction meeting. Total 7,417.36 m. roads and 13,246.32 m. drains are under construction through small facilities infrastructure by CDP/STIUEIP. Regarding on the household toilet, total 458 nos. such toilets has been built by May 2015. Similarly 10 hand pumps have been installed, 45 hands pump platforms built and 5 public toilets are complete.

- **Employment in Project**

41. The core activities of the project i.e. sewerage pipe laying, drain construction and road/ lane improvement provided employment to about 250 in a day this month. The employed human resources varied from skilled engineer/ project manager to general labor, supervisor, (sub) overseers and mechanics. However, a very few women (16%) are working in the construction activities as skilled and unskilled labor but they are paid equal to men for similar type of work. Three women Assistant Sub-Engineers are also working at construction sites after completing OJT (on the job training) successfully at the same sites from different CTEVT affiliated institutes of nearby districts. The contractor has been suggested to increase the work opportunity to women in different types of works.

- **General**

42. Sewer/ Drainage lines are being laid in the public rights of way (RoW). During construction, if any trees or crops or structures demolished, it shall be properly addressed with compensation. Private individuals or shopkeepers will also be looked into if their livelihood is affected by the disturbance during constructions/ pipe laying works.

Apart from this, the project did not encounter any resettlement or re-location and any compensation issue in the month November 2015.

9KEY ISSUES AND REMARKS/REASONFOR DEVIATION (IFANY) AFFECTINGPROGRESS

43. Following are the key issues affected in progress:

- Disturbance from existing water supply pipe lines network, under-ground cables, electric poles etc.

10 WORK PLAN FOR THE NEXT MONTH

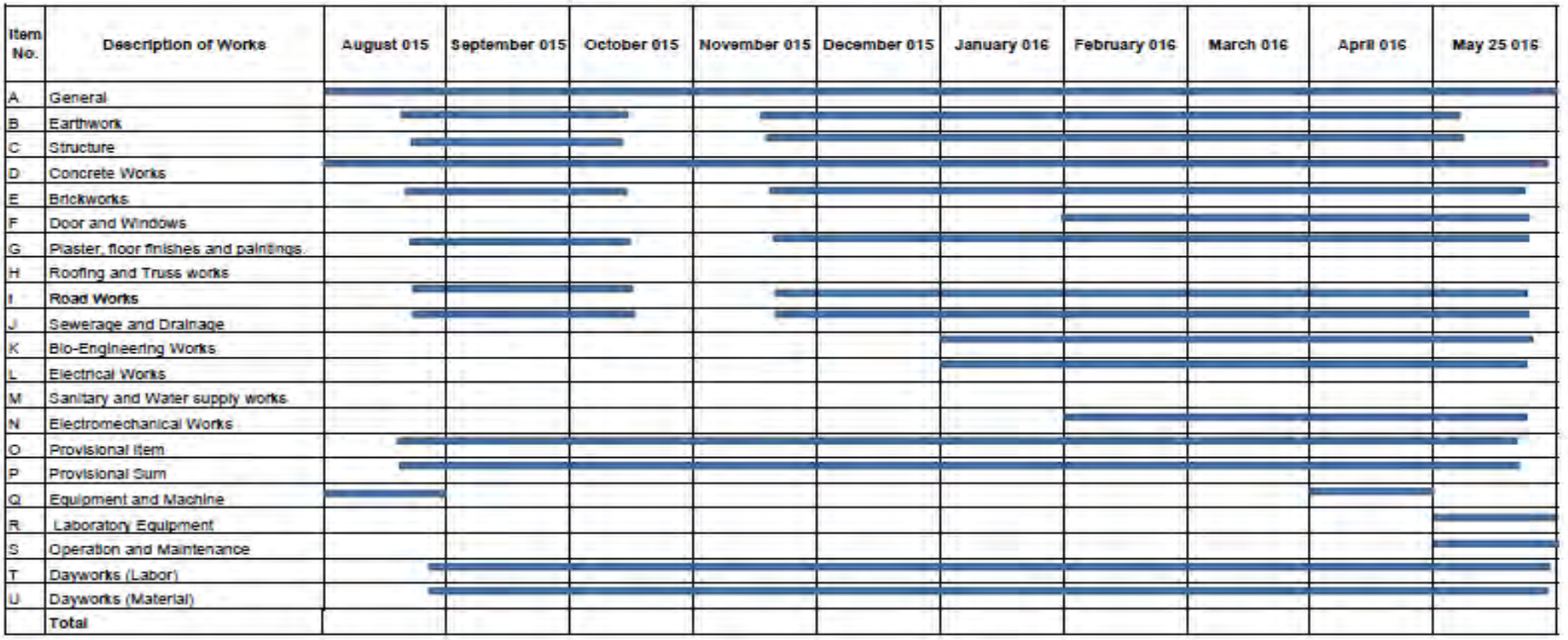
44. Following are the Contractor's works in the next month **(Please refer to the contractor's progress report for quantitative plan works for next month) the revised work program no 03 is under review:**

- Continuation of road works (Sub-grade, Sub-Base, Base, Prime Coat, Asphalt Concrete) including footpath in R2 road
- Continuation of road side drain at sewer lines
- Continuation of storm water drains (B1, B2, B3, CN2, CN3, S9, S5 and Rani Area)
- Continuation of sewer lines with installation of manholes, sewer inlets and house connection chambers
- Sump well and remaining boundary wall at WWTP, Jatuwa
- Production of precast RCC items (RCC pipe, kerb stone, manhole, sewer inlet, house connection chamber, drain cover slab etc)

- Suitability tests and routine tests of construction materials at Lab and at site.

ANNEX-1: Work Schedule (Rev.03) which is under review.

Note: Please refer to the contractor's progress report for detail and complete work program.



Item No.	Description of Works	August 015	September 015	October 015	November 015	December 015	January 016	February 016	March 016	April 016	May 25 016
A	General										
B	Earthwork										
C	Structure										
D	Concrete Works										
E	Brickworks										
F	Door and Windows										
G	Plaster, floor finishes and paintings										
H	Roofing and Truss works										
I	Road Works										
J	Sewerage and Drainage										
K	Bio-Engineering Works										
L	Electrical Works										
M	Sanitary and Water supply works										
N	Electromechanical Works										
O	Provisional item										
P	Provisional Sum										
Q	Equipment and Machine										
R	Laboratory Equipment										
S	Operation and Maintenance										
T	Dayworks (Labor)										
U	Dayworks (Material)										
	Total										

Work Schedule Revise -3 (Completion date May 25, 2016)

ANNEX2: PHOTOGRAPHS – MAY 2016

Footpath Construction at R2 Road

Road side drain Construction at R3 Road

RCC Road side drain at R27 Road

RCC Storm Water drain at S9

Drain cover Slab casting at R3 Road

Sub-grade preparation at R4 Road

Hume pipe laying in sewer line

Existing drain cleaning along sewer line

ANNEX-6: MINUTES OF MEETING – MAY 2016

ANNEX-7: LABORATORY TEST RESULTS OF APRIL 2016

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:2+100 to 2+170 LHS

2+715 to 2+800 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1			2+100 LHS	2.31	99.90	6.30	
2			2+150 LHS	2.30	99.80	6.00	
3			2+170 LHS	2.29	99.30	6.10	
4			2+715 RHS	2.29	99.30	6.00	
5			2+765 RHS	2.30	99.80	6.10	
6			2+800 RHS	2.31	99.90	6.50	
	FD 13	1/5/2016					
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:2+120 to 2+300 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1			2+120	2.29	99.30	6.00	
2			2+160	2.30	99.60	5.90	
3			2+200	2.29	99.30	6.00	
4			2+240	2.29	99.30	6.30	
5			2+280	2.30	99.50	6.00	
6			2+300	2.31	99.90	6.50	
	FD 14	1/5/2016					
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

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Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:2+120 to 2+300 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1			2+120	2.29	99.30	6.00	
2			2+160	2.30	99.60	5.90	
3			2+200	2.29	99.30	6.00	
4			2+240	2.29	99.30	6.30	
5			2+280	2.30	99.50	6.00	
6			2+300	2.31	99.90	6.40	
	FD 14	1/5/2016					
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps.

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:1+200 to 1+295 LHS/RHS & 2+300 to 2+395 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date of Testing	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 15	25/5/2016	1+200 LHS	2.30	99.40	5.20	✓
2			1+250 LHS	2.30	99.40	5.00	✓
3			1+295 LHS	2.30	99.40	5.70	✓
4			1+200 RHS	2.29	99.10	4.50	✓
5			1+250 RHS	2.31	99.90	5.28	✓
6			1+295 RHS	2.31	99.90	5.70	✓
7			2+300 RHS	2.29	99.00	5.00	✓
8			2+340 RHS	2.30	99.70	6.00	✓
9			2+380 RHS	2.30	99.70	5.50	✓
10			2+395 RHS	2.30	99.70	4.50	✓
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:1+200 to 1+295 RHS,CL,LHS

SUB BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 14	10/5/2016	1+200 LHS	2.20	97.6	6.00	
2			1+260 CL	2.19	97.2	6.40	
3			1+280 RHS	2.22	98.9	6.00	
Specification Requirement				2.250	>95	OMC <7.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:2+200 to 1+295 LHS/RHS/CL

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 15	14/3/2016	1+200 RHS	2.14	97.9	5.80	
2			1+250 CL	2.10	95.7	5.70	
3			1+285 LHS	2.14	97.9	5.30	
Specification Requirement				2.190	>95	OMC <7.50	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:1+200 to 1+295 LHS/RHS/CL

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 15	14/3/2016	1+200 RHS	2.14	97.9	5.80	
2			1+250 CL	2.10	95.7	5.70	
3			1+285 LHS	2.14	97.9	5.30	
Specification Requirement				2.190	>95	OMC <7.50	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:3+320 to 3+430

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 16	15/5/2016	3+320	2.15	98.4	6.80	
2			3+360	2.13	97.1	4.40	
3			3+400	2.13	97.3	5.20	
4			3+430	2.11	96.5	4.90	
Specification Requirement				2.190	>95	OMC <7.50	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on National Trading to Jatuwa WWTP Road R-4

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 17	25/5/2016	1+900 LHS	1.91	96.1	4.00	✓
2			1+940 RHS	2.91	96.1	5.50	✓
3			1+980 CL	1.94	97.4	5.00	✓
4			2+000 LHS	1.94	97.4	5.00	✓
Specification Requirement				1.990	>95	OMC <10.25	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

STIUEIP

MONTHLY Test Result Summary Sheet For The Month of MAY 2016

SUB BASE (Process Control)

According to Part 2.Section 6A-Technical Specifacations&DOR Specifacation Section 1201(3)C Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Lab. OMC (%)	Soaked CBR (%)	Lab. MDD (g/cc)	Remarks
				63	37.5	20	10	5	2.360	1.18	0.075				
1	38	7/5/2016	1+200 LHS/RHS R2 Road	100	89.96	75.01	58.52	44.22	28.93	20.31	9.87				
2	39	7/5/2016	1+240 LHS/RHS R2 Road	100	89.79	74.82	58.33	44.60	28.96	20.27	10.21				
3	40	7/5/2016	1+260 LHS/ RHS R2 Road	100	90.89	75.78	59.68	45.77	29.83	20.42	9.98				
4	41	7/5/2016	1+260 LHS/RHS R2 Road	100	89.84	75.59	59.07	44.91	29.27	18.41	8.65				
5	42	18/5/2016	3+320 LHS/RHS R2 Road	100	91.81	77.95	61.96	48.83	33.65	21.51	10.76				
6	43	18/5/2016	3+350 LHS/RHS R2 Road	100	89.76	69.56	56.66	37.10	31.40	25.85	9.60				
7	44	18/5/2016	1+370 LHS/ RHS R2 Road	100	89.84	75.59	59.07	44.91	29.27	18.41	8.65				
8	45	18/5/2016	3+400 LHS/ RHS R2 Road	100	91.39	77.77	62.11	48.40	33.53	19.50	9.44				
9	46	18/5/2016	3+420 LHS/RHS R2 Road	100	90.12	70.20	55.80	37.72	32.32	26.01	7.43				
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15		≥ 30		

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submit by Project Manager

Test Conducted by Q.C Manager

Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet For The Month of MAY 2016

STIUEIP

Graded Crushed Stone Base Course (Process Control)

STANDARD SPECIFICATION FOR ROAD AND BRIDGE WORKS SECTION 1200 Table 12.3 Physical Requirement of Graded Crushed Stone Base

SN NO	LAB REF No	Date Tested MAY	Location/ Chainage	Grading sieve size (mm) (% passing by weight)								FI	CR Ratio	LAA	AIV	SSS 5 cycle	Soaked CBR	Lab. MDD	Remarks
				40	31.5	20	10	4.75	2.36	0.60	0.075	%	(%)	(%)	(%)	(%)	(%)	(g/cc)	
1	MR70	1/5/2016	CH 2+100 LHS R2 Road	100	98.6	79.4	56.9	43.2	35.8	21.6	8.4	17.11	89.3	32.80	17.71	2.08			
2	MR71	1/5/2016	CH 2+150 LHS R2 Road	100	98.2	79.7	59.3	46.2	38.0	21.3	7.9	16.88	89.1	32.12	18.86	2.16			
3	MR72	1/5/2016	CH 2+170 LHS R2 Road	100	97.6	79.5	59.8	45.1	36.6	20	6.5	17.45	89.0	32.24	19.71	2.20			
4	MR73	4/5/2016	CH 2+715 RHS R2 Road	100	95.1	74.4	58.2	42.6	28.6	15.9	6.1	18.13	89.3	32.48	18.29	2.12			
5	MR74	4/5/2016	CH 2+740 RHS R2 Road	100	95.5	74.7	55.7	40.9	27.4	15.3	5.8	18.61	90.0	33.12	18.00	2.23			
6	MR75	4/5/2016	Ch 2+800 RHS R2 Road	100	97.1	77.6	59.1	38.9	25.8	14.6	5.6	17.87	91.1	32.68	20.29	2.24			
7	MR76	10/5/2016	Ch 1+200 LHS/RHS R2 Road	100	95.5	76.0	56.9	38.9	25.3	15.4	6.7	17.87	91.6	32.56	19.29	2.34			
8	MR77	10/5/2016	Ch 1+240 LHS/RHS R2 Road	100	97.8	74.9	50.9	39.1	32.2	21.1	6.8	14.83	94.9	32.32	16.29	2.26			
9	MR78	10/5/2016	Ch 1+260 LHS/RHS R2 Road	100	98.3	79	56.3	42.3	34.6	20.1	6.6	18.45	92.2	32.60	15.14	2.32			
10	MR79	10/5/2016	Ch 1+260 LHS/RHS R2 Road	100	97.7	79.5	57.7	43.0	34.5	19.8	6.1	17.6	92.6	32.84	15.14	2.32			
Required Specifacation				100	85-100	62-92	40-70	26-55	21-53			≤ 25	≥ 80	≤ 35	≤ 25	Max 12%			

REMARKS:Crushed Stone base

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved by C.S.E	Submit by Project Manager
Test Checked by A.C.S.E	Test Conducted by Q.C Manager
Consultant Reps	Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF MAY 2016

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
1	From High way Man Hole	MR181	100.00	95.43	82.29	61.43	44.86	20.57	6.57	source
2	From High way Man Hole	MR182	100.00	96.01	82.05	60.68	42.74	21.65	6.27	om shree
3	From High way Man Hole	MR183	100.00	94.00	81.43	61.71	43.71	20.86	7.43	
4	From S-9 Line Work	MR184	100.00	94.86	81.29	60.29	40.00	20.29	6.57	
5	From S-9 Line Work	MR185	100.00	95.43	86.00	62.86	41.14	20.00	5.71	
6	From S-9 Line Work	MR186	100.00	94.86	82.29	61.14	39.71	20.00	5.14	crusher
7	From S-5 Line Work	MR187	100.00	96.00	82.29	61.71	39.71	20.86	6.71	
8	From S-5 Line Work	MR188	100.00	92.86	77.71	58.57	38.00	19.71	7.43	
9	From S-5 Line Work	MR189	100.00	94.86	81.14	60.57	38.29	21.43	8.29	
10	From S-5 Line Work	MR190	100.00	95.71	80.57	61.43	40.29	18.57	7.14	plant
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF MAY 2016

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
11	From S-3 Line Work	MR191	100.00	96.29	79.71	61.43	41.71	18.57	7.43	source
12	From S-3 Line Work	MR192	100.00	96.00	78.86	60.29	40.29	17.71	6.86	om shree
13	From S-3 Line Work	MR193	100.00	95.43	77.43	59.14	38.29	17.14	6.86	
14	From S-3 Line Work	MR194	100.00	96.57	77.71	59.14	37.71	17.71	6.57	
15	From Rani Line Work	MR195	100.00	97.20	84.20	65.40	44.80	19.60	4.60	
16	From Rani Line Work	MR196	100.00	95.20	82.40	64.60	44.60	19.80	4.00	crusher
17	From Rani Line Work	MR197	100.00	96.40	82.60	65.80	46.00	21.80	5.00	
18	From Contractor Stock Yard	MR198	100.00	95.80	82.20	66.40	46.20	23.00	6.00	
19	From Contractor Stock Yard	MR199	100.00	96.60	82.60	66.00	44.80	23.20	6.40	
20	From Contractor Stock Yard	MR200	100.00	95.80	81.40	65.80	43.60	21.60	5.80	plant
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF MAY 2016

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
21	From Contractor Stock Yard	MR201	100.00	96.60	81.00	66.80	44.40	22.60	6.40	source
22	From Contractor Stock Yard	MR202	100.00	94.60	80.20	66.40	43.60	22.80	7.60	om shree
23	From Contractor Stock Yard	MR203	100.00	94.80	79.80	66.20	44.40	24.00	8.00	
24	From Contractor Stock Yard	MR204	100.00	95.40	79.80	65.00	43.00	23.00	7.20	
25	From Contractor Stock Yard	MR205	100.00	95.80	80.60	64.40	41.20	21.60	6.20	
26	From Contractor Stock Yard	MR206	100.00	96.20	80.40	65.60	42.00	23.20	5.80	crusher
27	From Contractor Stock Yard	MR207	100.00	96.80	82.00	66.20	42.80	23.80	6.00	
28	From Contractor Stock Yard	MR208	100.00	97.40	82.20	66.00	43.00	24.20	6.20	
29	From Contractor Stock Yard	MR209	100.00	96.80	80.00	62.80	42.40	23.60	6.20	
30	From Contractor Stock Yard	MR210	100.00	95.60	78.40	60.40	40.40	22.60	5.80	
31	From High way Man Hole	MR211	100.00	96.20	79.40	61.20	40.20	22.60	6.00	
32	From High way Man Hole	MR212	100.00	96.80	79.80	62.00	38.80	21.60	5.80	plant
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
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Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summery of Concrete Crushed Aggregate 20mm down — For The Month of MAY 2016

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI	LAA	ACV	REMARKS
			25	20	10	4.75	%	%		
1	From S-5 Line	MR 201	100	96.85	42.59	2.99	12.65	32.92	20.5	Aggregates
2	From S-5 Line	MR202	100	96.04	42.64	2.95	12.95	32.52	20.4	Source
3	From S-5 Line	MR203	100	96.04	42.64	2.91	12.93	32.76	20.6	Om shree
4	From S-5 Line	MR204	100	96.37	42.59	2.75	13.37	32.44	20.1	
5	From R-3 Line	MR205	100	97.08	43.79	3.85	12.72	32.32	20.1	
6	From R-3 Line	MR206	100	97.39	41.30	2.49	13.41	32.12	20.3	Crusher
7	From Rani Line	MR207	100	95.27	41.22	3.06	13.86	32.08	20.3	
8	From Rani Line	MR208	100	95.16	41.95	4.17	13.75	32.24	20.3	
9	From Rani Line	MR209	100	97.39	43.42	3.18	13.30	32.20	20.3	
10	From S-9 Line	MR210	100	97.08	43.99	3.67	12.43	32.44	20.4	Plant
Section 900:IS 383-1970 Required			100	95-100 ✓	25-55 ✓	0-10 ✓	Less 15% ✓	Less 35% ✓	Less 30% ✓	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by CSE
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summery of Concrete Crushed Aggregate 20mm down For The Month of MAY 2016

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI	LAA	ACV	REMARKS
			25	20	10	4.75	%	%		
11	From S-9 Line	MR211	100	96.35	44.27	4.60	12.8	32.64	20.2	Aggregates
12	From S-9 Line	MR212	100	95.79	42.95	4.90	12.19	32.52	20.4	Source
13	From S-9 Line	MR213	100	95.56	47.10	4.71	12.85	32.36	20.4	Om shree
14	From S-9 Line	MR214	100	96.35	44.44	4.20	12.40	32.48	20.4	
15	From S-9 Line	MR215	100	96.66	43.30	4.27	13.23	32.28	20.1	
16	From S-5 Line	MR216	100	97.02	43.41	3.74	13.43	32.04	20.0	Crusher
17	From S-5 Line	MR217	100	96.53	41.06	3.50	13.69	32.08	20.0	
18	From S-5 Line	MR218	100	95.68	38.76	3.78	12.62	32.12	20.3	
19	From Highway Man Hole	MR219	100	97.63	41.44	3.71	12.75	32.04	20.4	
20	From Highway Man Hole	MR220	100	95.14	48.55	4.43	12.22	32.88	20.2	Plant
Section 900:IS 383-1970 Required			100	95-100	25-55	0-10	Less 15%	Less 35%	Less 30%	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by CSE
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Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summery of Concrete Crushed Aggregate 20mm down **For The Month of MAY 2016**

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI	LAA	ACV	REMARKS
			25	20	10	4.75	%	%		
21	From Highway Man Hole	MR212	100	97.63	45.81	3.06	12.54	32.80	20.3	Aggregates
22	From Contractor Yard Stock	MR222	100	96.85	36.60	3.49	13.34	32.88	20.5	Source
23	From Contractor Yard Stock	MR223	100	97.29	34.21	3.01	13.75	32.68	20.5	Om shree
24	From Contractor Yard Stock	MR224	100	96.31	34.45	5.07	13.76	32.84	20.4	
25	From Contractor Yard Stock	MR225	100	97.10	35.11	4.05	12.98	32.76	20.4	
26	From Contractor Yard Stock	MR226	100	96.55	42.35	3.29	12.79	32.28	20.3	Crusher
27	From Contractor Yard Stock	MR227	100	96.93	39.94	2.77	13.38	32.56	20.0	
28	From S-5 Line	MR228	100	96.92	41.74	2.58	13.00	32.64	20.0	
29	From S-5 Line	MR229	100	96.00	40.64	3.21	12.57	32.60	20.2	
30	From S-5 Line	MR230	100	96.68	39.40	3.53	12.91	32.44	20.3	Plant
Section 900:IS 383-1970 Required			100	95-100	25-55	0-10	Less 15%	Less 35%	Less 30%	

SMEC-Brisbane-AQUA-CEMAT-BDA
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CTCE-KALIKA J/V
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Test conducted by Q.C Manager
Contractor Reps

CTCE-KALIKA JOINT VENTURE

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

SUMMARY OF HOT MIX ASPHALT CONCRETE WEARING COURSE TEST RESULTS

Contract Package:STUEIP/W/BRT/ICB/01

MONTH:MAY 2016

S. No.	LAB REF. NO.	Date of Laying	Location of Work ch:	Mix Agg Gradation Passing Sieve Sizes mm %								PRIME COAT Application		TACKCOAT Application		Bitumen Content From Extraction Test %	Mix Density gm/cc	Air Voids %	VMA %	Stability N	Flow mm
				20	12.5	9.5	4.75	2.00	0.425	0.18	0.075	Dist. Spray Rate Lit/m2	Avg.Tray Spray Rate Lit/m2	Dist. Spray Rate Lit/m2	Avg.Tray Spray Rate Lit/m2						
1	16	3/5/2016	2+100 to 2+385,2+715 to 2+800 LHS	100	92.80	83.90	57.42	48.31	25.85	12.08	5.72	1.025	1.03	0.49	0.47	5.60	2.382	3.62	16.69	12807	3.22
2	17	8/5/2016	2+715 to 2+800 RHS	100	93.22	83.90	57.21	48.31	26.1	12.51	5.94	1.08	1.03	0.49	0.49	5.59	2.395	3.55	16.62	12900	3.28
3	18	28/5/2016	1+200 to 1+295&2+100 RHS 2+100 to 2+300 RHS	100	93.43	83.69	57.42	48.31	26.27	12.92	5.72	1.06	1.02	0.43	0.44	5.60	2.390	3.75	16.81	12817	3.22
4	19	30/5/2016	1+200 to 1+295 LHS	100	93.65	84.33	57.85	48.32	26.07	12.94	6.06	1.00	1.01	0.46	0.44	5.58	2.389	3.82	16.83	12802	3.30
				100	80~100	68 ~90	50~79	36~67	17~44	9~29	3~10	1.0 kg/m2 ± 5%				5-6	Min-2.354	3-6 %	≥ 15	≥ 8500	2-4

Remarks:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractor Reps

Secondary Towns Integrated Uraban Environmental Improvement Project
Biratnagar Sub-Metropolitant City
Daily Application Rate Check for TACK COAT
Contract Package :STUEIP/W/BRT/ICB-01

Type of Bitumen:80/100 P.G

SUMMERY FOR THE MONTH OF MAY2016

Lab Ref No	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 Bt Tray Test Lit/m2
16	3/5/2016	2+100	2+395	LHS	380*5.5	43	2133	1050	0.49	0.47
17	8/5/2016	2+715	2+800	RHS	85*5.5	40	507.5	250	0.49	0.49
18	28/5/2016	1+200	1+295	RHS	95*5.5					
		2+100	2+300	RHS	200*5.5	105	1727.5	750	0.43	0.44
19	30/5/2016	1+200	1+295	LHS	95*5.5	25	547.5	250	0.46	0.44

Required tack coat is 0.40 to 0.60Lit/M2 According to Road Note -3,Section 711.2

Specific Gravity of Bitumen 1.025

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved By C.S.E
Test Checked by A.C.S.E
Consultant Reps

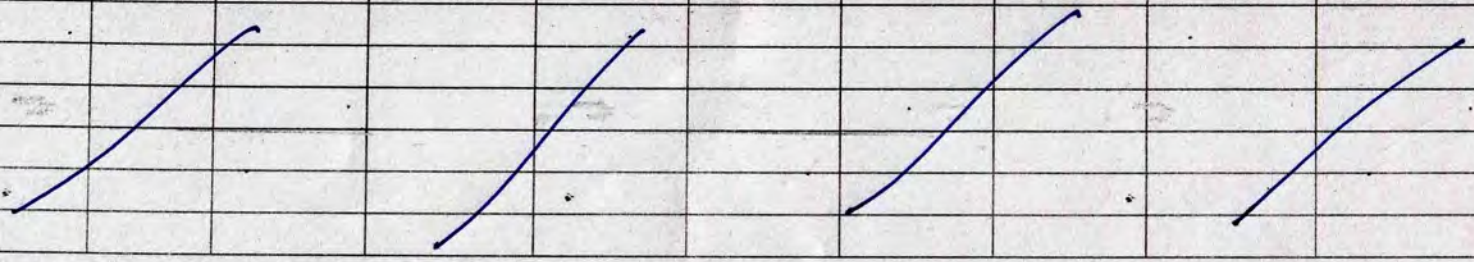
CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted By Q.C Manager
Contractors Reps

Secondary Towns Integrated Uraban Environmental Improvement Project
Biratnagar Sub-Metropolitant City
Daily Application Rate Check for Priming work
Contract Package :STUEIP/W/BRT/ICB-01

Type of Bitumen:80/100 P.G
Cutter Percentage:MC 70:MC30

SUMMERY FOR THE MONTH OF MAY 2016

Lab Ref No	Date of Priming	Station From	Station to	Side of Priming	Area of Priming	Intersection Area m2	Total Area M2	Bitumen Consumption	Application Rate By Deep Lit/m2	Application Rate Bt Tray Test Lit/m2
17	1/5/2016	2+100	2+395	LHS	295*5.5	18	1640.5	1700	1.04	1.03
18	2/5/2016	2+715	2+800	LHS	85*5.5	25	492.5	500	1.02	1.04
19	6/5/2016	2+715	2+800	RHS	85*5.5	40	507.5	550	1.08	1.03
20	25/5/2016	2+100	2+300	RHS	200*5.5	60	1160	1200	1.03	1.01
21	26/5/2016	1+200	1+295	RHS	95*5.5	44	566.5	600	1.06	1.02
22	29/5/2016	1+200	1+295	LHS	95*5.5	25	547.5	550	1.00	1.010



Required specification for Prime coat 1.0 Lit/M2 ± 5% Specific Gravity of Bitumen 1.025

SMEC-Brisbane-AQUA-CEMAT-BDA
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Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted By Q.C Manager
Contractors Reps

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

SUMMARY OF ASPHALT CONCRETE WEARING COURSE COMBINED TEST RESULTS

Contract Package:STUEIP/W/BRT/ICB/01

FOR THE MONTH OF MAY 2016

S. No.	LAB REF. NO.	Date of Sampling	Location of Work	Mix Agg Gradation of HMP Running % Passing Sieve Sizes mm								FI	LAA	ACV	SSS
				20	12.5	9.5	4.75	2.00	0.425	0.18	0.075	%	%	%	%
1	1	3/5/2016	HMP Running Bin- Plant	100	92.81	83.92	57.41	48.31	25.89	12.13	5.79	13.68	32.92	18.1	3.74
2	2	3/5/2016	HMP Running Bin- Plant	100	93.23	84.14	57.60	48.59	26.4	12.62	6.3	13.39	32.80	18.40	2.94
3	3	8/5/2016	HMP Running Bin- Plant	100	93.29	84.07	57.69	48.89	26.38	12.89	5.91	13.37	32.68	18.90	2.82
4	4	8/5/2016	HMP Running Bin- Plant	100	93.40	84.41	57.47	48.44	26.38	13.05	5.83	13.83	32.92	18.70	3.10
5	5	28/5/2016	HMP Running Bin- Plant	100.0	93.76	84.31	57.04	48.67	26.3	11.76	5.31	13.36	32.32	18.80	
6	6	28/5/2016	HMP Running Bin- Plant	100.0	99.26	89.13	61.54	52.44	30.67	15.43	5.14	13.82	32.12	18.90	
7	7	30/5/2016	HMP Running Bin- Plant	100.0	93.76	84.17	59.97	50.25	30.27	15.97	6.04	14.87	31.80	18.80	
8	8	30/5/2016	HMP Running Bin- Plant	100.0	92.60	82.02	58.95	50.45	28.91	15.68	5.83	13.78	32.07	18.30	
				100	80~100	68 ~90	50~79	36~67	17~44	9~29	3~10	LESS 25%	LESS 40%	LESS 20%	MAX 12%

SMEC-Brisbane-AQUA-CEMAT-BDA

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Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

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Test Conducted by Q.C Manager

Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

STIUEIP

MONTHLY Test Result Summary Sheet For The Month of MAY 2016

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
1	4	3/5/2016	From S-5 Line	100	88.92	70.26	54.59	47.08	36.30	26.73	5.48	
2	5	3/5/2016	From S-5 Line	100	90.11	69.71	58.66	50.13	39.67	28.92	6.03	
3	6	3/5/2016	From S-5 Line	100	90.51	69.90	59.46	51.22	40.90	30.22	6.71	
4	7	3/5/2016	From S-5 Line	100	90.31	66.81	57.88	49.77	38.44	25.26	6.44	
5	8	3/5/2016	From S-5 Line	100	88.13	65.52	56.70	48.72	37.25	24.29	5.95	
6	9	3/5/2016	From S-9 Line-1	100	88.02	65.74	56.70	48.56	37.54	24.33	5.80	
7	10	3/5/2016	From S-9 Line-1	100	88.18	67.20	58.43	48.66	36.92	23.15	5.53	
8	11	3/5/2016	From S-9 Line-1	100	89.64	66.50	57.08	49.23	37.74	23.17	6.54	
9	12	3/5/2016	From S-9 Line-1	100	90.02	66.84	56.89	48.27	37.25	22.76	6.23	
10	13	4/5/2016	From R-22 Line	100	90.78	65.81	56.77	47.73	37.21	22.54	5.96	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

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Consultant Reps

CTCE-KALIKA J/V

Submit by Project Manager

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Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet · For The Month of MAY 2016

STIUEIP

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
11	14	4/5/2016	From R-22 Line	100	91.20	66.10	56.99	49.28	38.19	23.52	6.30	
12	15	4/5/2016	From R-22 Line	100	88.32	63.31	54.09	45.93	35.29	20.95	6.63	
13	16	4/5/2016	From R-22 Line	100	89.02	64.98	55.26	46.28	34.80	19.82	6.22	
14	17	5/5/2016	From R-25 Line	100	90.92	66.72	55.93	46.79	35.33	19.17	5.43	
15	18	5/5/2016	From R-25 Line	100	90.85	72.39	59.55	49.16	36.98	20.80	6.49	
16	19	5/5/2016	From R-25 Line	100	91.50	71.51	59.80	49.78	38.70	20.84	6.88	
17	20	5/5/2016	From R-25 Line	100	90.85	65.97	55.45	47.09	34.68	19.31	6.13	
18	21	7/5/2016	From R-24 Line	100	93.43	67.45	56.88	47.24	34.97	19.36	6.37	
19	22	7/5/2016	From R-24 Line	100	92.58	68.28	57.08	47.45	32.24	19.45	6.24	
20	23	7/5/2016	From R-24 Line	100	92.18	68.86	57.78	48.78	36.97	20.55	5.28	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

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SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet · For The Month of MAY 2016

STIUEIP

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
21	24	7/5/2016	From R-24 Line	100	93.17	69.43	58.26	49.17	37.01	20.69	4.79	
22	25	8/5/2016	From R-26 Line	100	94.78	73.13	60.68	51.03	38.74	21.64	5.01	
23	26	8/5/2016	From R-26 Line	100	90.32	74.36	60.85	48.39	38.48	21.36	4.44	
24	27	8/5/2016	From R-26 Line	100	88.95	66.53	55.74	43.90	34.76	23.23	6.22	
25	28	9/5/2016	From R-26 Line	100	90.32	69.39	57.44	44.95	35.27	21.89	6.42	
26	29	12/5/2016	From Highway Man Hole Work	100	93.78	68.36	48.20	35.95	30.77	23.17	6.35	
27	30	12/5/2016	From Highway Man Hole Work	100	93.79	70.90	53.49	33.63	27.15	19.83	5.89	
28	31	12/5/2016	From Highway Man Hole Work	100	96.18	74.64	57.52	39.10	28.83	19.02	5.52	
29	32	12/5/2016	From Highway Man Hole Work	100	93.46	76.54	61.08	41.26	29.76	19.38	6.40	
30	33	20/5/2016	From R-27 Line	100	92.70	79.56	64.99	48.81	35.56	20.85	6.54	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submit by Project Manager

Test Conducted by Q.C Manager

Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

STIUEIP

MONTHLY Test Result Summary Sheet `For The Month of MAY 2016

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
31	34	20/5/2016	From R-27 Line	100	92.07	77.36	63.80	53.51	38.29	21.50	6.30	
32	35	20/5/2016	From R-27 Line	100	90.94	72.26	60.25	47.54	37.26	24.02	6.30	
33	36	20/5/2016	From R-27 Line	100	88.10	71.22	61.14	48.10	35.06	22.50	5.66	
34	37	20/5/2016	From Rani Line -1	100	90.04	75.65	62.59	48.68	34.13	20.96	6.02	
35	38	20/5/2016	From Rani Line -1	100	89.94	73.41	58.00	41.93	29.43	19.30	6.04	
36	39	24/5/2016	From Rani Line -1	100	87.99	75.42	60.77	44.43	31.29	18.55	5.64	
37	40	24/5/2016	From Rani Line -1	100	91.11	80.90	66.26	49.08	34.98	18.97	5.84	
38	41	25/5/2016	From Rani Line -5	100	92.58	69.45	58.60	47.49	31.40	22.59	4.70	
39	42	25/5/2016	From Rani Line -5	100	93.76	73.22	61.03	47.90	30.30	20.33	5.50	
40	43	25/5/2016	From Rani Line -5	100	90.39	74.71	63.02	48.43	33.34	19.87	5.56	
41	44	25/5/2016	From Rani Line -5	100	89.28	73.53	60.79	49.08	34.89	21.89	6.51	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved by C.S.E	Submit by Project Manager
Test Checked by A.C.S.E	Test Conducted by Q.C Manager
Consultant Reps	Consultant Reps

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

TEST RESULT SUMMARY SHEET For the Month of MAY 2016

COMPRESSIVE STRENGTH OF BRICKS (Process Control Test)

STIUEIP

SN No	Ref. STIUEIP LAB/	Date of Testing	Location	Chanage	BRAND NAME 1 st class brick	Compressive Strength N/mm2	SCALE OF Sample From
1	MR323	2/5/2016	R3	Line-27	AMBEY	10.6	1500 Nos-5 Nos
2	MR 324	2/5/2016	R3	Line-27	AMBEY	10.4	
3	MR325	5/5/2016	R3	Line-26	AMBEY	10.5	
4	MR326	5/5/2016	R3	Line-26	AMBEY	10.9	
5	MR327	7/5/2016	R3	Line -25	AMBEY	10.4	
6	MR328	7/5/2016	R3	Line -25	AMBEY	11.2	
7	MR329	7/5/2016	R3	Line-24	AMBEY	11.2	
8	MR330	19/5/2016	Rani	Line-4	AMBEY	10.2	
9	MR331	19/5/2016	Rani	Line-4	AMBEY	11.7	
10	MR332	19/5/2016	Rani	Line-4	AMBEY	11.5	
11	MR333	19/5/2016	High way	Man Hole	T&B	12.2	
12	MR334	26/5/2016	R3	Line-22	T&B	11.8	
Specification					IS1077,IS2180or NS1/2035	> 10N/MM2	

SMEC-Brisbane-AQUA-BDA-CEMAT

Approved by Construction Supervision Engineer

Test Checked by A.C.S.E

Consultantr Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test conducted by Q.C Manager

Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
1	MR81	KOSHI OPC	1/5/2016	35.3	210	325	All Cement
2	MR82	KOSHI OPC	2/5/2016	35.0	225	310	Are
3	MR83	SHIVAM OPC	3/5/2016	34.3	185	325	Nepali
4	MR84	SHIVAM OPC	4/5/2016	35.9	205	315	BRAND
5	MR85	SHIVAM OPC	5/5/2016	36.6	190	305	
6	MR86	SHIVAM OPC	6/5/2016	36.0	225	300	
7	MR87	SHIVAM OPC	7/5/2016	36.1	240	305	
8	MR88	SHIVAM OPC	8/5/2016	36.3	170	245	
9	MR89	SHIVAM OPC	9/5/2016	33.7	175	225	OPC
10	MR90	SHIVAM OPC	10/5/2016	34.3	140	260	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
11	MR91	SHIVAM OPC	11/5/2016	35.4	140	250	All Cement Are Nepali BRAND OPC
12	MR92	SHIVAM OPC	12/5/2016	36.0	165	265	
13	MR93	SHIVAM OPC	13/5/2016	36.0	165	265	
14	MR94	SHIVAM OPC	14/5/2016	36.0	165	265	
15	MR95	SHIVAM OPC	15/5/2016	36.7	225	275	
16	MR96	SHIVAM OPC	16/5/2016	36.4	245	315	
17	MR97	SHIVAM OPC	17/5/2016	36.6	240	285	
18	MR98	SHIVAM OPC	18/5/2016	36.6	210	310	
19	MR99	SHIVAM OPC	19/5/2016	36.1	215	300	
20	MR100	SHIVAM OPC	20/5/2016	36.3	130	375	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
21	MR101	SHIVAM OPC	21/5/2016	36.6	185	285	All Cement Are Nepali BRAND OPC
22	MR102	SHIVAM OPC	22/5/2016	36.9	180	280	
23	MR103	SHIVAM OPC	23/5/2016	37.0	285	305	
24	MR104	SHIVAM OPC	24/5/2016	36.6	250	330	
25	MR105	SHIVAM OPC	25/5/2016	37.0	270	315	
26	MR106	SHIVAM OPC	26/5/2016	36.9	250	305	
27	MR107	SHIVAM OPC	27/5/2016	37.1	245	320	
28	MR108	SHIVAM OPC	28/5/2016	37.0	255	310	
29	MR109	SHIVAM OPC	29/5/2016	36.9	185	320	
30	MR110	SHIVAM OPC	30/5/2016	36.7	190	335	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs.	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
1	MR81	KOSHI OPC	1/5/2016	35.3	210	325	All Cement Are Nepali BRAND OPC
2	MR82	KOSHI OPC	2/5/2016	35.0	225	310	
3	MR83	SHIVAM OPC	3/5/2016	34.3	185	325	
4	MR84	SHIVAM OPC	4/5/2016	35.9	205	315	
5	MR85	SHIVAM OPC	5/5/2016	36.6	190	305	
6	MR86	SHIVAM OPC	6/5/2016	36.0	225	300	
7	MR87	SHIVAM OPC	7/5/2016	36.1	240	305	
8	MR88	SHIVAM OPC	8/5/2016	36.3	170	245	
9	MR89	SHIVAM OPC	9/5/2016	33.7	175	225	
10	MR90	SHIVAM OPC	10/5/2016	34.3	140	260	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
11	MR91	SHIVAM OPC	11/5/2016	35.4	140	250	All Cement Are Nepali BRAND OPC
12	MR92	SHIVAM OPC	12/5/2016	36.0	165	265	
13	MR93	SHIVAM OPC	13/5/2016	36.0	165	265	
14	MR94	SHIVAM OPC	14/5/2016	36.0	165	265	
15	MR95	SHIVAM OPC	15/5/2016	36.7	225	275	
16	MR96	SHIVAM OPC	16/5/2016	36.4	245	315	
17	MR97	SHIVAM OPC	17/5/2016	36.6	240	285	
18	MR98	SHIVAM OPC	18/5/2016	36.6	210	310	
19	MR99	SHIVAM OPC	19/5/2016	36.1	215	300	
20	MR100	SHIVAM OPC	20/5/2016	36.3	130	375	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs.	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
21	MR101	SHIVAM OPC	21/5/2016	36.6	185	285	All Cement Are Nepali BRAND OPC
22	MR102	SHIVAM OPC	22/5/2016	36.9	180	280	
23	MR103	SHIVAM OPC	23/5/2016	37.0	285	305	
24	MR104	SHIVAM OPC	24/5/2016	36.6	250	330	
25	MR105	SHIVAM OPC	25/5/2016	37.0	270	315	
26	MR106	SHIVAM OPC	26/5/2016	36.9	250	305	
27	MR107	SHIVAM OPC	27/5/2016	37.1	245	320	
28	MR108	SHIVAM OPC	28/5/2016	37.0	255	310	
29	MR109	SHIVAM OPC	29/5/2016	36.9	185	320	
30	MR110	SHIVAM OPC	30/5/2016	36.7	190	335	
Requirements in accordance with BS 12					> 45. Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDAR(TOWNS INTEGRATED URABAN ENVIRONM(TAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20& M25/20 Work Mix FOR THE MONTH OF MAY 2016

S.N.	Lab Ref. No.	Date of Casting	Deatails of Mix	Location / Structure	Ratio by VOLUME				Type of Material		Cube Crushing .N/mm2		Remarks
					Water	Cement	Sand	Aggregate	Cement Brand	Aggregate/Sand	7 days	28-Days	
1	418	3/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	21.26	26.37	
2	419	3/4/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.22	21.63	
3	420	4/4/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.63	21.78	
4	421	4/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.93	21.63	
5	422	5/4/2016	M20 Work Mix	Rani Line 2	0.50	1	2	3.5	Shivam	Om shree C/plant	16.00	21.11	
6	423	6/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	14.37	21.63	
7	424	7/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	14.22	22.07	
8	425	8/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	20.44	26.22	
9	426	10/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	20.74	26.74	
10	427	15/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.30	22.67	
11	428	18/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	22.81	
12	429	20/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	21.04	26.30	
13	430	22/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	16.67	25.93	
14	431	26/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	17.48	26.37	
15	432	1/5/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	21.85	
16	433	1/5/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.04	21.33	
17	434	2/5/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.48	21.48	
18	435	2/5/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.89	20.89	
19	436	3/5/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.19	21.41	
20	437	3/5/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	17.19	26.07	
21	438	3/5/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	20.37	26.07	

Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	13.4	20
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	16.75	15

SMEC-Brisbane-AQUA-BDA

Approved by Construction Supervision Engineer/CSE

Test checked by A.C.S.E

Consultants Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test conducted by Q.C Manager

Contractors Reps

Secondary Town Integrated Urban Environmental Improvement Project

Biratnagar Sub-Metropolitan city

Contract Package: STIUEIP/W/BRT/ICB-01

DAILY WEATHER RECORD

FOR THE MONTH OF MAY 2016

Date	WEATHER Record					Temp.c			
	Sunny	Windy	Cloudy	Morning Rain HRS	Night Rain Hrs.	Day Rain Hrs.	9:00 AM	5:00 PM	Rain Fall MM
1	Sunny						34.6	30.2	
2	Sunny						36.6	29.1	
3	Sunny						36.8	30.1	
4	Sunny						24.5	28.5	
5			Cloudy	Morning Rain HRS	Night Rain Hrs.		28	27.9	22.5
6	Sunny						34	30	
7			Cloudy			Day Rain Hrs.	36	32	12
8	Sunny						36	30	
9	Sunny						36	28	
10			Cloudy	Morning Rain HRS	Night Rain Hrs.		37	30	140.4
11	Sunny						30	26	
12			Cloudy				36	34	
13	Sunny			Morning Rain HRS	Night Rain Hrs.	Day Rain Hrs.	26.4	25.8	290
14			Cloudy	Morning Rain HRS	Night Rain Hrs.		30.5	28.4	130
15	Sunny						38.5	29.4	
16	Sunny						37.6	28.2	
17	Sunny				Evening Rain Hrs		38.6	29.1	110
18	Sunny						37.6	28.4	
19			Cloudy	Morning Rain HRS	Night Rain Hrs.		36.4	26.4	250
20	Sunny						26.6	26	
21	Sunny						34.5	30.6	
22	Sunny						36.4	28.8	
23			Cloudy		Evening Hrs		36.4	27.4	80.5
24	Sunny						38.6	26.2	
25	Sunny						38.8	30.2	
26	Sunny						38.6	29.2	
27	Sunny		Cloudy	Morning Rain HRS	Night Rain Hrs.		36.4	28.2	150
28	Sunny						32.6	26	
29	Sunny						34.6	28.4	
30	Sunny						32.4	26.6	
31	Sunny						32.8	25.6	
									1185.4

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved By C.S.E	Submitted By Project Manager
Record Checked By A.C.S.E	Record Reported By Site Manager
Consultant Reps	Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar-Sub-Metropolitant City

SUMMERY OF THE MORTAR WORK MIX CUBE FOR THE MONTH OF MAY 2016

S.N.	LAB REF No.	Name of CEMENT	Location/Structure	Details of MIX	Casting	Consistency & Setting Time			7 day's cube Crushing		28 day's cube crushing		Remarks
						Norm. Const.	Intial(min.)	Final(min.)	Date	Str. N/mm2	Date	Str. N/mm2	
1	276	Shivam	S13- Man Hole	1:4 by volume	6/4/2016	38.30	185	300	13/4/2016	6.30	3/5/2016	7.62	
2	277	Shivam	National Trading Man hole	1:4 by volume	7/4/2016	38.30	185	300	14/4/2016	6.40	4/5/2016	7.89	
3	278	Shivam	National Trading Man hole	1:4 by volume	8/4/2016	38.30	185	300	15/4/2016	6.00	5/5/2016	7.76	
4	279	Shivam	R3 -Road No 42	1:4 by volume	10/4/2016	37.90	195	290	17/4/2016	6.10	7/5/2016	7.62	
5	280	Shivam	R3- Road No 22	1:4 by volume	14/4/2016	37.90	195	290	21/4/2016	6.30	11/5/2016	7.89	
6	281	Shivam	R3- Road No 24	1:4 by volume	14/4/2016	37.90	195	290	21/4/2016	6.30	11/5/2016	7.62	
7	282	Shivam	Rani Line -01	1:4 by volume	16/4/2016	38.10	180	300	23/4/2016	6.40	13/5/2016	7.76	
8	283	Shivam	Rani Line -04	1:4 by volume	17/4/2016	38.10	180	300	24/4/2016	6.30	14/5/2016	7.89	
9	284	Shivam	R3 -Road No 42	1:4 by volume	18/4/2016	38.10	180	300	25/4/2016	6.30	15/5/2016	7.62	
10	285	Shivam	R3- Road No 22	1:4 by volume	19/4/2016	38.10	180	300	26/4/2016	6.40	16/5/2016	7.76	
11	286	Shivam	R3- Road No 24	1:4 by volume	20/4/2016	38.00	195	290	27/4/2016	6.10	17/5/2016	7.76	
12	287	Shivam	High way Man hole Road -Cess chowck	1:4 by volume	21/4/2016	38.00	195	290	28/4/2016	6.70	18/5/2016	7.89	
13	288	Shivam	High way Man hole Road -Cess chowck	1:4 by volume	22/4/2016	38.00	195	290	29/4/2016	6.00	19/5/2016	7.76	

NOTE:

According to is 2250-1981	MIN 45m	Max 600m	Required strength on 28 days not less than 5 or 7.5 N/MM2

SMEC-Brisbane-AQUA-BDA-CEMAT

Approved by Construction Supervision Engineer/CSE

Test Checked by A.C.S.E

Consultants Reps

CTCE-KALIKA J/V

Submitted by Project Manag

Test conducted by Q.C Mana

Contractore Reps

Government of Nepal
Biratnagar Sub-Metropolitan City, Biratnagar, Nepal
Secondary Towns Integrated Urban Environment Improvement Project (STIUEIP)
Project Implementation Unit(PIU)
Biratnagar, Nepal

Project Directorate (ADB)

Sewerage and Drainage Network, Wastewater Treatment Plant, and Road and Lanes Improvement Subproject
STIUEIP/W/BRT/ICB-01

Monthly Progress Report – 30

May,2016

Submitted by:

Consultants:

in association with
Brisbane City Enterprise Pty Ltd – Australia
AQUA Consultant and Associates Ltd – Bangladesh
Building Design Authority – Nepal
CEMAT Consultants – Nepal

CTCE/KALIKA JOINT VENTURE

Address: Kalika tower-6thfloor, Baluwatar, Kathmandu, Nepal. Tel: 01-4439152, 4439153, 4439154, Fax: 01-4439155.
E-mail: info@kalikagroup.com, Site Office: Katahari Tel. 9852024596 E-mail: kalikabrt@gmail.com

Table of Contents

1 Salient Feature

A. General Features	
Employer	Government of Nepal(GoN), Ministry of Urban Development Department of Urban Development and Building Construction
Funded By	Asian Development Bank & Government of Nepal
Project	Biratnagar Sub-Metropolitan City Secondary Towns Integrated Urban Environmental Improvement Project(STIUEIP)
Contract No.	STIUEIP/W/BRT/ICB-01
Location	Biratnagar Sub-Metropolitan City
Consultant	SMEC-Brisbane-AQUA-BDA-CEMAT
Contractor	CTCE-KALIKA JV.
Commencement Date	December 8th, 2013
Completion Date	25th of May 2016
Contract Period	30 month
Contract amount with Provisional Sum	NRs 2,119,054,525.90
VO-1	NRs 99,753,075.60
Revised Grand Total Contract amount with VAT&PS	NRs 2,491,085,601.50

2 Introduction

This Secondary Town Integrated Urban Environmental Improvement Project (STIUEIP), Sewerage and Drainage Network, Wastewater Treatment Plant and Lanes Improvement Subproject Biratnagar is funded by Asian Development Bank and Government of Nepal. The project area is in the Morang district, Biratnagar Sub-metropolitan City which lies in the Eastern Part of Nepal.

3 Sub-Project Components

The Town Integrated Urban Environmental Improvement Project (STIUEIP) consists of following Sub-Project Components:

- Sewerage and Drainage Network Subproject
  A separate system of storm water drainage and sewer line will be constructed at Biratnagar under this project.
- Wastewater Treatment Plant Subproject
  A Waste Water Treatment Plant (WWTP) will be constructed at Jatuwa, draining the wastewater finally to Singhiya River.
- Road and Lanes Improvement Subproject
  Existing road sections at different part of Biratnagar will be upgraded providing proper drainage facility.

4 Scope of works

The activities to be undertaken according to the Contract Agreement are as follows:

a. To carry out all necessary topographic surveys, soils investigations, laboratory analysis or related investigations where necessary to supplement the data provided by the Employer.
b. To prepare working drawings for all elements of the Works.
c. To undertake all steps necessary for upgrading of roads and bridges, all related to access to the Site, or other related matters, where his opinion differ significantly from
d. Preparation of stockyards for pipes, fittings and other materials and equipment.
e. To take all steps necessary for the temporary or permanent diversion of services and the maintenance of services during the execution of the Works, including diversion of overhead with underground power lines, telephone ducts, water supply mains and

distribution lines (pipes), sewers and other underground services as required along the route of the pipelines.

f. To supply all pipes, valves, fittings and other materials and equipment required for construction of the Works. The Contractor's supply items may include manufacture, collection, transportation and delivery to Site. The Contractor will be responsible for ensuring that all procedures are adequately covered and that the materials fully confirm to the Contract requirements. These responsibilities will include all necessary charges or dues related to insurance, freight, taxes (including customs and excise duties, surcharges etc.) and all testing and inspections for quality control.

g. To provide all necessary staff (including civil engineers, specialists, administrators, site supervision personnel) and workmen (including all necessary specialists ,operators, tradesmen, artisans etc. in addition to semi-skilled and unskilled workers)necessary for execution of the Works through to completion. Where appropriate, the contractor shall provide all suitable facilities and accommodation for the staff and workmen and he shall make provision for all costs related to such provisions and for medical, re-location, taxes or other expenses.

h. To provide all equipment, machinery, tools etc. and related spares, maintenance and consumables necessary for implementation of the Works.

i. To provide all site offices, stores, workshops and facilities necessary for use by the Employer, Engineer and support staff and for the Contractor himself and his supporting staff

j. To undertake all operations necessary to complete the Works. These operations shall include: excavation, provision, haulage and installation of suitable bedding and backfill material and disposal of surplus excavated material; distribution, laying adjoining of pipes; installation of all special pipework, valves etc. and construction of all related concrete or other activities together with all testing and disinfection of completed Works. The Contractor's attention is drawn to the restricted working space between Rajbanshi Chowk to Rani, Biratnagar where the sewer pipes, drains and road/lane is to be laid in a narrow road. In this section work in addition to that associated with the trunk main, will include but not be limited to, removal and replacement of a sewer laid in the road and reinstatement of road surface.

k. To liaise with other contractors on the site and to ensure harmonious co-operation with them so that conflicts are avoided and areas of common interest, constructional interface or potential overlaps are addressed without cost to the Employer or delays in completion.

l. To prepare documentary records of the Works in the form of "as-built" drawings and GIS data, schedules etc., and to train staff of the Employer in the procedures for laying pipes, valves and fittings.

m. All the above activities shall be performed in a professional way and with good engineering and/or constructional practice. Upon completion of the Works the scheme shall be fully operational with minimum disruption or inconvenience to interested parties, including land owners, and there shall be no outstanding matters requiring attention.

5 Brief on procurement packages

The procurement procedures for construction material have already been started. Agreements have been made with the factories for the procurement of Brick, Cement, Steel, uPVC, HDPE pipe, machinery and equipment, electrical components, manhole covers, rubber rings etc.

6 Details of the project execution

6.1 Physical Progress (Achievement till the month)

a) Storm Water Drain Sub-Project (Work Progress till the date)

Drain	Lines	Length	Total Length (m)	Drain Construction (m)				Remarks
				Till Previous Month	Till This Month	This Month Work	Plan for Next Month	
B1	B1L1	965.98	3580	965.98	965.98			
	B1L2	1148.98		968.00	1,256.00	288.00		
	B1L2A	465.77		490.00	490.00			
	B1L2B	137.09		137.00	137.00			
	B1L2C			-	-			
	B1L2D	490.97		494.00	494.00			
	B1L2F	371.22		285.00	285.00			
				-	-			
B2	B2L1	1425	3742	1,403.00	1,415.00	12.00		
	B2L2	828.03		828.00	828.00			
	B2L2C	639.22		631.00	631.00			
	B2L1B	849.47		850.00	850.00			
				-	-			
B3	B3L1A	422.96	3514	420.96	420.96			
	B3L1B	421.1		421.10	421.10			
	B3L1	669.7		680.50	718.50	38.00		
	B3L2	691.56		714.80	714.80			
	B3L2E	220.42			-			
	B3L3	578.74		578.00	578.00			
	B3L4	509.5		509.50	509.50			
				-	-			
S9	S9L1	2981.85	3178	2,089.00	2,104.00	15.00		
	S9L1D	195.65		-	-			
				-	-			
S11	S11L1	794	2092	794.00	794.00			
	S11L1A	265.75		265.75	265.75			
	S11L1B	107.5		107.50	107.50			
	S11L2	925		915.00	915.00			
				-	-			
S13	S13L2	1262	5640	1,248.00	1,248.00			
	S131A	918.23		768.00	768.00			
	S13L1B	276		276.00	276.00			
	S13L1C	284		284.00	284.00			
	S13L1D	535.04		535.04	535.04			
	S13L1E	672.02		342.02	342.02			
	S13L1F	1048		723.00	723.00			
	Hume Pip	645		687.50	687.50			

Drain	Lines	Length	Total Length (m)	Drain Construction (m)				Remarks
				Till Previous Month	Till This Month	This Month Work	Plan for Next Month	
CN2	CN2L2	949.23	2273	975.00	975.00			
	CN2L1	994.5		637.50	657.50	20.00		
	CN2L1A	134.02		-	-			
	CN2L1B	195.27		-	-			
				-	-			
CN3	CN3L1A	456.89	2170	-	-			
	CN3L1	715.91		609.91	609.91			
	CN3L2	997.5		502.50	512.50	10.00		
				-	-			
S5	S5L1A	1932	2308	1,048.00	1,172.00	124.00		
	S5L1B	376		-	-			
				-	-			
Rani	L1	560	9708	136.00	336.00	200.00		
	L5	796		644.00	644.00			
	L5C	681		200.00	200.00			
	L5D	680		150.00	150.00			
	L2M	266		171.00	171.00			
	L2J	526		450.00	450.00			
	L3	416		285.00	285.00			
	L4	2311		1,331.00	1,331.00			
	L4C	381		381.00	381.00			
	L4D	381		380.00	380.00			
	L6	1170		402.00	512.00	110.00		
	2C	310		209.00	209.00			
	3C	420		406.00	406.00			
	3B	250		102.00	140.00	38.00		
				-	-			
Road Side Drains	R2	6000	6000	6,325.00	6,325.00			
	R3	3393	6000	352.00	1,007.00	655.00		
	R4	970	970	660.00	660.00			
	R5	1715	1715	700.00	700.00			
	R64	121	121	121.00	121.00			
	R16	430	430	200.00	200.00			
	R22	358	358		136.00	136.00		
	R24	396	396		180.00	180.00		
	R25	606	606		150.00	150.00		
	R26	861	861	595.00	833.00	238.00		
	R27	997	997		450.00	450.00		
	R107	347	347	81.20	81.20			
	T2L18O	150	150	134.00	204.00	70.00		
	T3L26F	274.8	275	205.00	205.00			
	T2L19C	350	350	330.00	330.00			
	T3L26C	461	461	414.00	414.00			
	T3L27	640	640	280.00	280.00			
	T3L28	148	148	145.00	145.00			
	T3L37	470	470	337.00	337.00			
Total Length					**42,044.76**	**2,734.00**		

b) Sewerage Sub-Project (Work Progress till the date)

Sewer Line	Lines	Length	Total Length (m)	Sewer Construction (m)								Remarks
				Till Previous Month	Till This Month	This Month Work	Plan for Next Month	Total Manholes	Sewer Inlet	House Connections	uPVC Pipe	
T1 Trunk 600 dia hume Pipe			6864	1097.5	1,627.50	530		34				
T2 Trunk 1000 dia hume pipe			1729	1,815.00	1,815.00			61				
T2 Trunk 900 dia hume pipe			518	518.00	518.00			17				
T2 Trunk 700 dia hume pipe			6864	1,577.50	2,137.50	560.00		34				
T3 Trunk 700 dia hume Pipe			1472	1,680.50	1,680.50			26				
T3 Trunk 600 dia hume Pipe			1141	267.00	267.00			9				
Line T2L19 350 dia Hume Pip			345	200.00	200.00			7				
Line T2L19 400 dia Hume Pip			487	460.00	460.00			15				
Line T2L19 500 dia Hume Pip			45	45.00	45.00			2				
Total length of Hume Pipe					**8,750.50**	**1,090.00**		**204**				
T1 Sec												
	5			103.00	103.00			3				
	6			97.00	97.00			3				
	6A			125.00	125.00			4				
	7			166.00	166.00			6				
	7A			50.00	50.00			2				
	7B			200.00	200.00			7				
	7C			62.00	62.00			2				
	7D			169.00	169.00			6				
	7E			62.00	62.00			2				
	12			205.00	205.00			7				
	14		4048	139.60	139.60			5				
	15			209.00	209.00			7				
	15A			188.00	188.00			6				
	16			254.00	254.00			8				
	16A			81.00	81.00			3				
	16B			142.30	142.30			5				
	16C											
	17			232.20	232.20			8				
	17A			77.80	77.80			3				
	17B			83.80	83.80			3				
	17C			79.80	79.80			3				

Sewer Line	Lines	Length	Total Length (m)	Sewer Construction (m)								Remarks
				Till Previous Month	Till This Month	This Month Work	Plan for Next Month	Total Manholes	Sewer Inlet	House Connections	uPVC Pipe	
T2 Sec												
	18F			147.00	147.00			5				
	18F1			96.00	96.00			3				
	18G			145.00	145.00			5				
	18L			331.70	331.70			11				
	18P			139.60	139.60			5				
	18Q			195.40	195.40			7				
	18Q.S			43.00	43.00			2				
	18R			357.30	357.30			12				
	18U				128.00	128.00		4				
	18V			54.80	54.80			2				
	18W			-	162.00	162.00		5				
	18Y			170.80	170.80			6				
	18X			-	154.00	154.00		5				
	18Z			46.60	46.60			2				
	19b			272.30	272.30			9				
	19c			276.30	276.30			9				
	19d				299.00	299.00		10				
	19e			160.50	160.50			5				
	19f			204.10	204.10			7	14.00			
	19g			67.80	67.80			2	4.00			
	19h			181.40	181.40			6	12.00			
	19j			355.00	355.00			12	24.00	12.00		
	19k			172.50	172.50			6				
	19l			210.30	210.30			7				
	19ma			179.40	179.40			6				
	19mb			232.35	232.35			8				
	19n			162.50	162.50			5				
	19o			114.70	114.70			4				
	19p			140.90	140.90			5				
	19q			234.20	234.20			8				
	19r			264.20	264.20			9				
	19s		27128	271.00	271.00			9				
	19t			179.50	179.50			6		18.00	145.00	
	19u			61.80	61.80			2				
	19G			160.00	160.00			5				
	19H			72.00	72.00			2				
	19I			191.00	191.00			6				
	19K			247.00	247.00			8				
	19N			132.00	132.00			4				
	19R			110.70	110.70			4				
	19T			137.60	137.60			5				
	19U			61.80	61.80			2				
	19V			60.00	60.00			2				
	19W			50.80	50.80			2				
	19X			49.80	49.80			2				
	19Y			86.70	86.70			3				
	19Z			66.80	66.80			2				
	20			180.00	180.00			6				
	22			260.10	260.10			9	10.00			
	23			217.00	217.00			7	6.00			
	24A			260.70	260.70			9	20.00	4.00		
	26			364.00	364.00			12				
	26C			259.00	259.00			9				
	26F			56.00	56.00			2				
	26D			207.00	207.00			7				
	28			279.00	279.00			9				
	29			296.90	296.90			10				
	18j			232.20	232.20			8				
	18QS			306.00	306.00			10				
	19K			367.90	367.90			12				
	18o			102.00	102.00			3				
	18QS			301.00	301.00			10				
						-		-				

Sewer Line	Lines	Length	Total Length (m)	Sewer Construction (m)								Remarks
				Till Previous Month	Till This Month	This Month Work	Plan for Next Month	Total Manholes	Sewer Inlet	House Connections	uPVC Pipe	
T3 Sec												
	7			210.00	210.00			7				
	7B			200.00	200.00			7				
	11D			112.00	112.00			4				
	13B			79.00	79.00			3				
	13C			58.00	58.00			2				
	23C			155.00	155.00			5				
	24B			84.00	84.00			3				
	26C			60.00	60.00			2				
	13F			183.60	183.60			6				
	25B			201.40	201.40			7				
	25C			139.60	139.60			5	9.00			
	26			126.50	126.50			4				
	26A			135.80	135.80			5				
	26B			171.80	171.80			6				
	26C			412.10	412.10			14				
	26D			98.80	98.80			3				
	26E		23070	358.80	358.80			12				
	26F			108.60	108.60			4				
	26G			110.80	110.80			4				
	26H			155.60	155.60			5				
	27			371.50	371.50			12				
	28			247.10	247.10			8				
	29			153.80	153.80			5				
	30			245.10	245.10			8				
	31			174.40	174.40			6				
	31A			171.50	171.50			6				
	32			219.20	219.20			7				
	33			391.80	391.80			13	25.00	35.00		
	33A			121.20	121.20			4				
	33B			161.00	161.00			5				
	34			312.70	312.70			10	14.00	12.00		
	35			223.30	223.30			7	14.00	15.00		
	36			160.50	160.50			5				
	37			204.30	204.30			7				
Total Length of HDPE Pipe					**20,371**	**743.0**		**683**	**152**	**96**	**145**	

C) Road Works (Work Progress till the date)

Road Line	Total Length (m)	Road Works				Remarks
		Till Previous Month	Till This Month	This Month Work	Plan for Next Month	
R2 Road	**6200**	**2066**	**2096**	**30**		

c) Wastewater Treatment Plant Sub-Project (Work Progress till the date)

S.N.	Description of Work	This month	Total Length/Nos	Program for Next Month	Remarks
1	Excavation of Ponds-Anaerobic	0	3 nos		
2	Excavation of Ponds-Facultative	0	2 nos		
3	River Training Works	0	515m		
4	Boundary wall construction	0	580 m		
5	Office cum lab building, WWTP, Jatuwa	All complete except finishing works			
5	Workshop Building & Generator/Changing Building, WWTP, Jatuwa	All complete except finishing works			
6	Sump Well	Partially excavated			

d) Production of Precast Items from Slab Casting Contractor's Yard, Katahari

S.N.	Description	Unit	Quantity			Remarks
			Till Previous Month	Till This Month	This Month Work	
1	Slabs	Nos	74300	77300	3000	
2	Precuts	Nos.	7959	8559	600	
3	Kerb Stone	Nos.	19825	20075	250	

e) Production of Precast Chambers at Contractor's Yard Katahari

S.N.	Description	Unit	Quantity			Remarks
			Till Previous Month	Till This Month	This Month Work	
1	Manhole	Nos	2178	2234	56	
2	Sewer Inlet	Nos.	1480	1513	33	
3	House Connection	Nos.	1330	1346	16	

f) Hume Pipe Production from Hume Pipe Production Factory, Itahari

SN	1	2	3	4	5	6	7	8	9	10	11
Diameter	200mm ϕ	300mm ϕ	350mm ϕ	400mm ϕ	450mm ϕ	500mm ϕ	600mm ϕ	700mm ϕ	900mm ϕ	1000mm ϕ	1600mm ϕ
No of Moulds	38	3	2	2	2	3	8	8	2	4	2
Production Till Previous Month	2123	328	216	370	84	513	909	1275	278	1011	373
This Month Production	0	0	0	0	0	0	33	21	0	0	0
Total Production	2123	328	216	370	84	513	942	1296	278	1011	373

6.2 Financial Progress and Cash Flow

Detail of payment:

Installment Number	Total Bill Amount With Vat and PS(NRs)	Net Payble Amount (NRs.)	%	Remarks
IPC 01		200,940,000.00		Advance Payment 01
IPC 02	29,553,479.92	27,853,500.98		IPC 2
IPC 03	50,406,775.75	47,507,270.95		IPC 3
IPC 04	44,819,505.68	42,241,392.52		IPC 04
IPC 05	23,380,168.96	22,035,291.99		IPC 05
IPC 06	90,796,339.68	85,573,541.38		IPC 06
IPC 07	80,854,600.52	76,203,672.17		IPC 07
IPC 08	122,334,488.86	115,297,549.23		IPC 08
IPC 09	116,092,187.14	109,414,317.97		IPC 09
IPC 10	132,327,417.89	124,715,663.77		IPC 10
IPC 11	169,853,829.07	160,083,476.07		IPC 11
IPC 12	23,121,515.46	16,931,906.24		IPC 12
IPC 13	85,563,926.44	62,658,539.06		IPC 13
IPC 14	163,562,505.71	119,776,967.67		IPC 14
IPC 15	139,008,112.96	101,795,764.14		IPC 15
IPC 16	137,640,413.95	100,794,196.94		IPC 16
Progress Of May	70,000,000.00			May-16
Total amount of Ipc=	**1,479,315,267.99**	**1,212,883,051.07**	**54.30**	Progress Percentage WRT Total IPC Amount With Vat and PS

7 Details of Safeguard activities

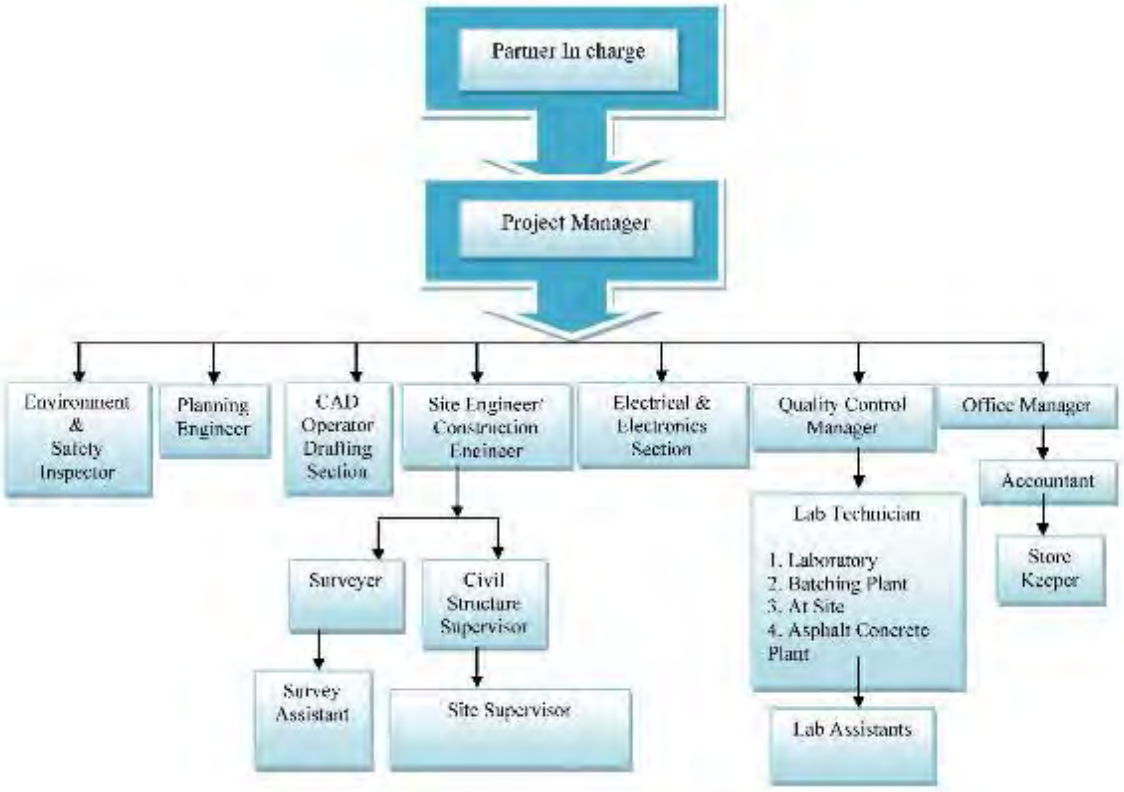
Till the date no such issues have been faced relating to the Social, Environmental and Resettlement matter.

8 Key Issues and Remarks

Following issues were raised in this month

- Extension of Time has not been approved / decision till this month.
- Submitted Claim No.01 to 05 has not addressed up to this month.
- Delima in working further due to lack of BoQ item such as; Reinforcement,Brickwork,M25 Concrete etc.
- Lack of Amount in Provisional sum which has created delima in shifting Electric pole and Water supply pipe lines.
- Unclear of Right of Way at certain location that obstruct the contract work(From Pariwar niwojan to tintolia) and other location..

9 Work Plan Professional input



S.N.	Designation	No.	Remarks
1	Project/ Contract Manager	1	
2	Planning/ Construction Engineer	1	
3	Construction Engineer	1	
4	Site Engineers	5	
5	Quality Control Manager	1	
6	Office/ Bill Engineer	1	
7	Junior Engineer	10	
8	Sub-Overseer	6	
9	Senior Site Supervisor/Safety Manager	1	
10	Accountant/ Office Manager	1	
11	Lab Assistant	3	

12	Site Supervisor	5	
13	Store Keeper	4	
14	Light Drivers	6	
15	Machine Operator	14	
16	Other Supporting Staffs	18	
17	Skilled Labors	>120	>100m/ 20f
18	Unskilled Labors	> 300	>230m/ 70f

S.N.	Name	Designation	AttendanceDays
1	Ujjwal Prasai	Project Manager	25
2	Bishesh Prasai	Engineer	25
3	Mahesh Subedi	Construction Engineer	25
4	Suresh Maharjan	Design Engineer	25
5	Sujit Dahal	Office/Bill Engineer	25
6	Santosh Kumar Yadhav	Site Engineer	20
7	Naveen Khanal	Site Engineer	25
8	Sunil Chaudhary	Quality Control Manager	25
9	VishwoBandhuMainali	Accountant/ Office Manager	25
10	Krishna Adhikari	Jr. Accountant	25
11	Narayan Rijal	Senior Site Supervisor/Safety Manager	25
12	Sagar Shrestha	Junior Engineer	24
13	Dipesh Kumar Chaudhary	Junior Engineer	25
14	Suraj Chaudhary	Junior Engineer	24
15	Siddhartha Nepal	Junior Engineer	25
16	Sujan Singh Thakuri	Junior Engineer	24
17	Bipin Rai	Junior Engineer	25
18	Sauvagya Shrestha	Junior Engineer	25
19	Suman Shrestha	Junior Engineer	22
20	Bishal Shrestha	Junior Engineer	24
21	Sanjay Shrestha	Junior Engineer	25
22	Chiranjivi Poudel	Junior Engineer	22
23	Ishwor Sharma	Sub-Overseer	24
24	Manish Subedi	Sub-Overseer	24
25	Gaurab Subba	Sub-Overseer	20
26	SabitaThapa	Sub-Overseer	24
27	Prakash Bhattarai	Sub-Overseer	25
28	PradipRai	Sub-Overseer	25
29	AjayaRai	Site Supervisor	25
30	Uttar Karki	Site Supervisor	24
31	IshowrAdhikari	Site Supervisor	20

32	Santosh Mukhiya	Site Supervisor	22
33	Anil Pokhrel	Site Supervisor	24
34	Prasasan Rajbansi	Site Supervisor	25
35	Tanka Pokhrel	Store Manager	25
36	Manoj Pandit	Store Assistant	25
37	Nirnaya Upreti	Store Assistant	23
38	GopiYadav	Store Assistant	25
39	Dipesh Dahal	Lab Assistant	20
40	Ramesh Koirala	Lab Assistant	25
41	Mahakanta Risidev	Lab Assistant	25
42	Sandeep Pyakurel	Light Driver (7621)	24
43	Gurucharan Yadhav	Light Driver (1082)	23
44	Kiran Manandhar	Light Driver (1086)	25
45	Satya Dhimal	Light Driver	24
46	Dip Budathoki	Light Driver	22
47	Mangal Kisku	JCB Operator	23
48	Surya Bdr. Malla	Loader Operator	22
49	Rupana Chaudhary	TM Driver	25
50	BhabeshRai	Batching Operator	20
51	Chandan Roy	Pc-200 Operator	25
52	Jeet Bdr Gurung	Teller (4423) Driver	25
53	Ananda Rajbansi	Electrician	25
54	Kamal Yadhav	Electrician	25
55	PappuYadav	Mechanic	25
56	Mukesh Mandal	Mechanic	25
57	Bhanu Bhakta Kafle	Plumber	22
58	Ganga Ram Dhital	Plumber	25
59	Niroj K. Puri	TM Driver(7561)	25
60	Dhan Kaji Gurung	TM Helper	25
61	Indra Rajbansi	Tractor Driver (6204)	25
62	Kartik Tharu	Tractor Driver (8304)	25
63	Tilak Ghalan	Transit mixer Driver	25

64	Nakkul Paddhar	Tanker Driver	25
65	Udit Narayan	Tanker Driver	25
66	BasudevYadav	Tractor Driver	25
67	Sudeep Rajbansi	JCB Helper	25
68	Manita Shrestha	Kitchen Helper	25
69	KalpanaTamang	Kitchen Helper	25
70	Sita Thapa	Kitchen Helper	25
71	Pabitra Rai	Kitchen Helper	25

Details of Equipment

S.N.	Particular	Model/Type	Capacity	Working Status		
				No of used Equipment	Status	Remarks
A	**Vehicle and Equipment**					
A.1	**Excavators**					
	CAT Excavator with vibrating compactor PC320	PC320		1	Good	
	Komatsu Long Boom PC200	PC200		1	Good	
	Komatsu Excavator PC200	PC200		3	Good	
	Komatsu Excavator PC120	PC 120		1	Good	
	Kobelko Excavator 75	Kobelko 75		1	Good	
	Hundai Excavator PC200	PC 200		2	Good	
	Hundai Excavator	PC 120		1	Good	
	Cat Excavator 320	Caterpillar		1	Good	
A.2	**JCB**					
	JCB Hydra	JCB		1	Good	
	JCB Loader	JCB		1	Good	
	JCB Backhoe	JCB		6	Good	
A.3	**Grader**					
	Komatsu Grader GD405	Komatsu		1	Good	
A.4	**Crane/Teller**					
	Crane with Teller			1	Good	
	Teller			2	Good	
A.5	**Water Tanker**					
	Water Tanker		12000 Lt.	4	Good	
	Water Tanker		6000Lt	2	Good	
A.6	**Tractors/Tipper**					
	Tractors	Indian	3 m^3	9	Good	
	Tipper		15 m^3	17	Good	
A.7	**Service Vehicle**				Good	
	Jeep	Pajero	5 door	1	Good	
	Jeep	Land crusher	5 door	2	Good	
	Jeep	Indian/Tata Sumo	5 door	1	Good	
	Jeep	Indian/Bolero	5 door	1	Good	
	Pickup	Indian/Mahindra	4 door	1	Good	
	Motorbike	125CC		10	Good	
A.8	**Other Equipment and Tools**					
	Kerb Stone Machine Set			1	Good	

S.N.	Particular	Model/Type	Capacity	Working Status		
				No of used Equipment	Status	Remarks
	Generator	Jackson	125KVA	1	Good	
	Generator	Kirloskar	20KVA	2	Good	
	Generator	Kirloskar	10KVA	1	Good	
	Generator	Honda	5KVA	1	Good	
	Generator	Super	5KVA	1	Good	
	Generator	Lutian	2.5 KVA	1	Good	
	Welding Machine	Oswal,India	650amp	1	Good	
	Welding Machine		350amp	1	Good	
	Welding Machine		250amp	1	Good	
	Diesel tank with Pump		60000 Ltr.	1	Good	
	Stand Drill Machine	India	1 HP	1	Good	
	Gas Cutter Set			1	Good	
	Pipe Cutter			1	Good	
	Hand Grinder			1	Good	
	Plate Compactor			2	Good	
	Monkey Jumper			3	Good	
B	**Concreting Unit**					
	Batching Plant CONMAT all Set	CONMAT, India	45 m3/ hr	1	Good	
	Electric Vibrator with Needle			10	Good	
	Bar Bending Machine		4 ton/hr	3	Good	
	Bar Cutter Machine		4 ton/hr	3	Good	
	Isuzu Transit Mixture		5 m^3	1	Good	
	Concrete Mixture Hydraulic			2	Good	
	Manual Mixture Machine			6	Good	
C	**Roller**					
	Pneumatic Tyre Roller			1	Good	
	Tandom Roller			3	Good	
	Steel Roller			1	Good	
D	**Asphalt Concrete Production**					
	Asphalt Concrete Plant		50 ton/ hr	1	Good	
	Decanter			1	Good	
	Asphalt Paver Machine			1	Good	

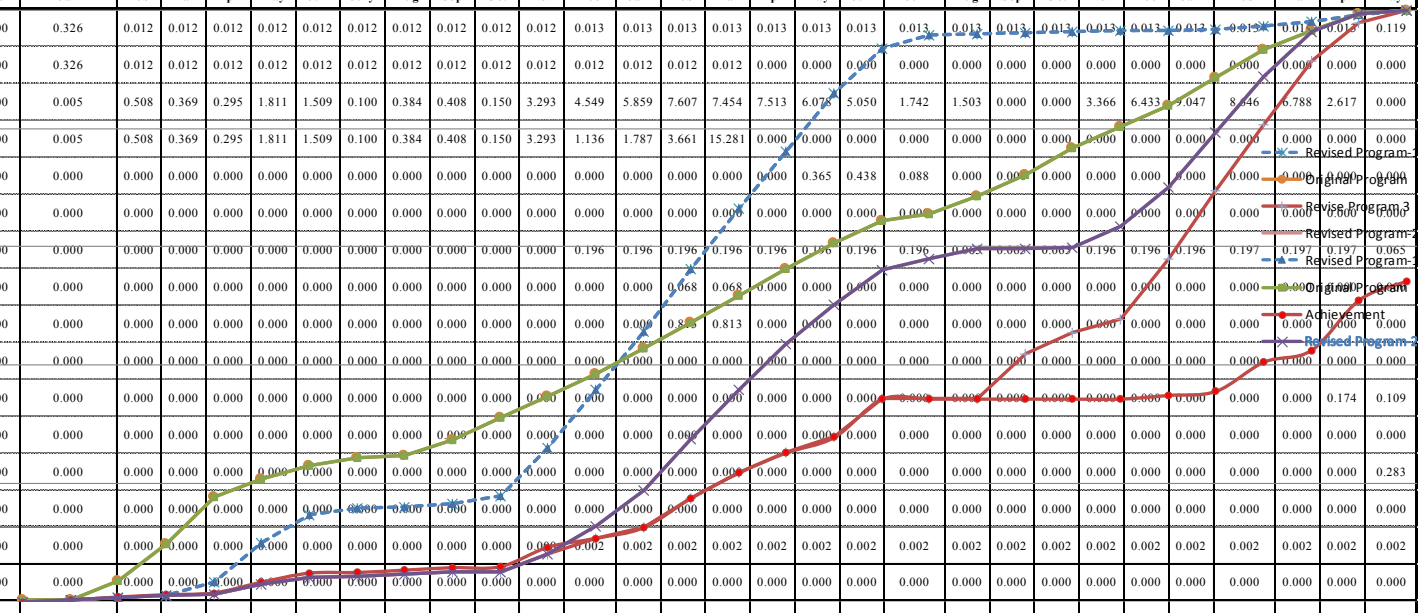
10 Conclusion

Project work is under the progress by mobilizing sufficient manpower, equipments at the construction site although number of issues / obstruction raised at site. As per the status of the project progress percentage, the project work is lagging by 45.70% as scheduled due to various reasons behind it So, further extension of time is required to the complete the project work.

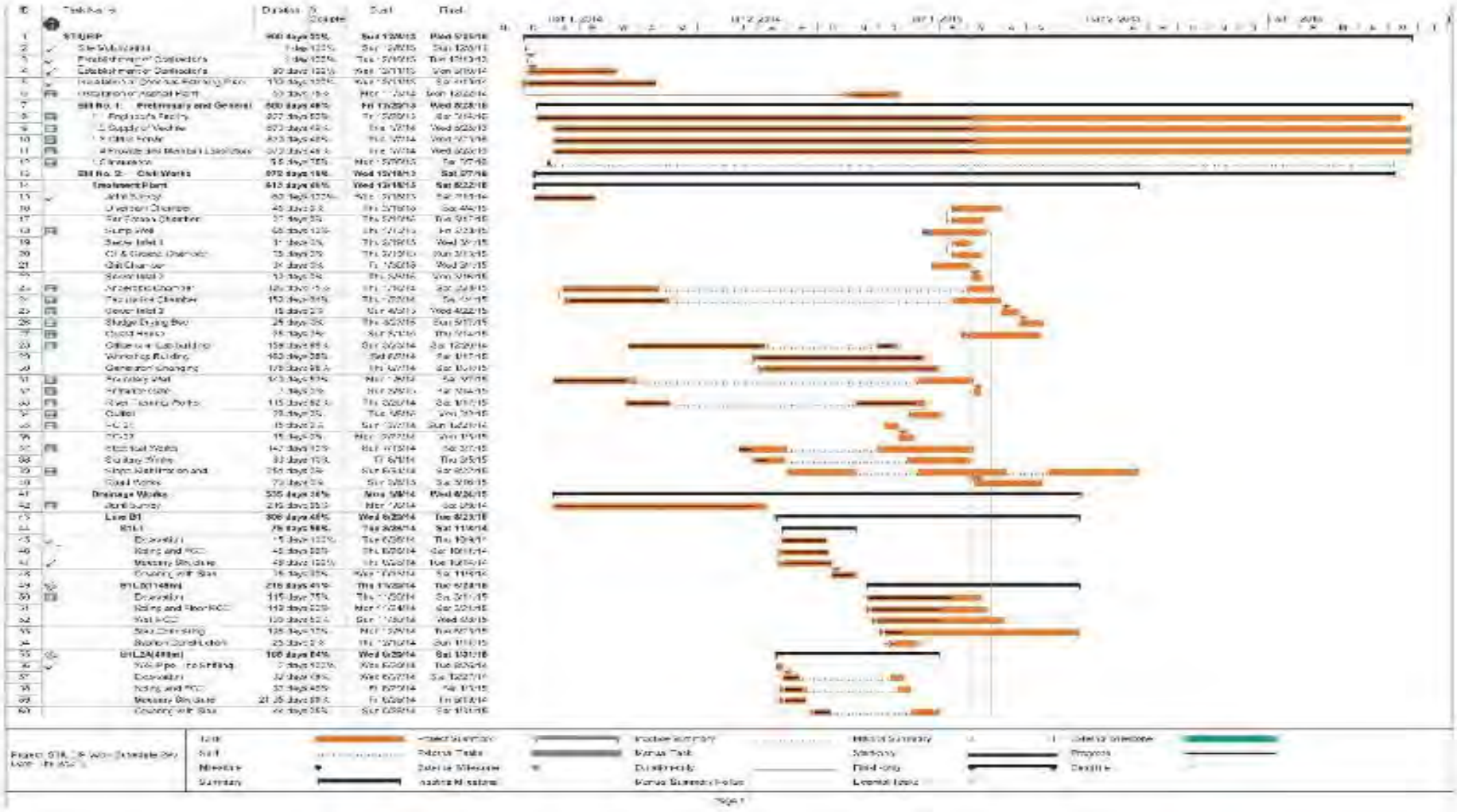
ANNEX

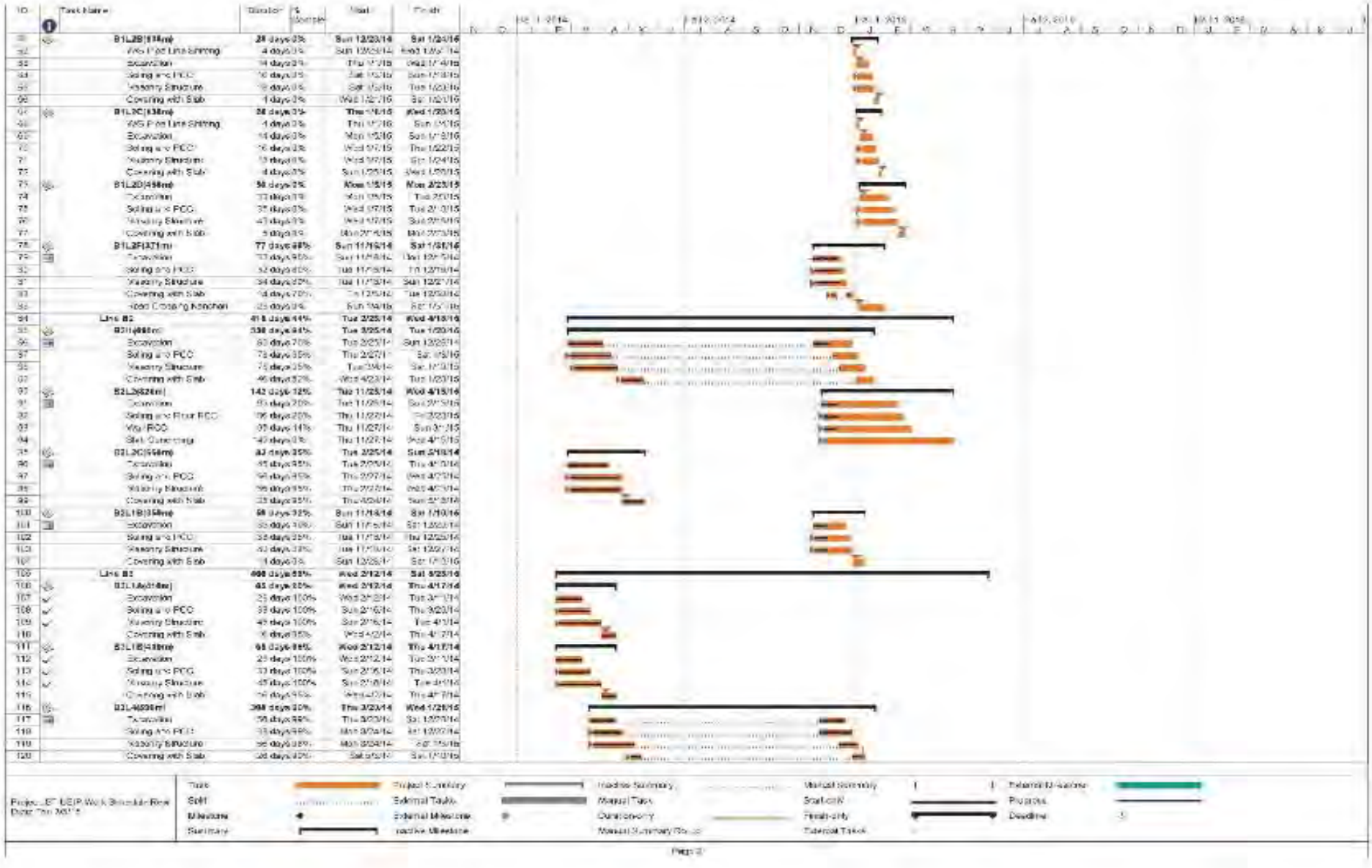
S – Curve

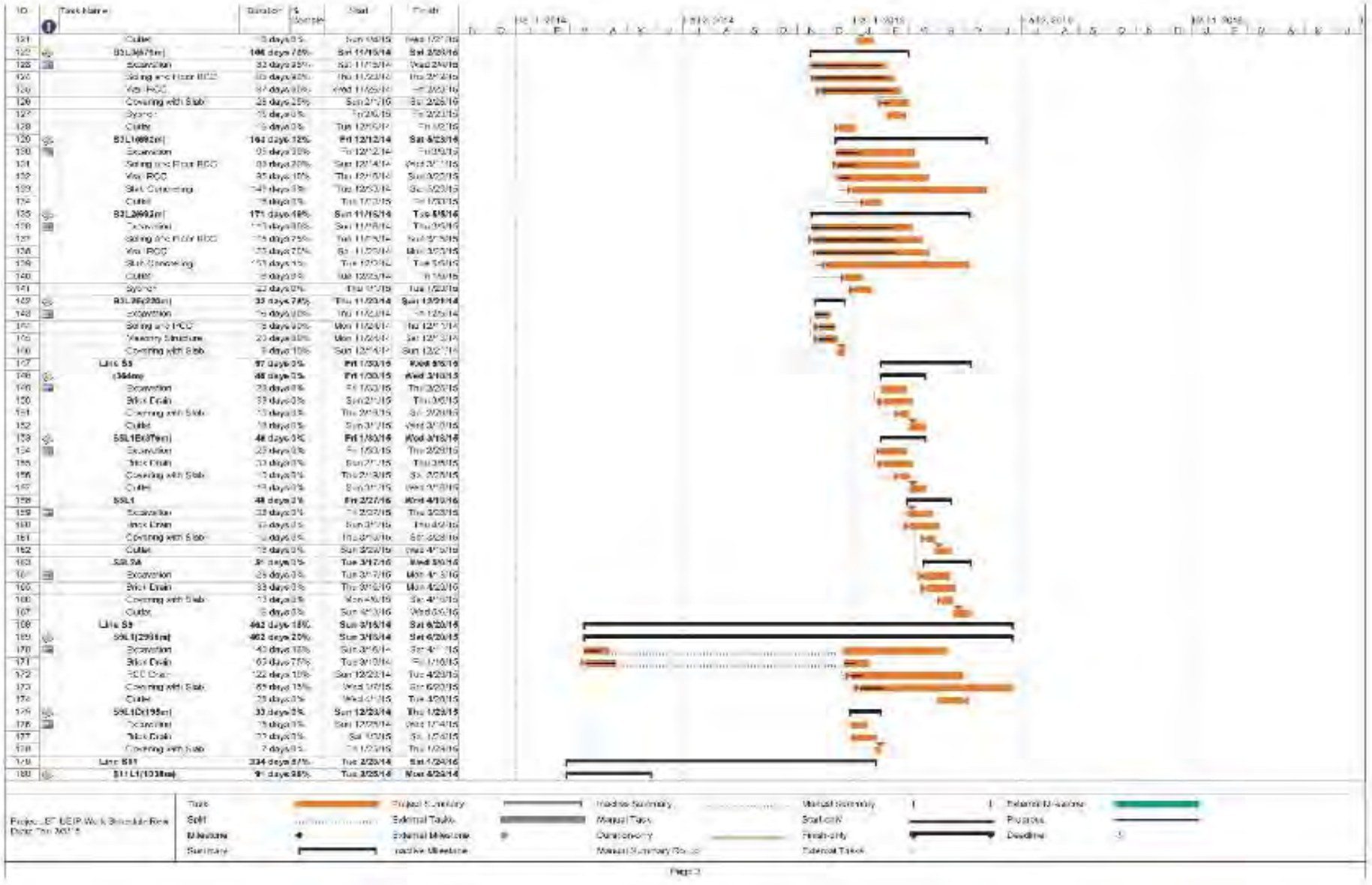
Item No.	Description	Amount (NRs)	Relative Weight in %	Year	2013	Year 2014												Year 2015												Year 2016				
				Month	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	Preliminary and General Works	16,850,000.00	0.795	Program	0.000	0.326	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.119	
				Achieve	0.000	0.326	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2	Civil Works	1,972,492,008.90	93.08	Program	0.000	0.005	0.508	0.369	0.295	1.811	1.509	0.100	0.384	0.408	0.150	3.293	4.549	5.859	7.607	7.454	7.513	6.074	5.050	1.742	1.503	0.000	0.000	3.366	6.433	9.047	8.646	6.788	2.617	0.000
				Achieve	0.000	0.005	0.508	0.369	0.295	1.811	1.509	0.100	0.384	0.408	0.150	3.293	1.136	1.787	3.661	15.281	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
3	Electro-mechanical Works	18,884,000.00	0.89	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.365	0.438	0.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
4	Provisional Items and Provisional Sum	63,741,517.00	3.01	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.196	0.196	0.196	0.196	0.196	0.196	0.196	0.196	0.065	0.065	0.065	0.196	0.196	0.196	0.197	0.197	0.197	0.065
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
5	Operation & Maintenance Equipment and Machinaries	34,450,000.00	1.63	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.813	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
6	Laboratary Equipment	6,000,000.00	0.28	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.174	0.109	
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
7	Operation and Maintenance	6,000,000.00	0.28	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.283	
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8	Dayworks	637,000.00	0.03	Program	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
				Achieve	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	Total	2,119,054,525.90	100.00																														
Original Program		% age			0.347	0.074	3.181	6.282	7.931	3.017	2.219	1.212	0.476	2.710	3.643	3.662	3.700	4.435	4.401	4.460	4.456	4.401	3.802	1.168	3.018	3.658	4.413	3.645	3.597	4.707	4.728	3.150	2.891	0.616
		Cumulative % age			0.347	0.421	3.602	9.884	17.815	20.832	23.051	24.263	24.739	27.449	31.092	34.754	38.454	42.889	47.290	51.750	56.206	60.607	64.409	65.577	68.595	72.253	76.666	80.311	83.908	88.615	93.343	96.493	99.384	100.00
Revised Program-1		% age			0.000	0.286	0.449	0.329	2.288	6.606	4.806	1.003	0.183	0.576	1.416	8.074	9.810	9.883	10.666	10.056	9.725	9.865	7.445	2.284	0.247	0.159	0.145	0.145	0.145	0.145	0.644	0.601	1.227	0.787
		Cumulative % age			0.000	0.286	0.735	1.064	3.352	9.958	14.764	15.767	15.950	16.526	17.942	26.016	35.826	45.709	56.375	66.431	76.156	86.021	93.466	95.750	95.997	96.156	96.301	96.446	96.591	96.736	97.380	97.981	99.208	100.00
Revised Program-2		% age			0.000	0.286	0.449	0.329	0.265	1.575	1.314	0.097	0.343	0.363	0.140	2.855	4.760	6.070	8.630	8.478	7.724	6.654	5.699	2.040	1.581	0.079	0.079	3.577	6.643	9.257	9.423	7.700	3.002	0.577
		Cumulative % age			0.000	0.286	0.735	1.064	1.329	2.904	4.218	4.315	4.658	5.021	5.161	8.016	12.776	18.845	27.476	35.953	43.677	50.331	56.030	58.070	59.651	59.730	59.809	63.386	70.029	79.286	88.709	96.409	99.411	99.988
Revise Program 3		% age			0.000	0.286	0.449	0.329	0.265	1.575	1.314	0.097	0.343	0.363	0.140	2.855	0.991	2.712	3.232	3.939	2.764	2.246	5.421	0.302	0.302	7.530	3.600	2.320	10.210	11.470	11.165	10.790	10.360	2.630
		Cumulative % age			0.000	0.286	0.735	1.064	1.329	2.904	4.218	4.315	4.658	5.021	5.161	8.016	10.770	12.570	17.570	21.820	25.250	27.850	34.317	34.317	34.317	41.847	45.447	47.767	58.037	69.507	80.672	91.462	97.820	100.000
Achievement		% age			0.000	0.331	0.520	0.381	0.307	1.823	1.521	0.113	0.397	0.421	0.162	3.305	1.148	3.139	3.742	4.560	3.200	2.600	4.540	0.350	0.302	0.000	0.000	0.000	0.623	0.700	4.930	2.000	8.500	3.230
		Cumulative % age			0.000	0.331	0.851	1.232	1.539	3.362	4.883	4.996	5.392	5.813	5.975	9.280	10.770	12.570	17.570	21.820	25.250	27.850	34.317	34.317	34.317	34.317	34.317	34.317	34.940	35.640	40.570	42.570	51.070	54.300

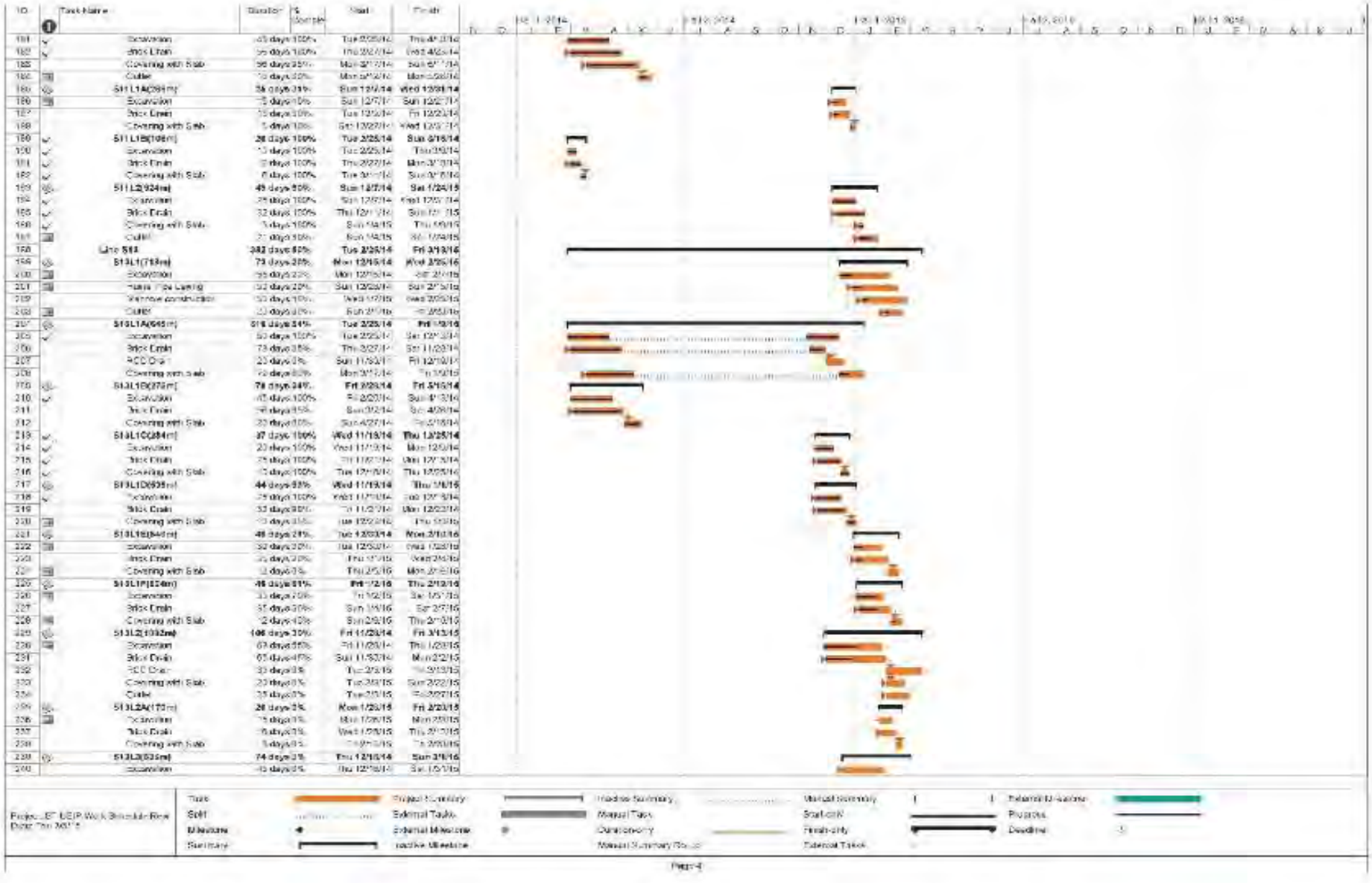


Work Schedule and Progress









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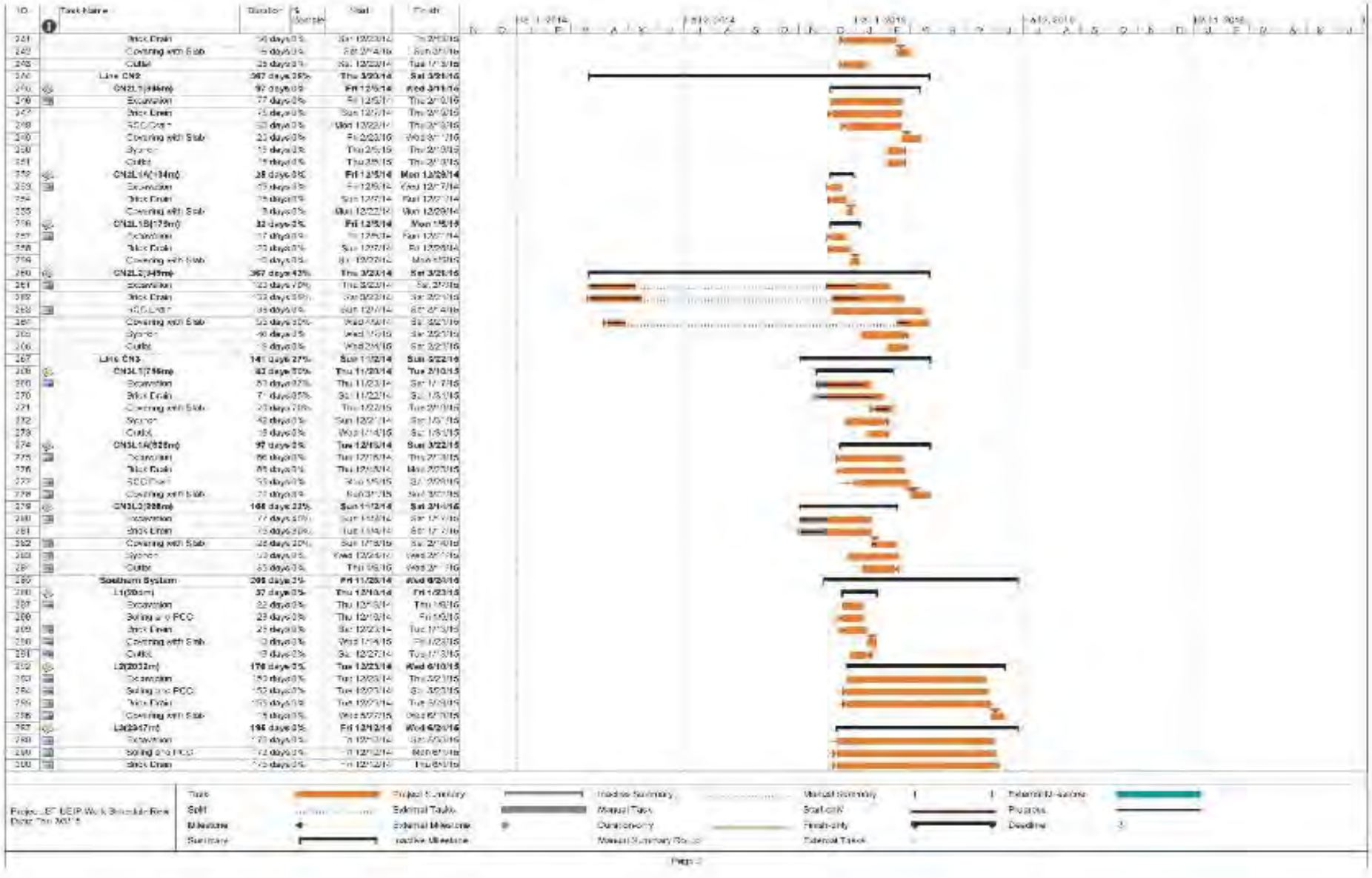
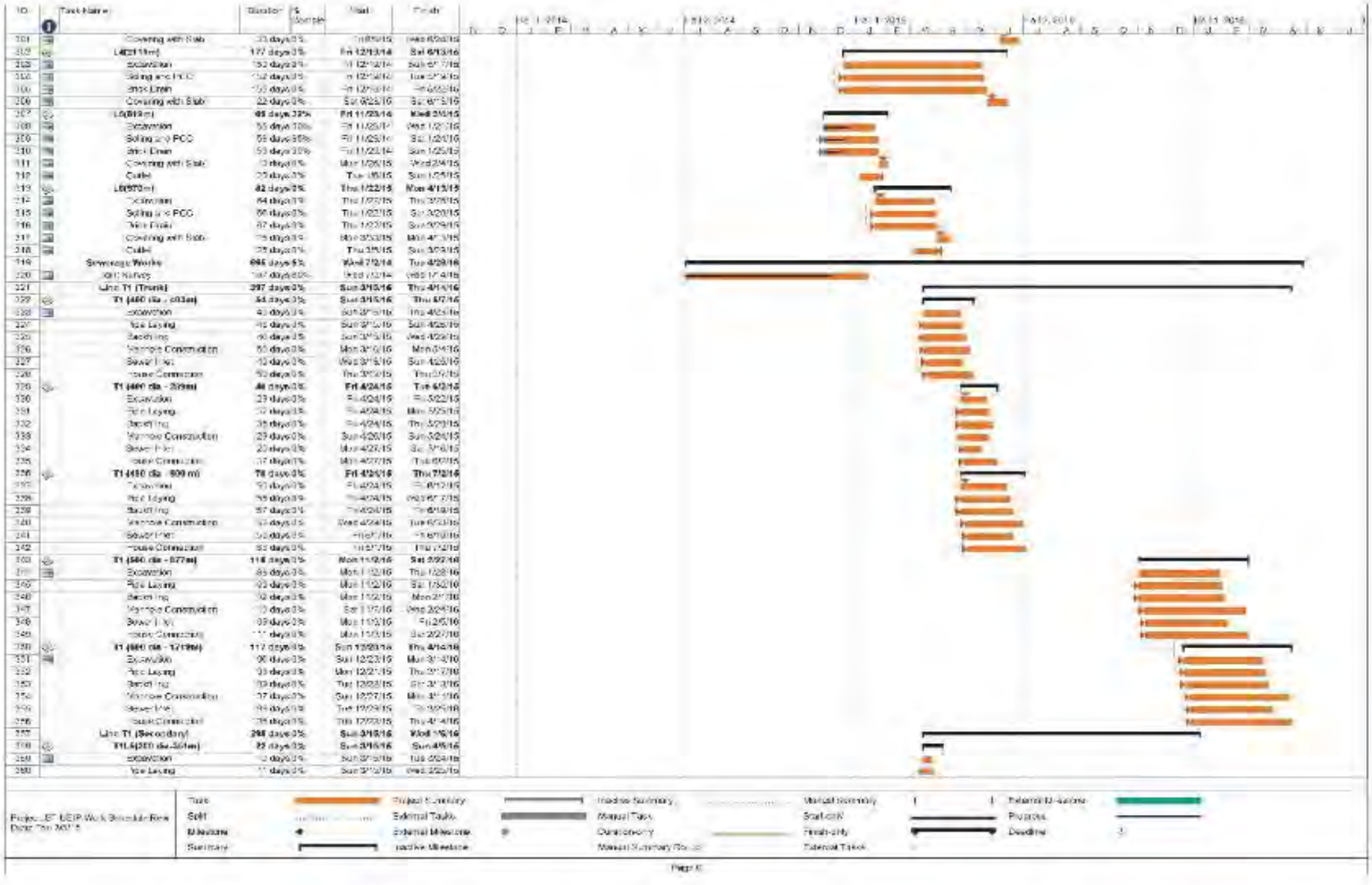
Site Office: Katahari, Judi





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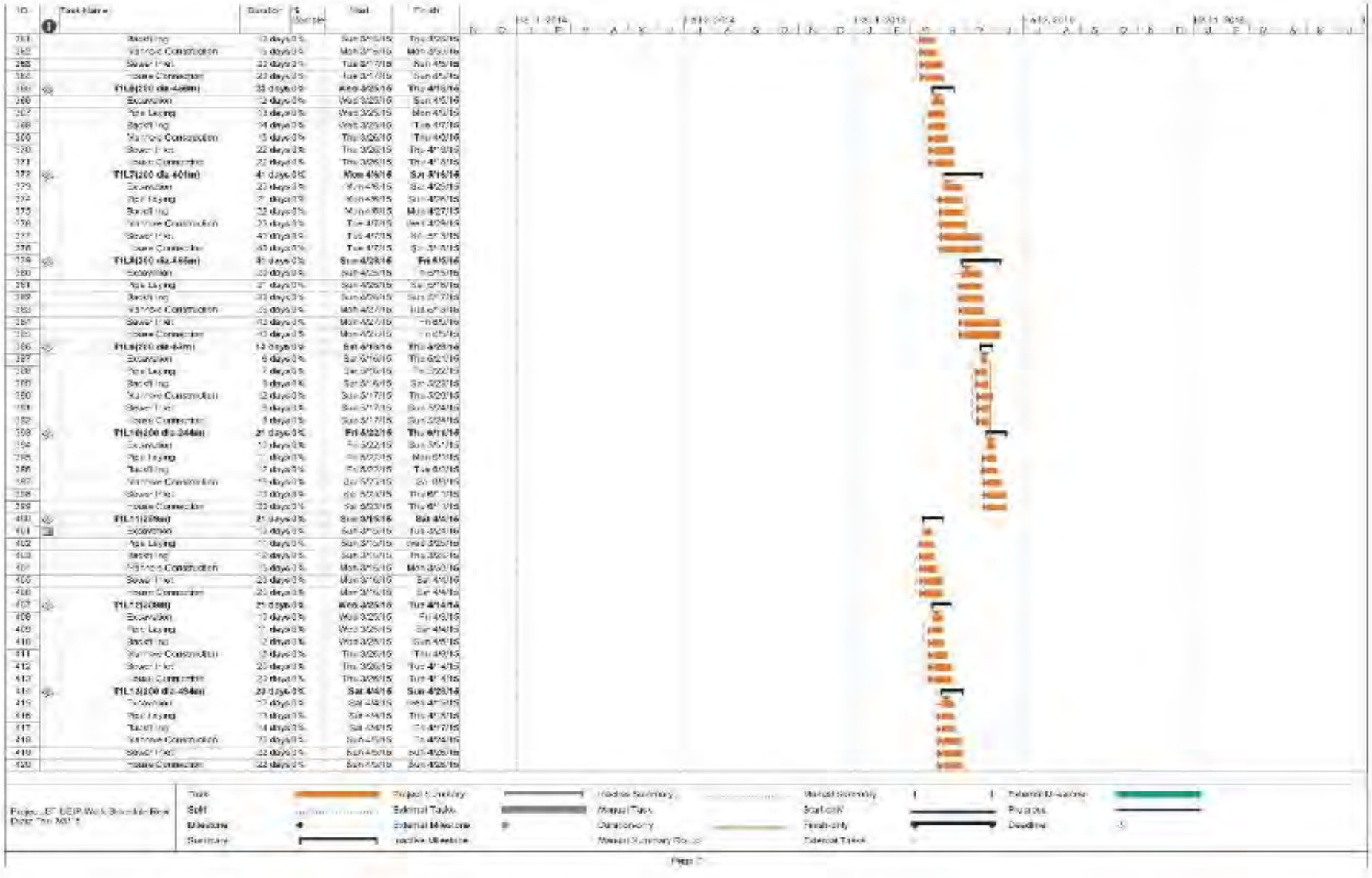

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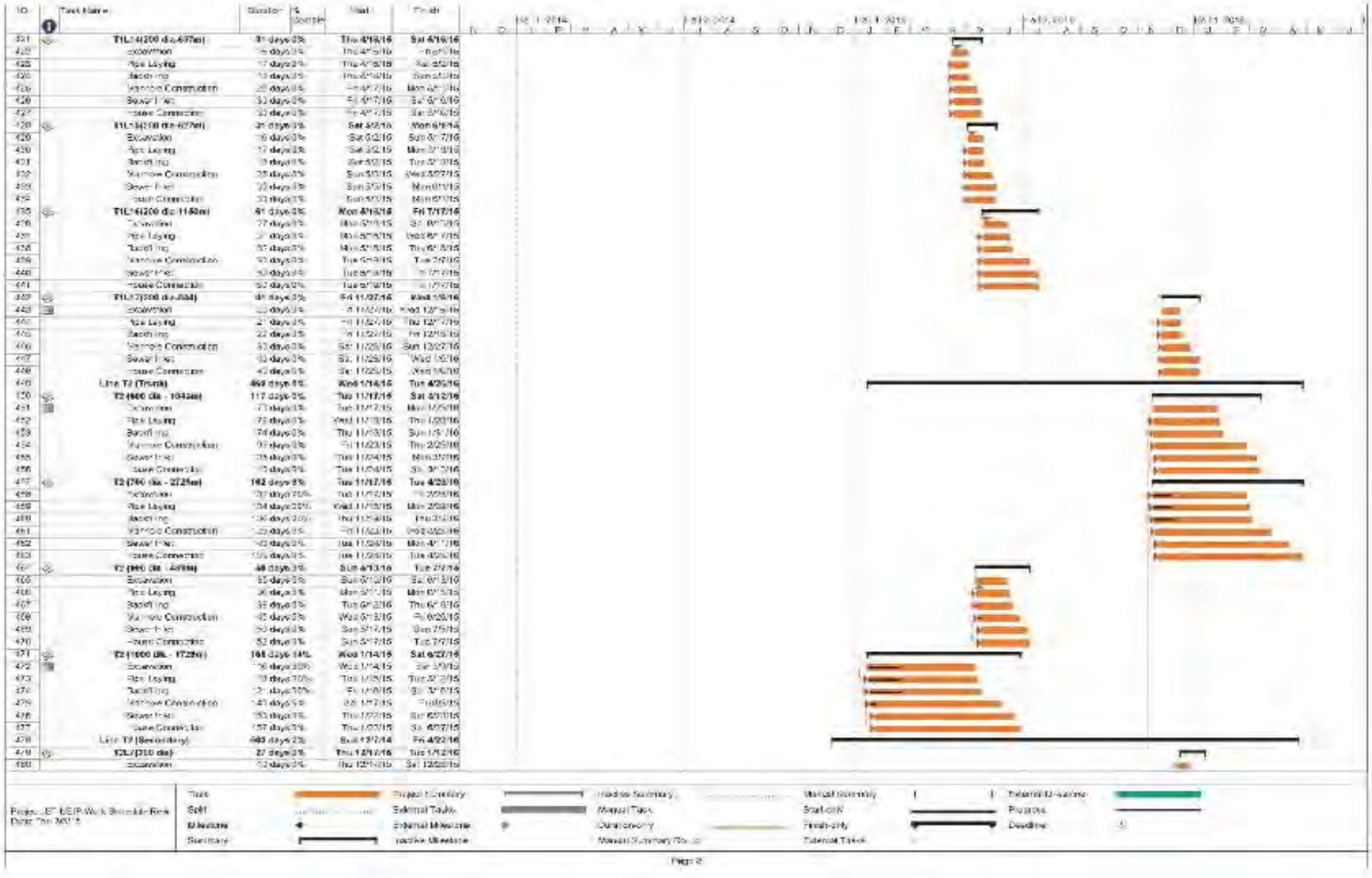
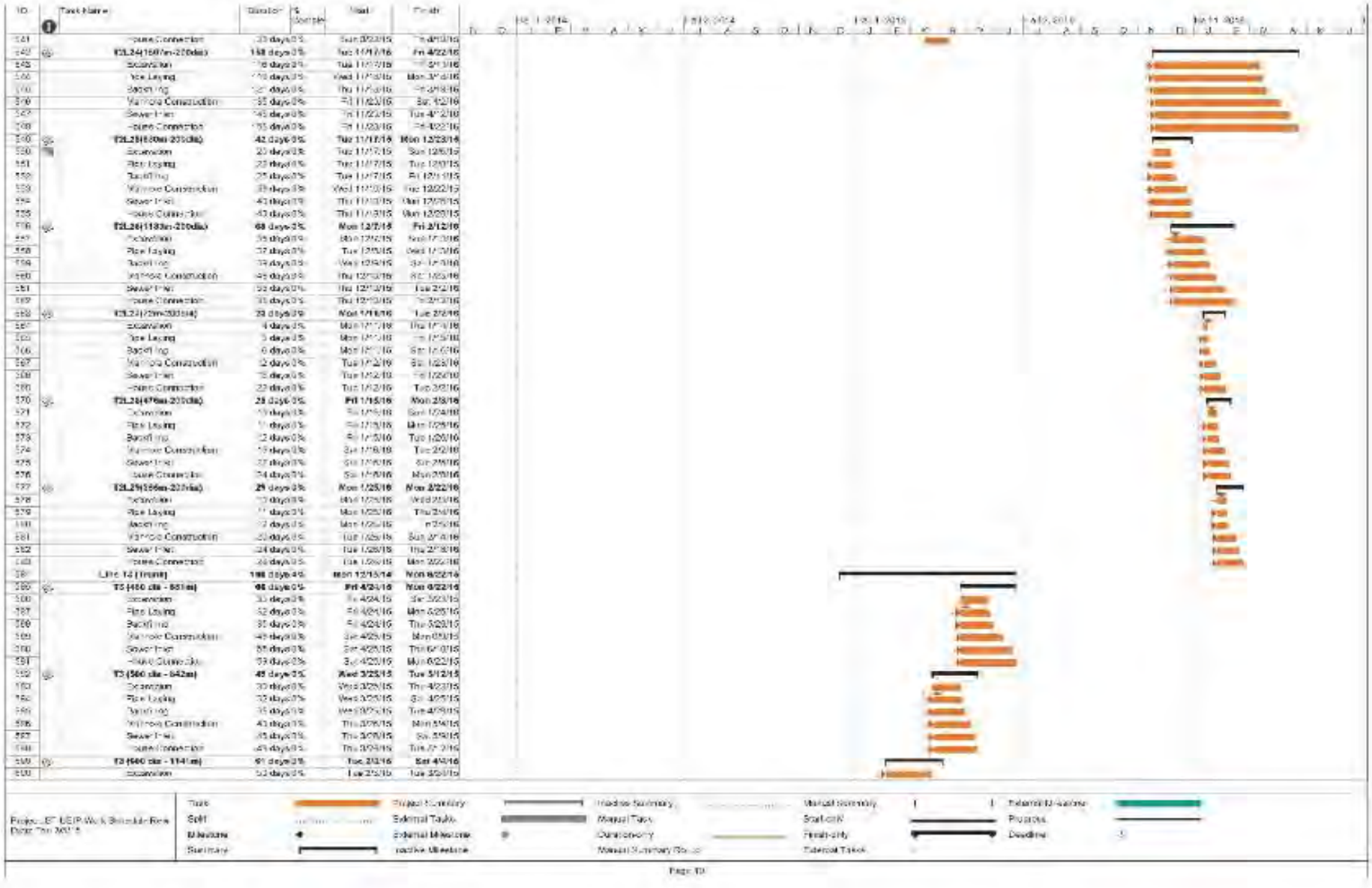
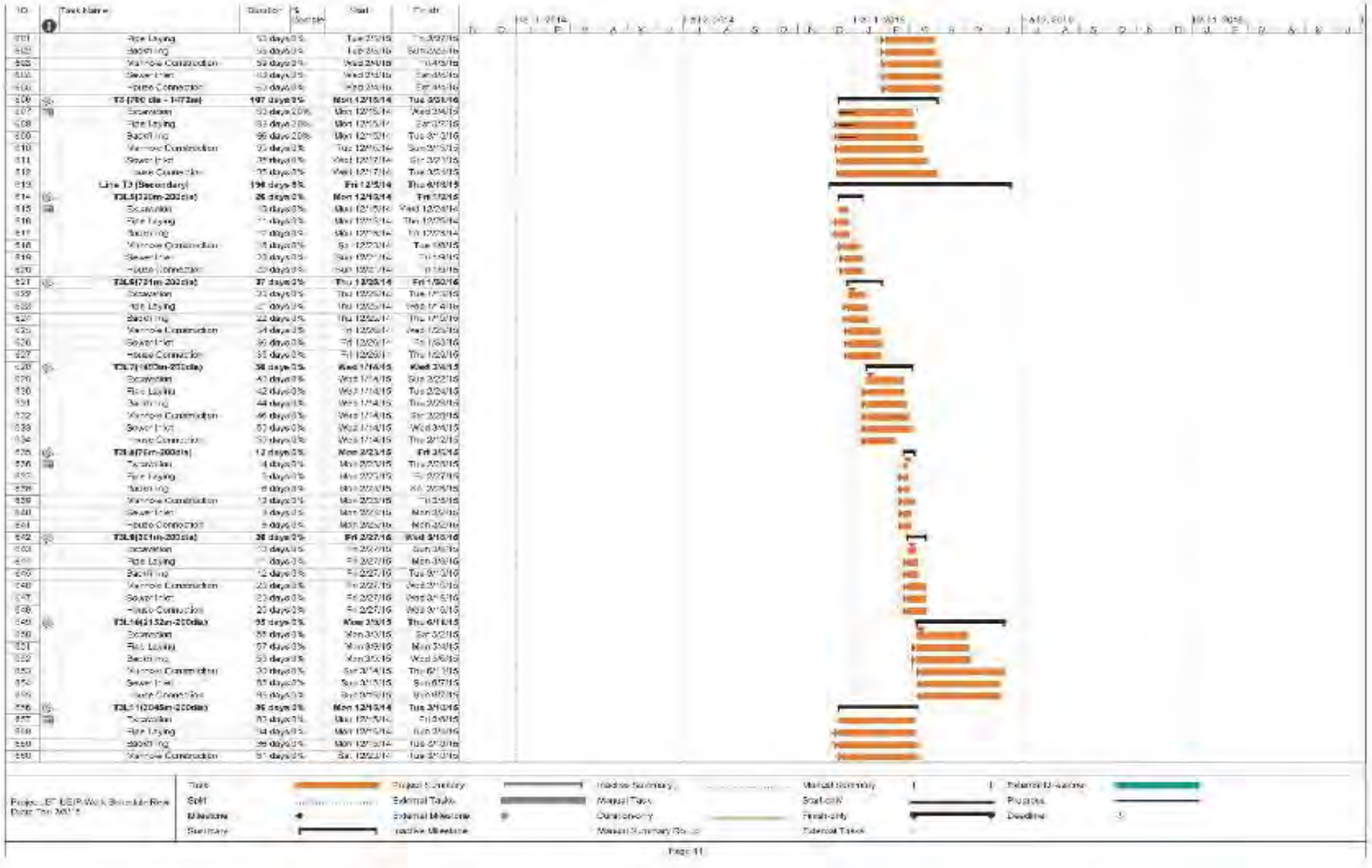
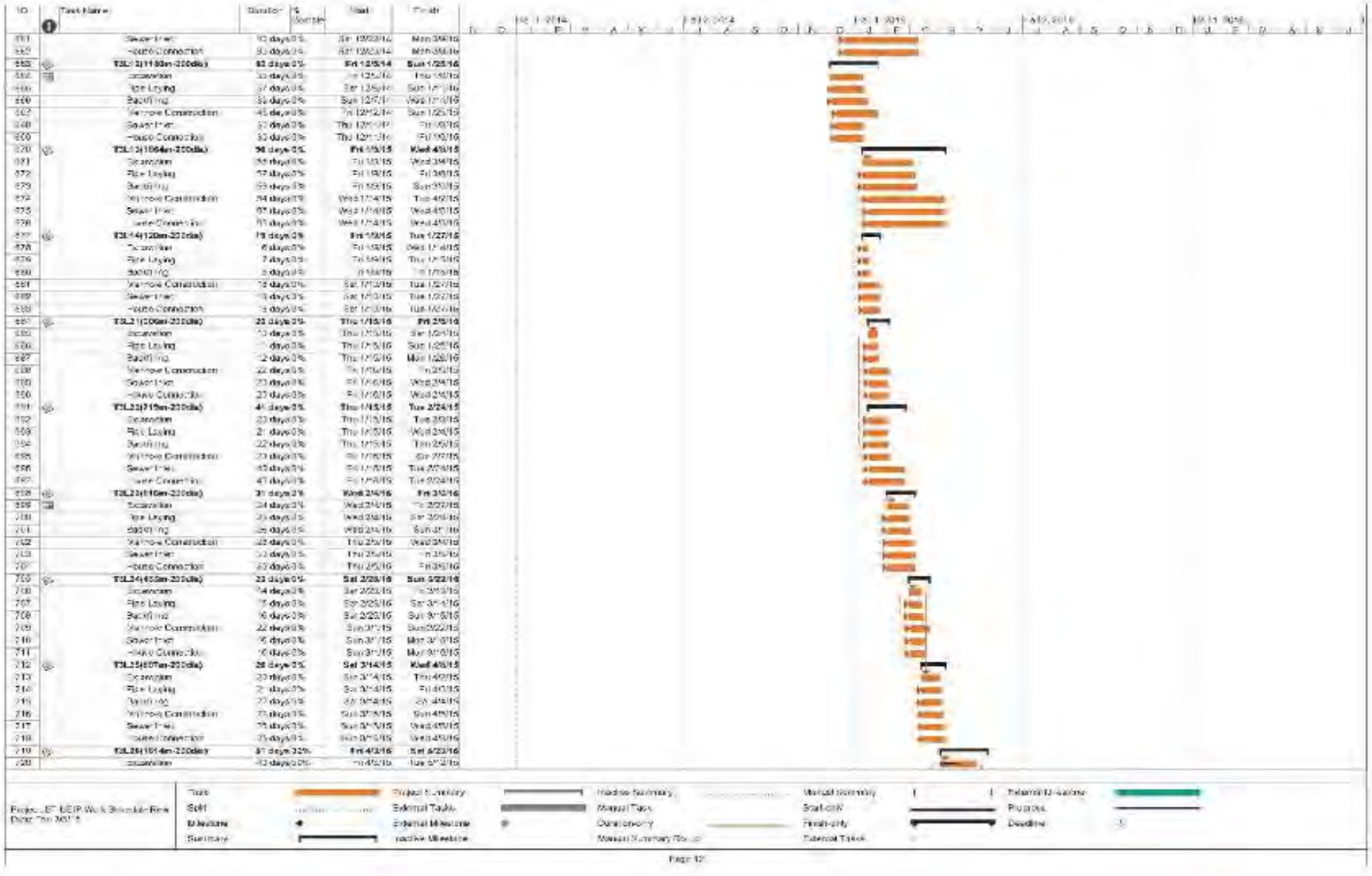


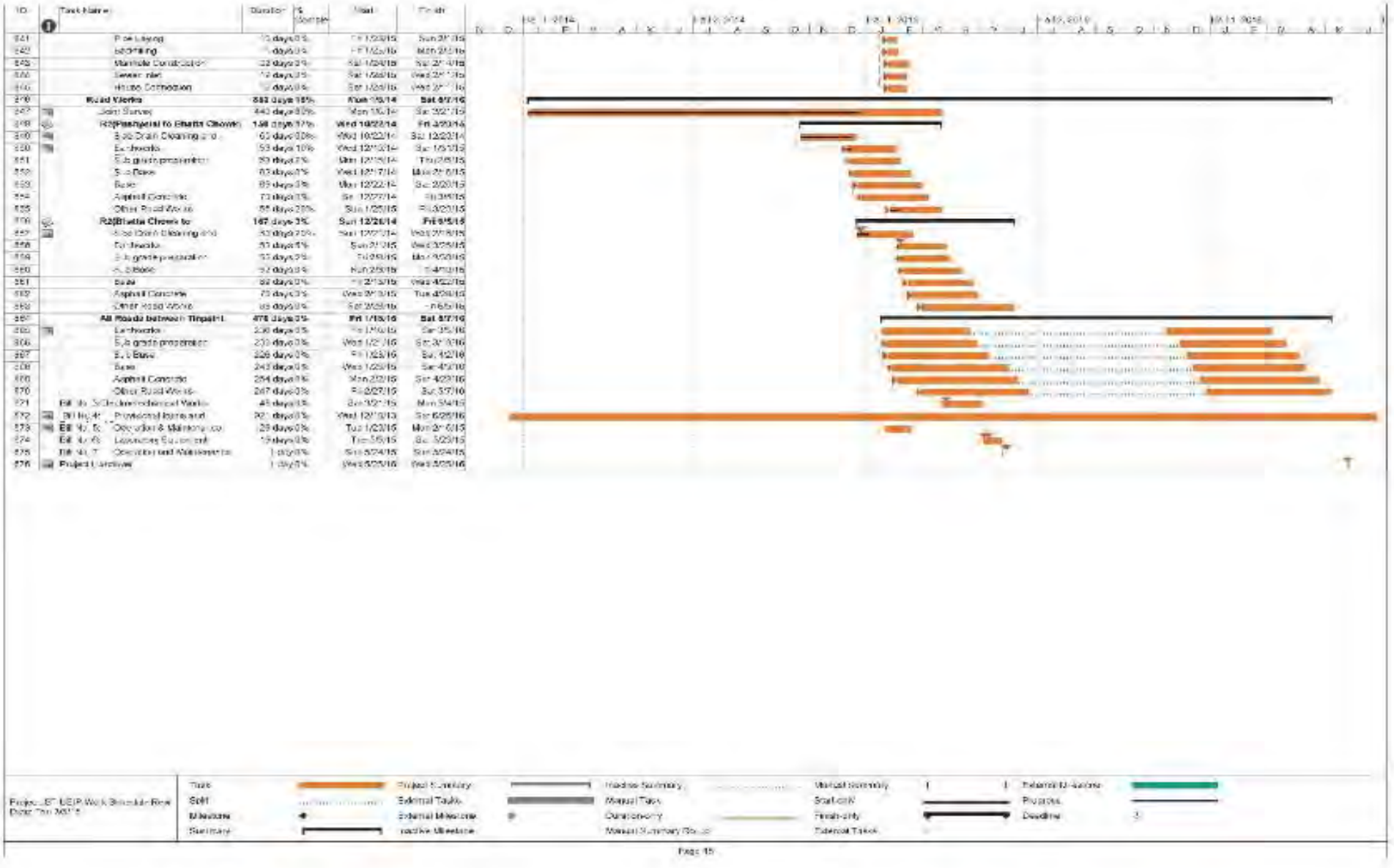




Contractor: CTCE-KALIKA J.V.
Site Office: Katahari, Judi



Contractor: CTCE-KALIKA J.V.
Site Office: Katahari, Judi



Contractor: CTCE-KALIKA J.V.
Site Office: Katahari, Judi

Photographs of the Month

Figure 1 Night work at highway(Hume pipe laying)

Figure 2 Compaction at Highway.

Figure 3 site clearance at Highway

Figure 4 Diver ready for manhole cleaning at S13(1600mm dia hume pipe laying)

Figure 5 Shoring works at hume pipe laying.

Figure 6 Shoring at HDPE pipe laying.

Site-Specific EMAP Monitoring Checklist

Name of Contractor: M/S CTCE-KALIKA J.V. Contract No: STIUEIP/W/BRT/ICB-01 For the Month of May 2016
Consulting Engineers: SMEC-Brisbane-AQUA-BDA-CEMAT

(Insert sign √, or scale where applicable)

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
Preparation for construction				**Indicate in 1-5 scale**	**Indicate in 1-5 scale**	**Compliance (C); Non Compliance (NC) Not applicable (NA)**				
						C			**NC**	**NA**
						<25%	25-50%	**>75%**		
	Identify the temporary areas required by the project and locate them with proper marking	May result social tensions	Prepare the details of temporary land acquisition and other private properties	2	2					
			Submit to Supervising Engineer	2	2					
			Follow RAP for temporary acquisition	2	2					
	Submit applications to get an approval Submit such agreement and permits to Supervising Engineers for official information	May result social conflict and legal obstructions resulting in delay of work	Obtain Letters of Approval and Agreement for (i) temporary acquisition of land and properties (ii) relocation of religious site, foot trails, (iii) disruption of water supply, and others	2	2					
	Delineate and peg the areas required	May result social conflict and legal obstructions resulting in delay of work Pegging of project area	Pegging of all constructions site and labor camp	2	2					
			Maintain records of trees and other properties likely to be affected	2	2					
	Construct workforce camp	Haphazard camps resulting in social stress and degradation of local environment	Establish workforce camp at designated site only	2	2					
	Make employment policy for local and affected people as per EMP	Local people may be deprived of opportunities, Minors may be employed	Employ local people (not under age 14) especially SPAF, and PAF in jobs	2	2					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
			Settle wage rate based on DWEC and provide the list of employees to Supervising Engineer	2	2					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
				Indicate in 1-5 scale	Indicate in 1-5 scale	Compliance (C); Non Compliance (NC) Not applicable (NA)				
						C			NC	NA
						<25%	25-50%	>75%		
Construction Phase: Physical Environment	**Construction Activity**									
	Adopt cut and fill principle during earthworks Disposal of excess materials in designated area Apply Bio-engineering for controlling of erosion and Gully	Soil Erosion sedimentation and slope instability	Adopt 'cut and fill' approach, wherever possible	2	2					
			Avoid works during monsoon	2	2					
			Provide proper drainage facilities	3	3					
			Stockpile top soil for reuse	2	3					
			Adopt gully control and bioengineering	2	3					
			Procure aggregates from already existing sites	2	2					
			Dispose spoil in designated area	2	3					
	Quarrying from river bed	Change in River Hydrology and River Morphology	Avoid Quarrying/Mining activity in river/streams for extraction of materials required for project shall not be done so that change the river cross sections and longitudinal profile do not occur	2	2					
			Ensure care so that irrigation canal/channel are not adversely affected by the project construction	2	1					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
			Ensure care of stone spout in order not to disturb the existing flow.	2	1					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
				Indicate in 1-5 scale	Indicate in 1-5 scale	Compliance (C); Non Compliance (NC) Not applicable (NA)				
						C			NC	NA
						<25%	25-50%	>75%		
	Disturbance of drainage Dumping of waste in the river Construct of toilets in the camps Storing of materials in the project area Handling of toxic materials Dumping of excess materials Quarry operation	Water Pollution	Avoid camping facility within drainage	1	1					
			Prohibition on dumping of wastes in the water source	2	2					
			Provision of sanitary facility and prohibition on defecation in open areas	2	2					
			Proper storage of construction aggregates, hazardous, and toxic materials and proper disposal of chemical containers, packaging materials, plastic bags provide training to workforce on safe handling of toxic materials	2	2					
			Disposal of waste in the designated area	2	2					
			provide dumping site and waste treatment facility	2	3					
			Avoid excessive mining from riverbed.	2	2					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
	Movement of vehicles Operation of crusher Earthworks Stockpiling of construction waste and construction materials	Air Quality deterioration	Spraying of water in dry season at construction site and disposal site (Three time a day)	2	2					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
				Indicate in 1-5 scale	Indicate in 1-5 scale	Compliance (C); Non Compliance (NC) Not applicable (NA)				
						C			NC	NA
						<25%	25-50%	>75%		
			Limit speed of construction vehicle	2	2					
			Safe place	2	2					
			Regularly maintain equipment and cover the stockpile	2	3					
			Compliance of vehicles with National Vehicle Mass Emission Standards, 2756 BS	2	2					
			Arrange proper ventilation in confined working areas	3	2					
	Movement of vehicles Operation of crusher Operation of construction machineries and equipment Horn honking	Noise and vibration	Fit mufflers to control noise							
			speed limit of construction vehicle	2	2					
			Use light horn in vehicles	2	2					
			Maintenance of equipment	2	2					
			Prohibit the operation of crushing plant between 7 PM to 6 AM	3	2					
			Compensate the damages caused by vibration	3	3					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
				Indicate in 1-5 scale	Indicate in 1-5 scale	Compliance (C); Non Compliance (NC) Not applicable (NA)				
						C			NC	NA
						<25%	25-50%	>75%		
	Scrapping of top spoil	Effect on Soil quality	Stockpile reusable top soil properly in safe yard	1	2					
	Storage of fuel, lubricating oil, chemicals etc.	Solid waste problems, health risk	Store all materials, toxic, non-toxic and hazardous materials in safe place (warehouse)	1	1					
	Project activities producing wastes such as used tyres, lubricating oil, exhausted battery etc		Collect, segregate and dispose waste at designated area	2	2					
Construction Phase: Biological Environment	**Construction Activity**									
	vegetation clearance for construction of project structures	Vegetation clearance	Cut only marked trees	2	1					
	Fuel wood and NTFPs collection by workforce	Loss of vegetation species	Prohibit fuel wood and timber collection	2	1					
			Prohibit illegal NTFPs collection and Trade	3	2					
	vegetation clearance for construction of project structures and compensation to them		Provide LPG/kerosene to workforce	3	2					
			Stockpile the felled trees and take permission from concerned authority for its use	2	3					
			Plant trees @ 5 times of each felled trees	2	3					
			Compensate for affected trees from private and community forests	3	3					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
				Indicate in 1-5 scale	Indicate in 1-5 scale	Compliance (C); Non Compliance (NC) Not applicable (NA)				
						C			NC	NA
						<25%	25-50%	>75%		
Construction Phase: Socio-Economic Environment	compensation and Rehabilitation as per RAP	Land Intake and compensation to affected people	Avoid involuntary displacement	3	3					
			Compensation, Rehabilitation and employment opportunity to the affected people	2	3					
			Provide all possible assistance to the displaced people until the displaced people are settled	3	3					
			Provide disturbance and rehabilitation cost	3	4					
			Protect traditional rights of locals	1	1					
			Compensate for any loss of crops, trees and other natural resources	3	3					
			Establish technical committee to assess damage caused by vibration for compensation	3	3					
	Reinstatement of damaged community services and infrastructures	Reinstatement of community services and infrastructures	Compensate or reinstate community assets such as temples, bridges and irrigation canals, electricity poles, telephone lines, drinking water pipes, sewerage lines, roads, trails, cremation sites etc	3	3					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
				Indicate in 1-5 scale	Indicate in 1-5 scale	Compliance (C); Non Compliance (NC) Not applicable (NA)				
						C			NC	NA
						<25%	25-50%	>75%		
	Influx of outside workforce, money and disharmony activity	Increase in crime and community stress	Instruct Workforce for not to indulge in Gambling and drinking alcohol	3	2					
			Prohibit Visiting of workers to nearby village after 7 pm and living outside	3	2					
			Instruct workforce to respect local culture, tradition, rights etc.	3	2					
			Request police to patrol in the camp site and adjoining villages	3	2					
			Launch awareness programs concerning the human trafficking and possibility of spread of STDs and HIV/AIDS	3	2					
	Project Activities relating to health and safety issues at work areas	Health and hygiene (unsafe working conditions, accidents, fire hazard, transmission of communicable disease)	Provide facilities of health check, proper sanitation and hygiene, health care, control of epidemic diseases to workforce	2	1					
			Provide awareness on STD, HIV/AIDS	2	1					
			Place adequate warning system, signboard, hoarding post and prohibit visiting risky area as necessary	2	1					
			Make available first aid kits ambulance and fire fighting gears	1	1					
			Make available protection gears to all construction workers and compensate for the loss of life or any type of injuries	1	1					
	Dislocation of archaeological artifacts, if any	Loss of Archaeological and cultural sites	Protect archaeological and cultural sites In case of relocation, consult local community	3	2					

Project stage	Project Activity	Potential Environmental Impacts	Proposed mitigation measures	Mitigation Compliance	Mitigation Effectiveness	DSC Remarks				
Preparation for construction				**Indicate in 1-5 scale**	**Indicate in 1-5 scale**	**Compliance (C); Non Compliance (NC) Not applicable (NA)**				
						C			**NC**	**NA**
						<25%	25-50%	**>75%**		
	Demolition of unnecessary structures	Decline in aesthetics and inconvenience to people	Remove all unnecessary structures and reinstall the facilities and others to the original condition	3	2					
	Traffic management at construction sites	Traffic Congestion	Provide information about construction schedule to the local people	3	2					

Space for additional remarks (if any):

Prepared by:**CTCE/KALIKA JV** Submitted to: **SMEC-Brisbane-AQUA-BDA-CEMAT**

Date of submission:**June,2016**

Note: *Scale 1. Very Good (all implemented); 2. Good (the majority implemented); 3. Fair (some implemented); 4. Poor (few implemented); 5. Very Poor (very few or no implemented*

LAB REPORT SUMMARY

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:2+100 to 2+170 LHS

2+715 to 2+800 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1			2+100 LHS	2.31	99.90	6.30	
2			2+150 LHS	2.30	99.80	6.00	
3			2+170 LHS	2.29	99.30	6.10	
4			2+715 RHS	2.29	99.30	6.00	
5			2+765 RHS	2.30	99.80	6.10	
6			2+800 RHS	2.31	99.90	6.50	
	FD 13	1/5/2016					
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:2+120 to 2+300 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1			2+120	2.29	99.30	6.00	
2			2+160	2.30	99.60	5.90	
3			2+200	2.29	99.30	6.00	
4			2+240	2.29	99.30	6.30	
5			2+280	2.30	99.50	6.00	
6			2+300	2.31	99.90	6.50	
	FD 14	1/5/2016					
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:2+120 to 2+300 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1			2+120	2.29	99.30	6.00	
2			2+160	2.30	99.60	5.90	
3			2+200	2.29	99.30	6.00	
4			2+240	2.29	99.30	6.30	
5			2+280	2.30	99.50	6.00	
6			2+300	2.31	99.90	6.40	
	FD 14	1/5/2016					
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

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Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps.

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TEST (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Field Density Tests on R2 ch:1+200 to 1+295 LHS/RHS & 2+300 to 2+395 RHS

CRUSHED STONE BASE LAYER

S.N.	L/Ref. No.	Date of Testing	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 15	25/5/2016	1+200 LHS	2.30	99.40	5.20	✓
2			1+250 LHS	2.30	99.40	5.00	✓
3			1+295 LHS	2.30	99.40	5.70	✓
4			1+200 RHS	2.29	99.10	4.50	✓
5			1+250 RHS	2.31	99.90	5.28	✓
6			1+295 RHS	2.31	99.90	5.70	✓
7			2+300 RHS	2.29	99.00	5.00	✓
8			2+340 RHS	2.30	99.70	6.00	✓
9			2+380 RHS	2.30	99.70	5.50	✓
10			2+395 RHS	2.30	99.70	4.50	✓
Specification Requirement				2.310	>98	OMC <6.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:1+200 to 1+295 RHS,CL,LHS

SUB BASE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 14	10/5/2016	1+200 LHS	2.20	97.6	6.00	
2			1+260 CL	2.19	97.2	6.40	
3			1+280 RHS	2.22	98.9	6.00	
Specification Requirement				2.250	>95	OMC <7.80	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:2+200 to 1+295 LHS/RHS/CL

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 15	14/3/2016	1+200 RHS	2.14	97.9	5.80	
2			1+250 CL	2.10	95.7	5.70	
3			1+285 LHS	2.14	97.9	5.30	
Specification Requirement				2.190	>95	OMC <7.50	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:1+200 to 1+295 LHS/RHS/CL

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 15	14/3/2016	1+200 RHS	2.14	97.9	5.80	
2			1+250 CL	2.10	95.7	5.70	
3			1+285 LHS	2.14	97.9	5.30	
Specification Requirement				2.190	>95	OMC <7.50	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on R2 ch:3+320 to 3+430

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 16	15/5/2016	3+320	2.15	98.4	6.80	
2			3+360	2.13	97.1	4.40	
3			3+400	2.13	97.3	5.20	
4			3+430	2.11	96.5	4.90	
Specification Requirement				2.190	>95	OMC <7.50	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by Junior Engineer

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28)

FOR THE MONTH OF MAY 2016

Description : Field Density Tests on National Trading to Jatuwa WWTP Road R-4

SUB GRADE LAYER

S.N.	L/Ref. No.	Date	Location/ Area	MDD Gm/CC	Degree of Compaction, %		Remarks
1	FD 17	25/5/2016	1+900 LHS	1.91	96.1	4.00	✓
2			1+940 RHS	2.91	96.1	5.50	✓
3			1+980 CL	1.94	97.4	5.00	✓
4			2+000 LHS	1.94	97.4	5.00	✓
Specification Requirement				1.990	>95	OMC <10.25	

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

STIUEIP

MONTHLY Test Result Summary Sheet For The Month of MAY 2016

SUB BASE (Process Control)

According to Part 2.Section 6A-Technical Specifacations&DOR Specifacation Section 1201(3)C Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Lab. OMC (%)	Soaked CBR (%)	Lab. MDD (g/cc)	Remarks
				63	37.5	20	10	5	2.360	1.18	0.075				
1	38	7/5/2016	1+200 LHS/RHS R2 Road	100	89.96	75.01	58.52	44.22	28.93	20.31	9.87				
2	39	7/5/2016	1+240 LHS/RHS R2 Road	100	89.79	74.82	58.33	44.60	28.96	20.27	10.21				
3	40	7/5/2016	1+260 LHS/ RHS R2 Road	100	90.89	75.78	59.68	45.77	29.83	20.42	9.98				
4	41	7/5/2016	1+260 LHS/RHS R2 Road	100	89.84	75.59	59.07	44.91	29.27	18.41	8.65				
5	42	18/5/2016	3+320 LHS/RHS R2 Road	100	91.81	77.95	61.96	48.83	33.65	21.51	10.76				
6	43	18/5/2016	3+350 LHS/RHS R2 Road	100	89.76	69.56	56.66	37.10	31.40	25.85	9.60				
7	44	18/5/2016	1+370 LHS/ RHS R2 Road	100	89.84	75.59	59.07	44.91	29.27	18.41	8.65				
8	45	18/5/2016	3+400 LHS/ RHS R2 Road	100	91.39	77.77	62.11	48.40	33.53	19.50	9.44				
9	46	18/5/2016	3+420 LHS/RHS R2 Road	100	90.12	70.20	55.80	37.72	32.32	26.01	7.43				
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15		≥ 30		

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submit by Project Manager

Test Conducted by Q.C Manager

Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet For The Month of MAY 2016

STIUEIP

Graded Crushed Stone Base Course (Process Control)

STANDARD SPECIFICATION FOR ROAD AND BRIDGE WORKS SECTION 1200 Table 12.3 Physical Requirement of Graded Crushed Stone Base

SN NO	LAB REF No	Date Tested MAY	Location/ Chainage	Grading sieve size (mm) (% passing by weight)								FI	CR Ratio	LAA	AIV	SSS 5 cycle	Soaked CBR	Lab. MDD	Remarks
				40	31.5	20	10	4.75	2.36	0.60	0.075	%	(%)	(%)	(%)	(%)	(%)	(g/cc)	
1	MR70	1/5/2016	CH 2+100 LHS R2 Road	100	98.6	79.4	56.9	43.2	35.8	21.6	8.4	17.11	89.3	32.80	17.71	2.08			
2	MR71	1/5/2016	CH 2+150 LHS R2 Road	100	98.2	79.7	59.3	46.2	38.0	21.3	7.9	16.88	89.1	32.12	18.86	2.16			
3	MR72	1/5/2016	CH 2+170 LHS R2 Road	100	97.6	79.5	59.8	45.1	36.6	20	6.5	17.45	89.0	32.24	19.71	2.20			
4	MR73	4/5/2016	CH 2+715 RHS R2 Road	100	95.1	74.4	58.2	42.6	28.6	15.9	6.1	18.13	89.3	32.48	18.29	2.12			
5	MR74	4/5/2016	CH 2+740 RHS R2 Road	100	95.5	74.7	55.7	40.9	27.4	15.3	5.8	18.61	90.0	33.12	18.00	2.23			
6	MR75	4/5/2016	Ch 2+800 RHS R2 Road	100	97.1	77.6	59.1	38.9	25.8	14.6	5.6	17.87	91.1	32.68	20.29	2.24			
7	MR76	10/5/2016	Ch 1+200 LHS/RHS R2 Road	100	95.5	76.0	56.9	38.9	25.3	15.4	6.7	17.87	91.6	32.56	19.29	2.34			
8	MR77	10/5/2016	Ch 1+240 LHS/RHS R2 Road	100	97.8	74.9	50.9	39.1	32.2	21.1	6.8	14.83	94.9	32.32	16.29	2.26			
9	MR78	10/5/2016	Ch 1+260 LHS/RHS R2 Road	100	98.3	79	56.3	42.3	34.6	20.1	6.6	18.45	92.2	32.60	15.14	2.32			
10	MR79	10/5/2016	Ch 1+260 LHS/RHS R2 Road	100	97.7	79.5	57.7	43.0	34.5	19.8	6.1	17.6	92.6	32.84	15.14	2.32			
Required Specifacation				100	85-100	62-92	40-70	26-55	21-53			≤ 25	≥ 80	≤ 35	≤ 25	Max 12%			

REMARKS:Crushed Stone base

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved by C.S.E	Submit by Project Manager
Test Checked by A.C.S.E	Test Conducted by Q.C Manager
Consultant Reps	Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF MAY 2016

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
1	From High way Man Hole	MR181	100.00	95.43	82.29	61.43	44.86	20.57	6.57	source
2	From High way Man Hole	MR182	100.00	96.01	82.05	60.68	42.74	21.65	6.27	om shree
3	From High way Man Hole	MR183	100.00	94.00	81.43	61.71	43.71	20.86	7.43	
4	From S-9 Line Work	MR184	100.00	94.86	81.29	60.29	40.00	20.29	6.57	
5	From S-9 Line Work	MR185	100.00	95.43	86.00	62.86	41.14	20.00	5.71	
6	From S-9 Line Work	MR186	100.00	94.86	82.29	61.14	39.71	20.00	5.14	crusher
7	From S-5 Line Work	MR187	100.00	96.00	82.29	61.71	39.71	20.86	6.71	
8	From S-5 Line Work	MR188	100.00	92.86	77.71	58.57	38.00	19.71	7.43	
9	From S-5 Line Work	MR189	100.00	94.86	81.14	60.57	38.29	21.43	8.29	
10	From S-5 Line Work	MR190	100.00	95.71	80.57	61.43	40.29	18.57	7.14	plant
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF MAY 2016

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
11	From S-3 Line Work	MR191	100.00	96.29	79.71	61.43	41.71	18.57	7.43	source
12	From S-3 Line Work	MR192	100.00	96.00	78.86	60.29	40.29	17.71	6.86	om shree
13	From S-3 Line Work	MR193	100.00	95.43	77.43	59.14	38.29	17.14	6.86	
14	From S-3 Line Work	MR194	100.00	96.57	77.71	59.14	37.71	17.71	6.57	
15	From Rani Line Work	MR195	100.00	97.20	84.20	65.40	44.80	19.60	4.60	
16	From Rani Line Work	MR196	100.00	95.20	82.40	64.60	44.60	19.80	4.00	crusher
17	From Rani Line Work	MR197	100.00	96.40	82.60	65.80	46.00	21.80	5.00	
18	From Contractor Stock Yard	MR198	100.00	95.80	82.20	66.40	46.20	23.00	6.00	
19	From Contractor Stock Yard	MR199	100.00	96.60	82.60	66.00	44.80	23.20	6.40	
20	From Contractor Stock Yard	MR200	100.00	95.80	81.40	65.80	43.60	21.60	5.80	plant
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF MAY 2016

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
21	From Contractor Stock Yard	MR201	100.00	96.60	81.00	66.80	44.40	22.60	6.40	source
22	From Contractor Stock Yard	MR202	100.00	94.60	80.20	66.40	43.60	22.80	7.60	om shree
23	From Contractor Stock Yard	MR203	100.00	94.80	79.80	66.20	44.40	24.00	8.00	
24	From Contractor Stock Yard	MR204	100.00	95.40	79.80	65.00	43.00	23.00	7.20	
25	From Contractor Stock Yard	MR205	100.00	95.80	80.60	64.40	41.20	21.60	6.20	
26	From Contractor Stock Yard	MR206	100.00	96.20	80.40	65.60	42.00	23.20	5.80	crusher
27	From Contractor Stock Yard	MR207	100.00	96.80	82.00	66.20	42.80	23.80	6.00	
28	From Contractor Stock Yard	MR208	100.00	97.40	82.20	66.00	43.00	24.20	6.20	
29	From Contractor Stock Yard	MR209	100.00	96.80	80.00	62.80	42.40	23.60	6.20	
30	From Contractor Stock Yard	MR210	100.00	95.60	78.40	60.40	40.40	22.60	5.80	
31	From High way Man Hole	MR211	100.00	96.20	79.40	61.20	40.20	22.60	6.00	
32	From High way Man Hole	MR212	100.00	96.80	79.80	62.00	38.80	21.60	5.80	plant
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
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Consultant Reps

CTCE-KALIKA J/V
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Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summery of Concrete Crushed Aggregate 20mm down — For The Month of MAY 2016

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI	LAA	ACV	REMARKS
			25	20	10	4.75	%	%		
1	From S-5 Line	MR 201	100	96.85	42.59	2.99	12.65	32.92	20.5	Aggregates
2	From S-5 Line	MR202	100	96.04	42.64	2.95	12.95	32.52	20.4	Source
3	From S-5 Line	MR203	100	96.04	42.64	2.91	12.93	32.76	20.6	Om shree
4	From S-5 Line	MR204	100	96.37	42.59	2.75	13.37	32.44	20.1	
5	From R-3 Line	MR205	100	97.08	43.79	3.85	12.72	32.32	20.1	
6	From R-3 Line	MR206	100	97.39	41.30	2.49	13.41	32.12	20.3	Crusher
7	From Rani Line	MR207	100	95.27	41.22	3.06	13.86	32.08	20.3	
8	From Rani Line	MR208	100	95.16	41.95	4.17	13.75	32.24	20.3	
9	From Rani Line	MR209	100	97.39	43.42	3.18	13.30	32.20	20.3	
10	From S-9 Line	MR210	100	97.08	43.99	3.67	12.43	32.44	20.4	Plant
Section 900:IS 383-1970 Required			100	95-100 ✓	25-55 ✓	0-10 ✓	Less 15% ✓	Less 35% ✓	Less 30% ✓	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by CSE
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summery of Concrete Crushed Aggregate 20mm down For The Month of MAY 2016

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI	LAA	ACV	REMARKS
			25	20	10	4.75	%	%		
11	From S-9 Line	MR211	100	96.35	44.27	4.60	12.8	32.64	20.2	Aggregates
12	From S-9 Line	MR212	100	95.79	42.95	4.90	12.19	32.52	20.4	Source
13	From S-9 Line	MR213	100	95.56	47.10	4.71	12.85	32.36	20.4	Om shree
14	From S-9 Line	MR214	100	96.35	44.44	4.20	12.40	32.48	20.4	
15	From S-9 Line	MR215	100	96.66	43.30	4.27	13.23	32.28	20.1	
16	From S-5 Line	MR216	100	97.02	43.41	3.74	13.43	32.04	20.0	Crusher
17	From S-5 Line	MR217	100	96.53	41.06	3.50	13.69	32.08	20.0	
18	From S-5 Line	MR218	100	95.68	38.76	3.78	12.62	32.12	20.3	
19	From Highway Man Hole	MR219	100	97.63	41.44	3.71	12.75	32.04	20.4	
20	From Highway Man Hole	MR220	100	95.14	48.55	4.43	12.22	32.88	20.2	Plant
Section 900:IS 383-1970 Required			100	95-100	25-55	0-10	Less 15%	Less 35%	Less 30%	

SMEC-Brisbane-AQUA-CEMAT-BDA
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Consultant Reps

CTCE-KALIKA J/V
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Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summery of Concrete Crushed Aggregate 20mm down **For The Month of MAY 2016**

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI	LAA	ACV	REMARKS
			25	20	10	4.75	%	%		
21	From Highway Man Hole	MR212	100	97.63	45.81	3.06	12.54	32.80	20.3	Aggregates
22	From Contractor Yard Stock	MR222	100	96.85	36.60	3.49	13.34	32.88	20.5	Source
23	From Contractor Yard Stock	MR223	100	97.29	34.21	3.01	13.75	32.68	20.5	Om shree
24	From Contractor Yard Stock	MR224	100	96.31	34.45	5.07	13.76	32.84	20.4	
25	From Contractor Yard Stock	MR225	100	97.10	35.11	4.05	12.98	32.76	20.4	
26	From Contractor Yard Stock	MR226	100	96.55	42.35	3.29	12.79	32.28	20.3	Crusher
27	From Contractor Yard Stock	MR227	100	96.93	39.94	2.77	13.38	32.56	20.0	
28	From S-5 Line	MR228	100	96.92	41.74	2.58	13.00	32.64	20.0	
29	From S-5 Line	MR229	100	96.00	40.64	3.21	12.57	32.60	20.2	
30	From S-5 Line	MR230	100	96.68	39.40	3.53	12.91	32.44	20.3	Plant
Section 900:IS 383-1970 Required			100	95-100	25-55	0-10	Less 15%	Less 35%	Less 30%	

SMEC-Brisbane-AQUA-CEMAT-BDA
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Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractor Reps

CTCE-KALIKA JOINT VENTURE

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

SUMMARY OF HOT MIX ASPHALT CONCRETE WEARING COURSE TEST RESULTS

Contract Package:STUEIP/W/BRT/ICB/01

MONTH:MAY 2016

S. No.	LAB REF. NO.	Date of Laying	Location of Work ch:	Mix Agg Gradation Passing Sieve Sizes mm %								PRIME COAT Application		TACKCOAT Application		Bitumen Content From Extraction Test %	Mix Density gm/cc	Air Voids %	VMA %	Stability N	Flow mm
				20	12.5	9.5	4.75	2.00	0.425	0.18	0.075	Dist. Spray Rate Lit/m2	Avg.Tray Spray Rate Lit/m2	Dist. Spray Rate Lit/m2	Avg.Tray Spray Rate Lit/m2						
1	16	3/5/2016	2+100 to 2+385,2+715 to 2+800 LHS	100	92.80	83.90	57.42	48.31	25.85	12.08	5.72	1.025	1.03	0.49	0.47	5.60	2.382	3.62	16.69	12807	3.22
2	17	8/5/2016	2+715 to 2+800 RHS	100	93.22	83.90	57.21	48.31	26.1	12.51	5.94	1.08	1.03	0.49	0.49	5.59	2.395	3.55	16.62	12900	3.28
3	18	28/5/2016	1+200 to 1+295&2+100 RHS 2+100 to 2+300 RHS	100	93.43	83.69	57.42	48.31	26.27	12.92	5.72	1.06	1.02	0.43	0.44	5.60	2.390	3.75	16.81	12817	3.22
4	19	30/5/2016	1+200 to 1+295 LHS	100	93.65	84.33	57.85	48.32	26.07	12.94	6.06	1.00	1.01	0.46	0.44	5.58	2.389	3.82	16.83	12802	3.30
				100	80~100	68 ~90	50~79	36~67	17~44	9~29	3~10	1.0 kg/m2 ± 5%				5-6	Min-2.354	3-6 %	≥ 15	≥ 8500	2-4

Remarks:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test Conducted by Q.C Manager

Contractor Reps

Secondary Towns Integrated Uraban Environmental Improvement Project
Biratnagar Sub-Metropolitant City
Daily Application Rate Check for TACK COAT
Contract Package :STUEIP/W/BRT/ICB-01

Type of Bitumen:80/100 P.G

SUMMERY FOR THE MONTH OF MAY2016

Lab Ref No	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 Bt Tray Test Lit/m2
16	3/5/2016	2+100	2+395	LHS	380*5.5	43	2133	1050	0.49	0.47
17	8/5/2016	2+715	2+800	RHS	85*5.5	40	507.5	250	0.49	0.49
18	28/5/2016	1+200	1+295	RHS	95*5.5					
		2+100	2+300	RHS	200*5.5	105	1727.5	750	0.43	0.44
19	30/5/2016	1+200	1+295	LHS	95*5.5	25	547.5	250	0.46	0.44

Required tack coat is 0.40 to 0.60Lit/M2 According to Road Note -3,Section 711.2

Specific Gravity of Bitumen 1.025

SMEC-Brisbane-AQUA-CEMAT-BDA
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Test Checked by A.C.S.E
Consultant Reps

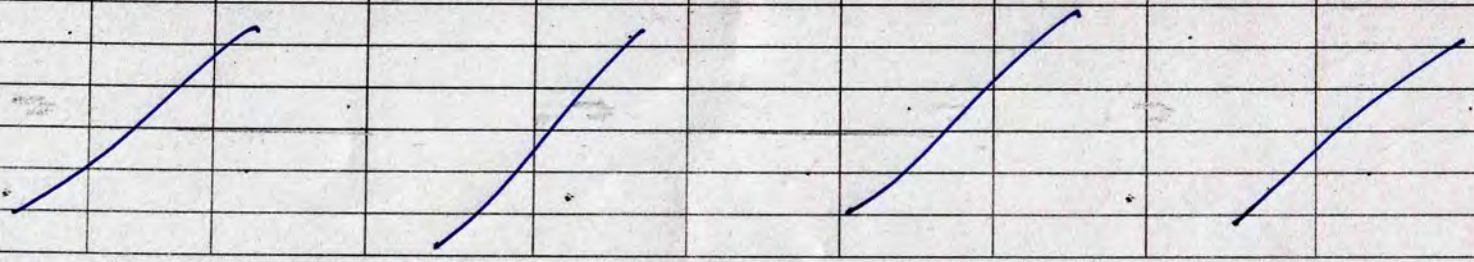
CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted By Q.C Manager
Contractors Reps

Secondary Towns Integrated Uraban Environmental Improvement Project
Biratnagar Sub-Metropolitant City
Daily Application Rate Check for Priming work
Contract Package :STUEIP/W/BRT/ICB-01

Type of Bitumen:80/100 P.G
Cutter Percentage:MC 70:MC30

SUMMERY FOR THE MONTH OF MAY 2016

Lab Ref No	Date of Priming	Station From	Station to	Side of Priming	Area of Priming	Intersection Area m2	Total Area M2	Bitumen Consumption	Application Rate By Deep Lit/m2	Application Rate Bt Tray Test Lit/m2
17	1/5/2016	2+100	2+395	LHS	295*5.5	18	1640.5	1700	1.04	1.03
18	2/5/2016	2+715	2+800	LHS	85*5.5	25	492.5	500	1.02	1.04
19	6/5/2016	2+715	2+800	RHS	85*5.5	40	507.5	550	1.08	1.03
20	25/5/2016	2+100	2+300	RHS	200*5.5	60	1160	1200	1.03	1.01
21	26/5/2016	1+200	1+295	RHS	95*5.5	44	566.5	600	1.06	1.02
22	29/5/2016	1+200	1+295	LHS	95*5.5	25	547.5	550	1.00	1.010



Required specification for Prime coat 1.0 Lit/M2 ± 5% Specific Gravity of Bitumen 1.025

SMEC-Brisbane-AQUA-CEMAT-BDA
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Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted By Q.C Manager
Contractors Reps

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

SUMMARY OF ASPHALT CONCRETE WEARING COURSE COMBINED TEST RESULTS

Contract Package:STUEIP/W/BRT/ICB/01

FOR THE MONTH OF MAY 2016

S. No.	LAB REF. NO.	Date of Sampling	Location of Work	Mix Agg Gradation of HMP Running % Passing Sieve Sizes mm								FI	LAA	ACV	SSS
				20	12.5	9.5	4.75	2.00	0.425	0.18	0.075	%	%	%	%
1	1	3/5/2016	HMP Running Bin- Plant	100	92.81	83.92	57.41	48.31	25.89	12.13	5.79	13.68	32.92	18.1	3.74
2	2	3/5/2016	HMP Running Bin- Plant	100	93.23	84.14	57.60	48.59	26.4	12.62	6.3	13.39	32.80	18.40	2.94
3	3	8/5/2016	HMP Running Bin- Plant	100	93.29	84.07	57.69	48.89	26.38	12.89	5.91	13.37	32.68	18.90	2.82
4	4	8/5/2016	HMP Running Bin- Plant	100	93.40	84.41	57.47	48.44	26.38	13.05	5.83	13.83	32.92	18.70	3.10
5	5	28/5/2016	HMP Running Bin- Plant	100.0	93.76	84.31	57.04	48.67	26.3	11.76	5.31	13.36	32.32	18.80	
6	6	28/5/2016	HMP Running Bin- Plant	100.0	99.26	89.13	61.54	52.44	30.67	15.43	5.14	13.82	32.12	18.90	
7	7	30/5/2016	HMP Running Bin- Plant	100.0	93.76	84.17	59.97	50.25	30.27	15.97	6.04	14.87	31.80	18.80	
8	8	30/5/2016	HMP Running Bin- Plant	100.0	92.60	82.02	58.95	50.45	28.91	15.68	5.83	13.78	32.07	18.30	
				100	80~100	68 ~90	50~79	36~67	17~44	9~29	3~10	LESS 25%	LESS 40%	LESS 20%	MAX 12%

SMEC-Brisbane-AQUA-CEMAT-BDA

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Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

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Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

STIUEIP

MONTHLY Test Result Summary Sheet For The Month of MAY 2016

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
1	4	3/5/2016	From S-5 Line	100	88.92	70.26	54.59	47.08	36.30	26.73	5.48	
2	5	3/5/2016	From S-5 Line	100	90.11	69.71	58.66	50.13	39.67	28.92	6.03	
3	6	3/5/2016	From S-5 Line	100	90.51	69.90	59.46	51.22	40.90	30.22	6.71	
4	7	3/5/2016	From S-5 Line	100	90.31	66.81	57.88	49.77	38.44	25.26	6.44	
5	8	3/5/2016	From S-5 Line	100	88.13	65.52	56.70	48.72	37.25	24.29	5.95	
6	9	3/5/2016	From S-9 Line-1	100	88.02	65.74	56.70	48.56	37.54	24.33	5.80	
7	10	3/5/2016	From S-9 Line-1	100	88.18	67.20	58.43	48.66	36.92	23.15	5.53	
8	11	3/5/2016	From S-9 Line-1	100	89.64	66.50	57.08	49.23	37.74	23.17	6.54	
9	12	3/5/2016	From S-9 Line-1	100	90.02	66.84	56.89	48.27	37.25	22.76	6.23	
10	13	4/5/2016	From R-22 Line	100	90.78	65.81	56.77	47.73	37.21	22.54	5.96	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

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Consultant Reps

CTCE-KALIKA J/V

Submit by Project Manager

Test Conducted by Q.C Manager

Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet · For The Month of MAY 2016

STIUEIP

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
11	14	4/5/2016	From R-22 Line	100	91.20	66.10	56.99	49.28	38.19	23.52	6.30	
12	15	4/5/2016	From R-22 Line	100	88.32	63.31	54.09	45.93	35.29	20.95	6.63	
13	16	4/5/2016	From R-22 Line	100	89.02	64.98	55.26	46.28	34.80	19.82	6.22	
14	17	5/5/2016	From R-25 Line	100	90.92	66.72	55.93	46.79	35.33	19.17	5.43	
15	18	5/5/2016	From R-25 Line	100	90.85	72.39	59.55	49.16	36.98	20.80	6.49	
16	19	5/5/2016	From R-25 Line	100	91.50	71.51	59.80	49.78	38.70	20.84	6.88	
17	20	5/5/2016	From R-25 Line	100	90.85	65.97	55.45	47.09	34.68	19.31	6.13	
18	21	7/5/2016	From R-24 Line	100	93.43	67.45	56.88	47.24	34.97	19.36	6.37	
19	22	7/5/2016	From R-24 Line	100	92.58	68.28	57.08	47.45	32.24	19.45	6.24	
20	23	7/5/2016	From R-24 Line	100	92.18	68.86	57.78	48.78	36.97	20.55	5.28	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

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CTCE-KALIKA J/V

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SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet · For The Month of MAY 2016

STIUEIP

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
21	24	7/5/2016	From R-24 Line	100	93.17	69.43	58.26	49.17	37.01	20.69	4.79	
22	25	8/5/2016	From R-26 Line	100	94.78	73.13	60.68	51.03	38.74	21.64	5.01	
23	26	8/5/2016	From R-26 Line	100	90.32	74.36	60.85	48.39	38.48	21.36	4.44	
24	27	8/5/2016	From R-26 Line	100	88.95	66.53	55.74	43.90	34.76	23.23	6.22	
25	28	9/5/2016	From R-26 Line	100	90.32	69.39	57.44	44.95	35.27	21.89	6.42	
26	29	12/5/2016	From Highway Man Hole Work	100	93.78	68.36	48.20	35.95	30.77	23.17	6.35	
27	30	12/5/2016	From Highway Man Hole Work	100	93.79	70.90	53.49	33.63	27.15	19.83	5.89	
28	31	12/5/2016	From Highway Man Hole Work	100	96.18	74.64	57.52	39.10	28.83	19.02	5.52	
29	32	12/5/2016	From Highway Man Hole Work	100	93.46	76.54	61.08	41.26	29.76	19.38	6.40	
30	33	20/5/2016	From R-27 Line	100	92.70	79.56	64.99	48.81	35.56	20.85	6.54	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA

Approved by C.S.E

Test Checked by A.C.S.E

Consultant Reps

CTCE-KALIKA J/V

Submit by Project Manager

Test Conducted by Q.C Manager

Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

STIUEIP

MONTHLY Test Result Summary Sheet `For The Month of MAY 2016

GRAVEL /GRANULAR MATERIAL (Process Control)

According to Part 2.Section 6A-Technical Specifacations Table 2.4.1 Physical Requirement

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Remarks
				63	37.5	20	10	5	2.360	1.18	0.075	
31	34	20/5/2016	From R-27 Line	100	92.07	77.36	63.80	53.51	38.29	21.50	6.30	
32	35	20/5/2016	From R-27 Line	100	90.94	72.26	60.25	47.54	37.26	24.02	6.30	
33	36	20/5/2016	From R-27 Line	100	88.10	71.22	61.14	48.10	35.06	22.50	5.66	
34	37	20/5/2016	From Rani Line -1	100	90.04	75.65	62.59	48.68	34.13	20.96	6.02	
35	38	20/5/2016	From Rani Line -1	100	89.94	73.41	58.00	41.93	29.43	19.30	6.04	
36	39	24/5/2016	From Rani Line -1	100	87.99	75.42	60.77	44.43	31.29	18.55	5.64	
37	40	24/5/2016	From Rani Line -1	100	91.11	80.90	66.26	49.08	34.98	18.97	5.84	
38	41	25/5/2016	From Rani Line -5	100	92.58	69.45	58.60	47.49	31.40	22.59	4.70	
39	42	25/5/2016	From Rani Line -5	100	93.76	73.22	61.03	47.90	30.30	20.33	5.50	
40	43	25/5/2016	From Rani Line -5	100	90.39	74.71	63.02	48.43	33.34	19.87	5.56	
41	44	25/5/2016	From Rani Line -5	100	89.28	73.53	60.79	49.08	34.89	21.89	6.51	
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4-15	

NOTE:

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved by C.S.E	Submit by Project Manager
Test Checked by A.C.S.E	Test Conducted by Q.C Manager
Consultant Reps	Consultant Reps

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

TEST RESULT SUMMARY SHEET For the Month of MAY 2016

COMPRESSIVE STRENGTH OF BRICKS (Process Control Test)

STIUEIP

SN No	Ref. STIUEIP LAB/	Date of Testing	Location	Chanage	BRAND NAME 1 st class brick	Compressive Strength N/mm2	SCALE OF Sample From
1	MR323	2/5/2016	R3	Line-27	AMBEY	10.6	1500 Nos-5 Nos
2	MR 324	2/5/2016	R3	Line-27	AMBEY	10.4	
3	MR325	5/5/2016	R3	Line-26	AMBEY	10.5	
4	MR326	5/5/2016	R3	Line-26	AMBEY	10.9	
5	MR327	7/5/2016	R3	Line -25	AMBEY	10.4	
6	MR328	7/5/2016	R3	Line -25	AMBEY	11.2	
7	MR329	7/5/2016	R3	Line-24	AMBEY	11.2	
8	MR330	19/5/2016	Rani	Line-4	AMBEY	10.2	
9	MR331	19/5/2016	Rani	Line-4	AMBEY	11.7	
10	MR332	19/5/2016	Rani	Line-4	AMBEY	11.5	
11	MR333	19/5/2016	High way	Man Hole	T&B	12.2	
12	MR334	26/5/2016	R3	Line-22	T&B	11.8	
Specification					IS1077,IS2180or NS1/2035	> 10N/MM2	

SMEC-Brisbane-AQUA-BDA-CEMAT

Approved by Construction Supervision Engineer

Test Checked by A.C.S.E

Consultantr Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test conducted by Q.C Manager

Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
1	MR81	KOSHI OPC	1/5/2016	35.3	210	325	All Cement
2	MR82	KOSHI OPC	2/5/2016	35.0	225	310	Are
3	MR83	SHIVAM OPC	3/5/2016	34.3	185	325	Nepali
4	MR84	SHIVAM OPC	4/5/2016	35.9	205	315	BRAND
5	MR85	SHIVAM OPC	5/5/2016	36.6	190	305	
6	MR86	SHIVAM OPC	6/5/2016	36.0	225	300	
7	MR87	SHIVAM OPC	7/5/2016	36.1	240	305	
8	MR88	SHIVAM OPC	8/5/2016	36.3	170	245	
9	MR89	SHIVAM OPC	9/5/2016	33.7	175	225	OPC
10	MR90	SHIVAM OPC	10/5/2016	34.3	140	260	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
11	MR91	SHIVAM OPC	11/5/2016	35.4	140	250	All Cement Are Nepali BRAND OPC
12	MR92	SHIVAM OPC	12/5/2016	36.0	165	265	
13	MR93	SHIVAM OPC	13/5/2016	36.0	165	265	
14	MR94	SHIVAM OPC	14/5/2016	36.0	165	265	
15	MR95	SHIVAM OPC	15/5/2016	36.7	225	275	
16	MR96	SHIVAM OPC	16/5/2016	36.4	245	315	
17	MR97	SHIVAM OPC	17/5/2016	36.6	240	285	
18	MR98	SHIVAM OPC	18/5/2016	36.6	210	310	
19	MR99	SHIVAM OPC	19/5/2016	36.1	215	300	
20	MR100	SHIVAM OPC	20/5/2016	36.3	130	375	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
21	MR101	SHIVAM OPC	21/5/2016	36.6	185	285	All Cement Are Nepali BRAND OPC
22	MR102	SHIVAM OPC	22/5/2016	36.9	180	280	
23	MR103	SHIVAM OPC	23/5/2016	37.0	285	305	
24	MR104	SHIVAM OPC	24/5/2016	36.6	250	330	
25	MR105	SHIVAM OPC	25/5/2016	37.0	270	315	
26	MR106	SHIVAM OPC	26/5/2016	36.9	250	305	
27	MR107	SHIVAM OPC	27/5/2016	37.1	245	320	
28	MR108	SHIVAM OPC	28/5/2016	37.0	255	310	
29	MR109	SHIVAM OPC	29/5/2016	36.9	185	320	
30	MR110	SHIVAM OPC	30/5/2016	36.7	190	335	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs.	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
1	MR81	KOSHI OPC	1/5/2016	35.3	210	325	All Cement Are Nepali BRAND OPC
2	MR82	KOSHI OPC	2/5/2016	35.0	225	310	
3	MR83	SHIVAM OPC	3/5/2016	34.3	185	325	
4	MR84	SHIVAM OPC	4/5/2016	35.9	205	315	
5	MR85	SHIVAM OPC	5/5/2016	36.6	190	305	
6	MR86	SHIVAM OPC	6/5/2016	36.0	225	300	
7	MR87	SHIVAM OPC	7/5/2016	36.1	240	305	
8	MR88	SHIVAM OPC	8/5/2016	36.3	170	245	
9	MR89	SHIVAM OPC	9/5/2016	33.7	175	225	
10	MR90	SHIVAM OPC	10/5/2016	34.3	140	260	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
11	MR91	SHIVAM OPC	11/5/2016	35.4	140	250	All Cement Are Nepali BRAND OPC
12	MR92	SHIVAM OPC	12/5/2016	36.0	165	265	
13	MR93	SHIVAM OPC	13/5/2016	36.0	165	265	
14	MR94	SHIVAM OPC	14/5/2016	36.0	165	265	
15	MR95	SHIVAM OPC	15/5/2016	36.7	225	275	
16	MR96	SHIVAM OPC	16/5/2016	36.4	245	315	
17	MR97	SHIVAM OPC	17/5/2016	36.6	240	285	
18	MR98	SHIVAM OPC	18/5/2016	36.6	210	310	
19	MR99	SHIVAM OPC	19/5/2016	36.1	215	300	
20	MR100	SHIVAM OPC	20/5/2016	36.3	130	375	
Requirements in accordance with BS 12					> 45 Min.	10 Hrs.	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BiratnagarSub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of MAY 2016

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
21	MR101	SHIVAM OPC	21/5/2016	36.6	185	285	All Cement Are Nepali BRAND OPC
22	MR102	SHIVAM OPC	22/5/2016	36.9	180	280	
23	MR103	SHIVAM OPC	23/5/2016	37.0	285	305	
24	MR104	SHIVAM OPC	24/5/2016	36.6	250	330	
25	MR105	SHIVAM OPC	25/5/2016	37.0	270	315	
26	MR106	SHIVAM OPC	26/5/2016	36.9	250	305	
27	MR107	SHIVAM OPC	27/5/2016	37.1	245	320	
28	MR108	SHIVAM OPC	28/5/2016	37.0	255	310	
29	MR109	SHIVAM OPC	29/5/2016	36.9	185	320	
30	MR110	SHIVAM OPC	30/5/2016	36.7	190	335	
Requirements in accordance with BS 12					> 45. Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDAR(TOWNS INTEGRATED URABAN ENVIRONM(TAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20& M25/20 Work Mix FOR THE MONTH OF MAY 2016

S.N.	Lab Ref. No.	Date of Casting	Deatails of Mix	Location / Structure	Ratio by VOLUME				Type of Material		Cube Crushing .N/mm2		Remarks
					Water	Cement	Sand	Aggregate	Cement Brand	Aggregate/Sand	7 days	28-Days	
1	418	3/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	21.26	26.37	
2	419	3/4/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.22	21.63	
3	420	4/4/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.63	21.78	
4	421	4/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.93	21.63	
5	422	5/4/2016	M20 Work Mix	Rani Line 2	0.50	1	2	3.5	Shivam	Om shree C/plant	16.00	21.11	
6	423	6/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	14.37	21.63	
7	424	7/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	14.22	22.07	
8	425	8/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	20.44	26.22	
9	426	10/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	20.74	26.74	
10	427	15/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.30	22.67	
11	428	18/4/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	22.81	
12	429	20/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	21.04	26.30	
13	430	22/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	16.67	25.93	
14	431	26/4/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	17.48	26.37	
15	432	1/5/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	21.85	
16	433	1/5/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.04	21.33	
17	434	2/5/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.48	21.48	
18	435	2/5/2016	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.89	20.89	
19	436	3/5/2016	M20 Work Mix	S-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.19	21.41	
20	437	3/5/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	17.19	26.07	
21	438	3/5/2016	M25 Work mix	S-5 Line RCC Top Slab	0.46	1	1.87	3.25	Shivam	Om shree C/plant	20.37	26.07	

Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	13.4	20
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	16.75	15

SMEC-Brisbane-AQUA-BDA

Approved by Construction Supervision Engineer/CSE

Test checked by A.C.S.E

Consultants Reps

CTCE-KALIKA J/V

Submitted by Project Manager

Test conducted by Q.C Manager

Contractors Reps

Secondary Town Integrated Urban Environmental Improvement Project

Biratnagar Sub-Metropolitan city

Contract Package: STIUEIP/W/BRT/ICB-01

DAILY WEATHER RECORD

FOR THE MONTH OF MAY 2016

Date	WEATHER Record					Temp.c			
	Sunny	Windy	Cloudy	Morning Rain HRS	Night Rain Hrs.	Day Rain Hrs.	9:00 AM	5:00 PM	Rain Fall MM
1	Sunny						34.6	30.2	
2	Sunny						36.6	29.1	
3	Sunny						36.8	30.1	
4	Sunny						24.5	28.5	
5			Cloudy	Morning Rain HRS	Night Rain Hrs.		28	27.9	22.5
6	Sunny						34	30	
7			Cloudy			Day Rain Hrs.	36	32	12
8	Sunny						36	30	
9	Sunny						36	28	
10			Cloudy	Morning Rain HRS	Night Rain Hrs.		37	30	140.4
11	Sunny						30	26	
12			Cloudy				36	34	
13	Sunny			Morning Rain HRS	Night Rain Hrs.	Day Rain Hrs.	26.4	25.8	290
14			Cloudy	Morning Rain HRS	Night Rain Hrs.		30.5	28.4	130
15	Sunny						38.5	29.4	
16	Sunny						37.6	28.2	
17	Sunny				Evening Rain Hrs		38.6	29.1	110
18	Sunny						37.6	28.4	
19			Cloudy	Morning Rain HRS	Night Rain Hrs.		36.4	26.4	250
20	Sunny						26.6	26	
21	Sunny						34.5	30.6	
22	Sunny						36.4	28.8	
23			Cloudy		Evening Hrs		36.4	27.4	80.5
24	Sunny						38.6	26.2	
25	Sunny						38.8	30.2	
26	Sunny						38.6	29.2	
27	Sunny		Cloudy	Morning Rain HRS	Night Rain Hrs.		36.4	28.2	150
28	Sunny						32.6	26	
29	Sunny						34.6	28.4	
30	Sunny						32.4	26.6	
31	Sunny						32.8	25.6	
									1185.4

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved By C.S.E	Submitted By Project Manager
Record Checked By A.C.S.E	Record Reported By Site Manager
Consultant Reps	Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar-Sub-Metropolitant City

SUMMERY OF THE MORTAR WORK MIX CUBE FOR THE MONTH OF MAY 2016

S.N.	LAB REF No.	Name of CEMENT	Location/Structure	Details of MIX	Casting	Consistency & Setting Time			7 day's cube Crushing		28 day's cube crushing		Remarks
						Norm. Const.	Intial(min.)	Final(min.)	Date	Str. N/mm2	Date	Str. N/mm2	
1	276	Shivam	S13- Man Hole	1:4 by volume	6/4/2016	38.30	185	300	13/4/2016	6.30	3/5/2016	7.62	
2	277	Shivam	National Trading Man hole	1:4 by volume	7/4/2016	38.30	185	300	14/4/2016	6.40	4/5/2016	7.89	
3	278	Shivam	National Trading Man hole	1:4 by volume	8/4/2016	38.30	185	300	15/4/2016	6.00	5/5/2016	7.76	
4	279	Shivam	R3 -Road No 42	1:4 by volume	10/4/2016	37.90	195	290	17/4/2016	6.10	7/5/2016	7.62	
5	280	Shivam	R3- Road No 22	1:4 by volume	14/4/2016	37.90	195	290	21/4/2016	6.30	11/5/2016	7.89	
6	281	Shivam	R3- Road No 24	1:4 by volume	14/4/2016	37.90	195	290	21/4/2016	6.30	11/5/2016	7.62	
7	282	Shivam	Rani Line -01	1:4 by volume	16/4/2016	38.10	180	300	23/4/2016	6.40	13/5/2016	7.76	
8	283	Shivam	Rani Line -04	1:4 by volume	17/4/2016	38.10	180	300	24/4/2016	6.30	14/5/2016	7.89	
9	284	Shivam	R3 -Road No 42	1:4 by volume	18/4/2016	38.10	180	300	25/4/2016	6.30	15/5/2016	7.62	
10	285	Shivam	R3- Road No 22	1:4 by volume	19/4/2016	38.10	180	300	26/4/2016	6.40	16/5/2016	7.76	
11	286	Shivam	R3- Road No 24	1:4 by volume	20/4/2016	38.00	195	290	27/4/2016	6.10	17/5/2016	7.76	
12	287	Shivam	High way Man hole Road -Cess chowck	1:4 by volume	21/4/2016	38.00	195	290	28/4/2016	6.70	18/5/2016	7.89	
13	288	Shivam	High way Man hole Road -Cess chowck	1:4 by volume	22/4/2016	38.00	195	290	29/4/2016	6.00	19/5/2016	7.76	

NOTE:

According to is 2250-1981	MIN 45m	Max 600m	Required strength on 28 days not less than 5 or 7.5 N/MM2

SMEC-Brisbane-AQUA-BDA-CEMAT

Approved by Construction Supervision Engineer/CSE

Test Checked by A.C.S.E

Consultants Reps

CTCE-KALIKA J/V

Submitted by Project Manag

Test conducted by Q.C Mana

Contractore Reps