PUBLIC WORKS DEPARTMENT

GOVERNMENT OF KERALA

KERALA STATE TRANSPORT PROJECT - II

(UNDER WORLD BANK ASSISTANCE – Loan No. 8254)

MONTHLY PROGRESS BRIEF

AUGUST 2017

Project Management Team

Kerala State Transport Project
T.C.11/339, Sree Bala Building
Keston Road, Nanthancode,
Kawdiar P.O.
Thiruvananthapuram - 695003

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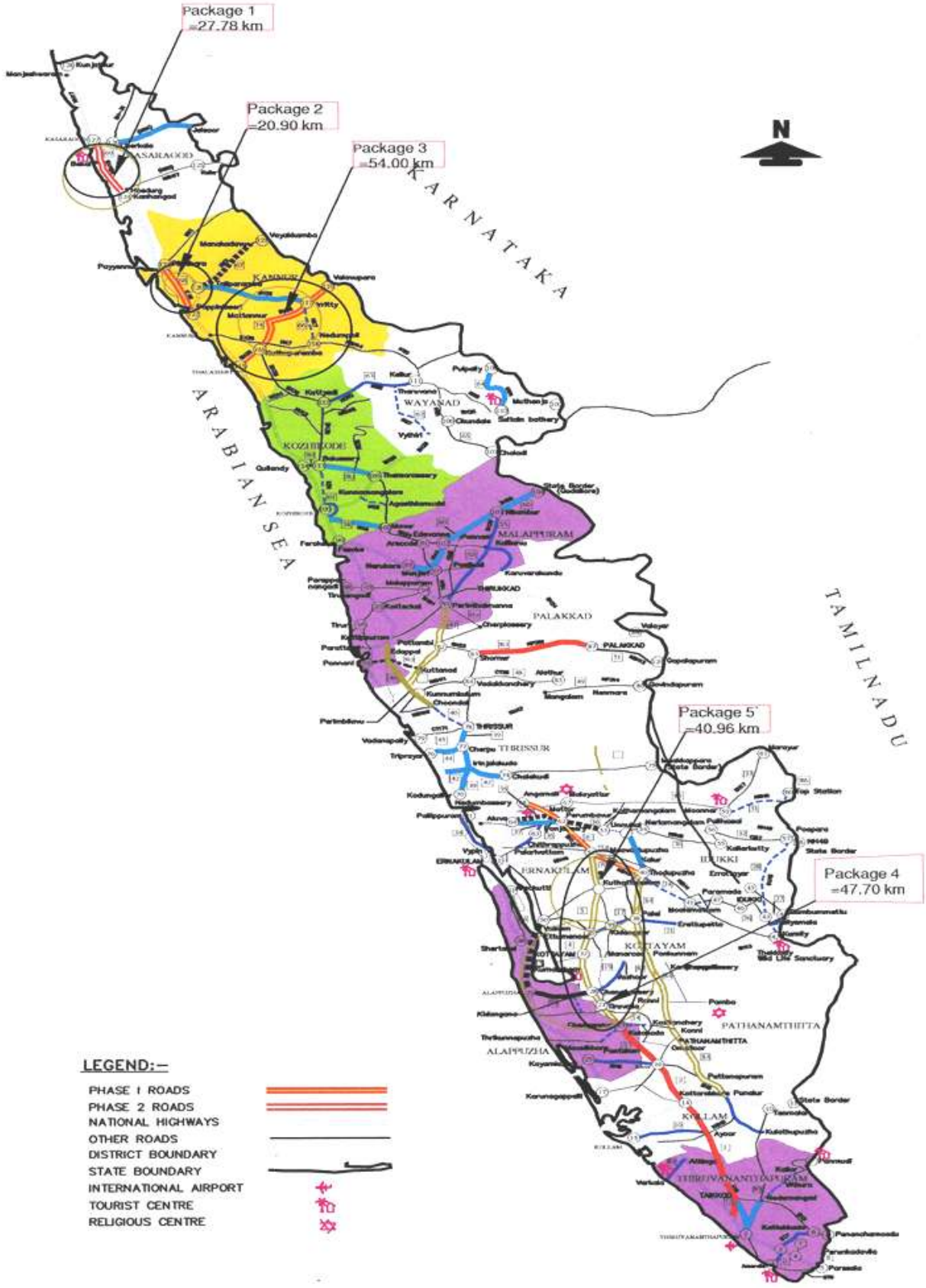
PROJECT LOCATION MAP



Introduction

Government of Kerala has decided to take up Phase-II upgradation component of KSTP as a standalone project, the KSTP-II. The project envisages the upgradation of 363 km of SH and MDR, Road Safety Management and Institutional Strengthening of PWD. The total Project cost is 445 million USD out of which 216 million USD is loan assistance from World Bank. The project loan agreement was signed on June 19, 2013 at the DEA Office, New Delhi. The loan effectiveness date is September 6, 2013. The project implementation period is five years, up to 31 December 2018 and the expected loan closing date is April 30, 2019.

1 Project Development Objectives

The Project Development objective is to improve condition, traffic flow and road safety with a focus on vulnerable road user on Kerala State Core road networks comprising of 363 Km of state highways. The main beneficiaries of the Project will be the users living along the Project corridors mainly the travelling public, agricultural and industrial producers, consumers and local community. The main benefit is in the form of reduced transport bottlenecks, lower passenger freight transport costs, reduced travel time and improved road safety in terms of reducing severe crashes and injury. The roads identified for improvement passes through about 87 villages covering eight districts.

1.2 Outline Project Data:

The upgrading works for six roads are included in the KSTP-II. The major items of works included are improvement to gradient, widening and strengthening the roads including minor realignments wherever essential, reconstruction of narrow bridges and culverts and improvements to drainage system. A Bypass also is proposed at Thiruvalla. The carriageway proposed are generally 2 lane with 1.50 mt. slow lanes on either side with hard shoulders and drains for a total width of 12 meters. The ROW is generally 15 Meters. The specification for civil works are as per MORTH & IRC standards.

The land acquisition for the project roads are almost completed except in the Perimbilavu- Pattambi- Perinthalmanna Road.

1.2.1 Kasargod Kanhangad Road – SH 57

Length - 27.76 km.Covers Kasargod, Pallikkara, manikoth and Kanhad areas and Tourist destinations at Bakel Fort and Ezhimala come under this stretch.

1.2.2 Pilathara Pappinissery Road

Length - 20.90 km. Covers Pilathara, Cheruthayam, Kunnupuram and Pappinissery.

1.2.3 Thalassery - Valavupara Road – SH 30

Length 53.12 km. It is a part of SH 30, Thalasserry – Coorg Road and passes through Koothuparambu, Mattannor, and Irutty.

1.2.4 Chengannur - Ettumanoor – Muvattupuzha – SH1

Chengannur Ettumanoor Muvattupuzha stretch of SH-1, MC (Main Central) Road, one of the most important and oldest roads in Kerala, passing through Thiruvalla, Changanasserry, Kottayam, Ettumannor, Kuravilangad, Kuttathukulam.
Total length covered is 88 kms.
Road portion from Thiruvananthapuram (Venjaramoodu) to Chengannur was taken up under Phase I. Bypass at Thiruvalla also forms part of this stretch. The road passes through the plantation areas and provides access to the tourist centres Kumarakom and Thekkady.13 bridges will be constructed in this stretch.
The improvement for this road portion is proposed in three construction packages, Chengannor- Ettumannor(41 km), Ettumanoor-Muvattupuzha (47km) and Thiruvalla Bypass (2.4km). Reconstruction of three Major Bridges and Nine Minor Bridges are included in this stretch.

1.2.5 Punaloor - Ponkunnam – Thodupuzha – SH 8

Punaloor - Ponkunnam and Ponkunnam - Thodupuzha stretches of SH 8 are the two stretches. Total road length is 132 kms.

Major areas covered are Punaloor, Pathanapuram, Manimala, Pala and Thodupuzha. Five Bridges will be constructed in this stretch. The road passes through Kollam-Pathanamthitta, Kottayam and Idukki districts. The portion from Ponkunnam – Thodupuzha is proposed under conventional item rate contract and work in progress. The portion from Punalur-Ponkunnam is proposed under PPP (modified annuity) arrangement. The bidding documents are prepared through the Transaction Advisor and pre-qualification of bidders completed. RFP is being forwarded to the pre-qualified bidders.

1.2.6 Perumbilavu - Pattambi – Perinthalmanna – SH 39

Perumbilavu- Pattambi-Perinthalmanna Road Link of SH 39 is included in the package (Starts at Kuttinad Jn). The growth centre connected is Pattambi town Length: 41 kms. The road passes through Thrissur, Palakkad and Malappuram Districts.

1.3 The details of approval are as under:

Project appraisal	-	April 2013
Loan agreement signed	-	19 June 2013
Loan Effectiveness date	-	Sept 6, 2013
Project cost approved by World Bank	-	US$445 ml
World Bank (IBRD) Loan Assistance	-	US$216 ml
Project implementation period	-	30th Oct 2013 to Dec 31, 2018
Expected closing date (Loan)	-	April 30, 2019

Fiscal Year	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Allocation						
Annual	22	43	45	54	32	20
Cumulative	22	65	110	164	196	216

1.4 The Finance plus agenda of KSTP – II

1. Upgrading Punalur – Ponkunnam Road under PPP (Annuity)
2. Development of Model Safe Corridor Kazhakuttam – Adoor Section (80 km)
3. Development of Oxbow land (left out lands)

1.5 Overall Implementation:

Project Staffing: KSTP is managed by a Project Director, in the Rank of a senior level Chief Engineer assisted by one Chief Engineer, a Superintending Engineer and other engineers and officers. The Technical Wing headed by the Chief Engineer is responsible for activities related to engineering, environment, social and contract management. Further, the legal contract management cell is headed by a legal professional. KSTP has qualified and experienced Social and Environmental Experts and a Project Management Advisor. The Finance Wing headed by a Finance Controller (deputed from the Secretariat) has a qualified Finance Manager with support staff. On the field, the KSTP has Two Superintending Engineers, Five Divisions located at Kottarakkara, Muvattupuzha, Kuttippuram, Kannur, Ponkunnam each headed by an Executive Engineer to monitor project progress.

Project co-ordination: Govt. of Kerala has established two committees to monitor, coordinate, and expedite project activities. The *Project Steering Committee* chaired by the Chief Secretary, has its main functions to review and approval of recommendations regarding acceptance of tenders and taking the final decisions on all matters concerning procurement and monitoring of project activities. The members of the committee are

Additional Chief Secretary (Finance), Secretaries to Government, PWD, Law Department, Revenue, Chief Engineer, R&B, Project Director, KSTP, Chief Engineer (Projects) KSTP. There is an Evaluation Committee headed by the PWD Secretary and comprising the Project Director, KSTP and Chief Engineer (Projects), to make recommendations on any issues on procurement as may require approval of the Steering Committee.

1.6 Project Components

1.6.1 **Road Upgrading Works:**

This component will include upgrading 363 kms of strategically important State Highways to complete network connectivity in the state with the objective of reducing travel time between key socio-economic centers.

1.6.2 **Road Safety Management:**

This component will support the strengthening of the road safety management systems in Kerala with the objective of arresting the increase of crash fatalities in the state. This component will finance various initiatives on capacity building including a *safe corridor demonstration project, implementation of local level programs utilizing the challenge fund and advisory support for road safety activities.* The road section improved under KSTP-I from Kazhakuttom - Venjaramoodu-Adoor is proposed to be developed as Safe Corridor Demonstration Project (80 km)

1.6.3 Institutional Strengthening

The objective of this component is to improve the sustainability of Kerala's state road network with respect to its functional adequacy, financial viability and capacity of key state road sector institutions to deliver road infrastructure and services that are responsive to road user needs. The major initiatives include Modernization of Road Sector.

1.7 Project Description

1.7.1 Road Upgradation Under item Rate Contract

This component will include upgrading of 240 km of State Highways through FIDIC based input contracts and conventional item rate contracts as noted below.

1.	Pilathara - Pappinissery Road	–	20.90 km
2.	Kasaragod – Kanhangad Road	–	27.76 km
3.	Thalassery – Valavupara Road (Rearranged in two contracts)	–	53.10 km
4.	Ponkunnam – Thodupuzha Road	–	50.30 km

5. Chenganur – Ettumanoor Road – 41.00 km
6. Ettumanoor – Muvattupuzha Road – 47.00 km
7. Perimbilavu – Pattambi- Perinthalmanna Road - 41.00 km

1.7.2 Road upgradation under PPP (Modified Annuity) mode

Punalur - Ponkunnam stretch (82 km) of Punalur – Thodupuzha Road

1.8 Sub Component A1 (US$322 mn)

Consists of the following civil contracts:

Sl. No.	*CONTRACT PACKAGE*	*NAME OF WORK*	*LENGTH (KM)*
1.	KSTP-II/UG-1	Kasargod – Kanhangad	27.78
2.	KSTP-II/UG-2	Pilathara – Pappinisery	20.90
3.	KSTP-II/UG-3A	Thalassery – Kalarode	28.80
4.	KSTP-II/UG-3B	Kalarode - Valavupara	25.20
5.	KSTP-II/UG-4	Chengannoor - Ettumannoor	45.40
6.	KSTP-II/UG-4A	Thiruvalla Bypass along Chengannoor - Ettumannoor	2.3
7.	KSTP-II/UG-5	Ettumannoor- Muvattupuzha	40.96
8.	KSTP-II/UG-6	Ponkunnam - Thodupuzha	50
9.	KSTP-II/UG-7	Perumbilavu – Perinthalmanna (with limited scope as overlay in existing surface)	41

1.9 Summary of Contract Data for Road Upgrading Packages I, II, IIIA, IIIB, IVA, IV,V, VI, VII & SCDP (Funding agency – World Bank [IBRD])

	CONTRACT DATA	KSTP/PMT/UG – I	KSTP/PMT/UG – II	KSTP/PMT/UG - IIIA	KSTP/PMT/UG- IIIB	KSTP/PMT/UG – IVA	KSTP/PMT/UG – IV	KSTP/PMT/UG – V	KSTP/PMT/UG – VI	KSTP/PMT/UG – VII (overlay)	SCDP
1.	Name of Contract Package	**Up gradation of the Road from Kasargod (Km 0+000) to Kanhangad (Km27+780) of SH 57**	**Up gradation of the Road from Pilathara (Km 0+000) to Pappinisery (Km20+900) of SH 67**	**Upgradation of the road from Thalassery – Kalaroad (Km. 1+200 to 30 +00)**	**Upgradation of the road from Kalaroad to Valavupara**	**Construction of Thiruvalla Bypass along Chengannoor Ettumannoor Road (SH-1) from chainage 7+390 to 9+400**	**Up gradation of the Road from Chengannoor (Km 0+000) to Ettumannoor (47+700) of SH 1**	**Up gradation of the Road from Ettumannoor (Km 47+700) to Muvattupuzha (Km88+660) of SH 1**	**Upgradation of the Road from Ponkunnam – Thodupuzha**	**Maintenance of Perimpilavu-Pattambi-Perintalmanna road**	**MC Road – Safe Corridor Demonstration Project – BC overlay & Road Safety works – Kazhakuttom - Adoor**
2.	Total length	27.78 km	20.90 km	30.00km	24km	2.3 km	47.70 km	40.96 km	50 km	39.37 km	78.65 km
3.	Supervision Consultant	Egis International S A in JV with Egis India Consulting Engineers Pvt. Ltd							MSV Inc	-	-
4.	Agreement	KSTP/PMT/PWD/205/2013 dated 28.02.2013								-	-
5.	Agreement Date	01.04.2013	01.04.2013	23.01.2016	29.04.2016	29.11.2013	15.09.2014	30.12.2013	05.05.2014	19.02.2016	05.12.2016
6.	Name of Contractor	M/s RDS Projects Ltd, Kochi	M/s RDS Projects Ltd, Kochi	M/s Dinesh Chandra R.Agarwal Infracon (P) Ltd	M/S GNV- EKK & Co, (JV) Kochi	M/s EKK & Co, Kochi	M/s. Delma-Sreedhanya (JV)	M/s NAPC Ltd, Chennai	M/s GHV-EKK (JV)	M/s K. Ravindran	M/s GHV-EKK (JV)
7.	Contract Price	Rs.133,05,79,485/-	Rs.118,29,77,833/-	Rs 156,33,51,422/-	Rs 209,68,48,832/-	Rs. 31,80,45,071/-	Rs. 293,58,17,987	Rs.171,49,62,293/-	Rs. 227,13,73,548	Rs. 8,11,45,066	Rs.146,67,38,745
8.	Notice to Commence	24.04.2013	23.04.2013	27-06-2016	16.08.2016	19.12.2013	25.11.2013	04.02.2014	10.06.2014	19.02.2016 / 03.03.2016	28.12.2016
9.	Contract Period	24 months	24 months	24 months	24 months	24 months	36 months	30 months	30 month	12 months	16 months

	CONTRACT DATA	KSTP/PMT/UG – I	KSTP/PMT/UG – II	KSTP/PMT/UG - IIIA	KSTP/PMT/UG- IIIB	KSTP/PMT/UG – IVA	KSTP/PMT/UG – IV	KSTP/PMT/UG – V	KSTP/PMT/UG – VI	KSTP/PMT/UG – VII (overlay)	SCDP
10.	Completion Date as per Contract	23rd April 2015	22nd April 2015	26th June 2018	15th August 2018	18th December 2015	24th November 2017	03rd August 2016	09.12.2016	18.02.2017 / 02.03.2017	27.04.2018
11.	Revised Completion Date (As per EOT)	31st March 2017	31st March 2017			06th September 2016	24th November 2017	23th March 2017	-	-	-
12.	Defect Liability Period	365 days	365 days	365 days	365 days	365 days	365 days	365 days	365 days	365 days	365 days
15	Original 1st Milestone	31st March 2017	31st March 2017	Km 1+200 – Km 11+200 – 26-09 -2017	Km 30+00 – Km 40+00 – 15-11 -2017	31st May 2017	Completion of 10 Km. -24th May 2016	10 Km. - BC level – 02.05.2015	Completed	Completed	40.35 kms 27.09.2017
	2nd Milestone			Km 1+200 – Km 30+.00 – Whole of works 26-06 -2018	Km 30+00 – Km 55+200 – Whole of works 15-08 - 2018		Completion of 25 Km. -24th November 2016	30 Km. - BC level - 30-06-2017	Completed	Completed	38.30 kms 27.04.2018
	Completion Date						24th November 2017	Km. 40+960 Whole of works - 27-10-2017	Completed	02.03.2017	27.04.2018

1.10 Supervision Consultancy

Under this component, 2 supervision consultancies CSC1 and CSC 2, Independent engineering services, and Transaction Advisory Service for PPP are included. Contract Agreement for Consultancy for CSC 1 for 190 Km of upgradation road has been executed with M/s Egis International in JV with Egis India Consulting Engineers Pvt. Ltd on 28.02.2013 and mobilized and in place. Egis has established rented office for Team Leader at Thiruvananthapuram near to Client's Office and started functioning from April 2013. Also RE offices at Kanhangad in Kasargod District for Package - 1, Pazhyangadi in Kannur District for package – II and at Uliyil near Mattannur in Kannur District for package – III, Pallam in Kottayam for Package IV, for Package V at Koothattukulam.

M/s MSV International USA is the selected consultant for Construction Supervision for the Ponkunnam – Thodupuzha stretch (50 km) CSC-2. They have established their Resident Engineer cum Team Leader's office at Ponkunnam. The length of road covered is 50 km and the assignment commenced on 15 May 2014.

1.11 Sub Component A2 (US$ 91 mn)

DPR for this sub component (Punalur – Ponkunnam – 82 Km under PPP). M/s L&T Ramboll, Chennai in association with M/s Fortress has been selected for the Transaction Advisory Services and activities in progress. The Investor Meet was held on March 2015 at Kochi. In the first bidding there was only qualified bidder and hence re-bid has been invited after obtaining No objection from Bank. In the re-bid eight offers have been received and are evaluated and submitted to Bank for no objection. The Bank's no objection received and clearance for RFP documents awaited.

1.12 Component B – Road Safety Management (US$ 22 mn)

The baseline survey for the proposed safe demonstration corridor has been completed by 'NATPAC' and report shared with Bank. M/s VicRoads, Australia has been selected as consultant for Road Safety Capacity Building and program management and activities in progress. The design activities on the Safe Corridor Demonstration Project (SCDP) are done (partially) and civil works in progress. The strengthening of KRSA is nearing completion. The challenge fund proposals are awaited.

1.13 Component C – Institutional Strengthening (US$ 10 mn)

1.13.1 Consultancy Services

Procurement for the following Consultancy services was initiated. Some are completed and others are at different stages of progress

1. Consultancy for Road User Perception Survey has been completed for 363 Km of Project Roads through M/s Sherwood Consultants and report shared with Bank.
2. Consultancy for Prioritization and DPR Preparation for 1000 Km of Improvement of State roads was entrusted with M/s Egis India Consulting Engineers Pvt. Ltd and final report submitted. DPR for 439 km roads has been completed. The preliminary project report for 1106 km was submitted to Government for posing for External Financial Assistance.
3. Consultancy for Strategic Option Study (SOS) for 8570 Km newly declared MDR was completed by M/s CDM Smith Associates Pvt. Ltd. Study report has been handed over to PWD, R&B and further action to improve these roads will be taken by them using their own funds.
4. Consultancy service for Developing Multi Model Integrated Transport Hub at 3 cities, Trivandrum, Kozhikode and Kochi was completed and report forwarded to Government. This report was also shared with NATPAC for consideration while preparing Comprehensive City Development Projects.
5. The Strategic Road Network Program was replaced with the following proposals as per the current priorities of the new Government

   Development of KHRI in to Centre of Excellence on Road Safety and Asset Management

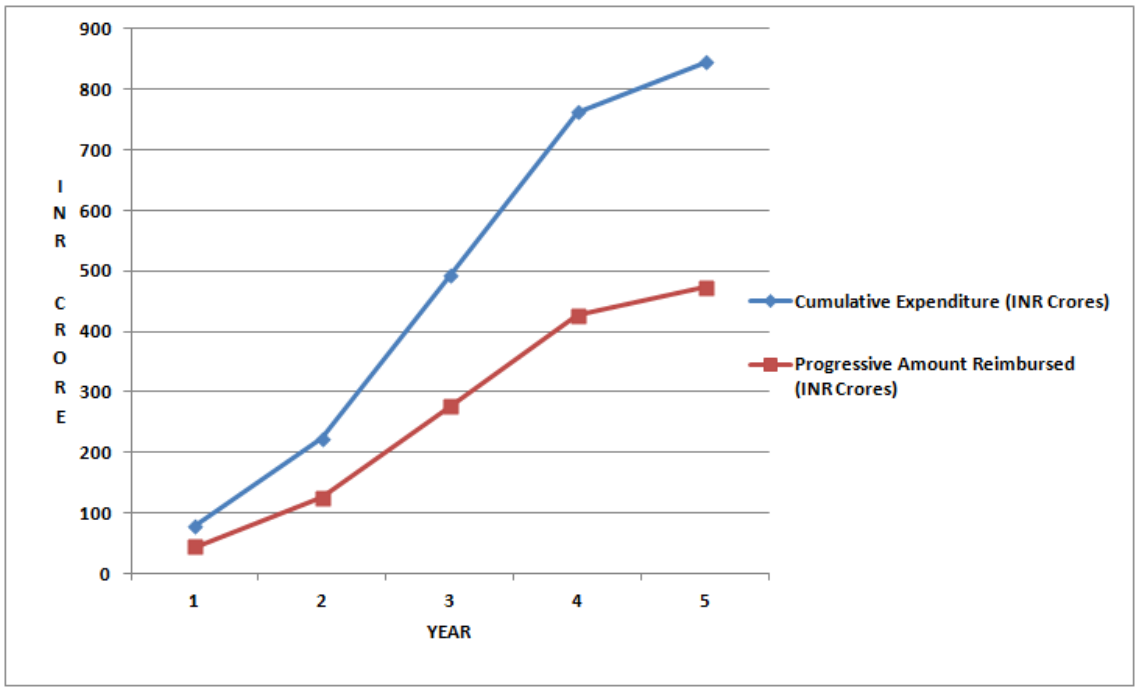
   Development of Public Information Management System integrating the existing Public Information Cell, the WINGS portal of PWD, the GIS etc.,
6. It is proposed to award the assignment for developing Public Information System to C-DAC. Discussions were held with the PWD Engineers and ToR revised. This will be procured after obtaining Word Bank clearance.
7. The Project Management Software has been installed and training given to CSC and KSTP Engineers. The PMS is operationalized.
8. The assignment for "Community Participatory Road Safety and Asset Management was initially held up due to court order. The Bank has issued no objection for rebidding. The court has passed verdict and Steering Committee decided to re-bid for the assignment. The ToR was modified and approved by the Bank. The re-bidding was initiated. In response to this eight applications received and evaluation finalized. The RFP is being forwarded to the Bank for approval.
9. The periodical Road User Satisfaction Survey is proposed to be conducted by November 2017

1.14 Project Cost and Disbursement

Sl. No	Claim	Date	EXPENDITURE	AMOUNT CLAIMED	DISBURSED
			in Lakh	in Lakh	USD in millions
			TOTAL		
	Front end fee				0.54
1	Retroactive	15.06.12 to 15.06.13	1,863.95	1,043.00	1.69
2	1st Quarter				
3	2nd Quarter	01.07.13 to 30.9.13	1,355.79	764.00	1.23
4	3rd quarter	01.10.13 to 31.12.13	1,906.01	1,071.00	1.71
5	4th quarter	01.01.14 to 20.03.14	2,696.00	1,510.00	2.5
		21.03.14 to 31.03.14	53.79	30.00	0.05
6	1st Quarter	01.04.14 to 18.06.14	1,826.41	1,023.00	1.7
		19.06.14 to 30.06.14	14.69	8.23	0.02
7	2nd Quarter	01.07.14 to 30.09.14	1,405.61	787.00	1.27
8	3rd quarter	01.10.14 to 31.12.14	3,790.21	2,124.00	3.44
9	4rth quarter	01.01.15 to 28.02.15	3,706.35	2,076.00	3.32
10	4rth quarter	01.03.15 to 31.03.15	3,704.89	2,076.00	3.32
11	1st Quarter	01.04.15 to 16.06.15	3,534.14	1,991.00	3.14
12		17.06.15 to 30.06.15	154.40	86.00	0.14
13	2nd Quarter	01.07.15 to 30.09.15	3,527.06	1,977.00	3.04
14	3rd quarter	01.10.15 to 31.12.15	10,338.17	5,790.00	8.51
15	4rth quarter	01.01.16 to 13.03.16	6,413.18	3,592.00	5.38
16		14.03.16 to 31.03.16	2,861.91	1,603.00	2.41
17	1st Quarter	01.04.16 to 10.06.16	2,037.40	1,141.00	1.69
18		11.06.16 to 22.06.16	2,957.89	1,656.00	2.45
19	2nd Quarter	23.06.16 to 31.08.16	4,786.10	2,680.00	4.01
20		01.09.16 to 30.09.16	3,981.82	2,230.00	3.26
21	3rd quarter	01.10.16 to 31.12.16	4,079.22	2,284.00	3.39
22	4rth quarter	01.01.17 to 31.03.17	9,237.79	5,173.00	8.04
	1st quarter	01.04.2017 to 31.05.2017	4292.74	2404.00	
			84458.88	**47324.00**	**72.87**

Progressive Expenditure and amount Reimbursed – Status as on August 2017

Year	Cumulative Expenditure (INR Crores)	Progressive Amount Reimbursed (INR Crores)
2013-14	78.75	44.42
2014-15	223.24	125.40
2015-16	491.53	275.51
2016-17	762.33	426.83
2017-18	844.58	472.83



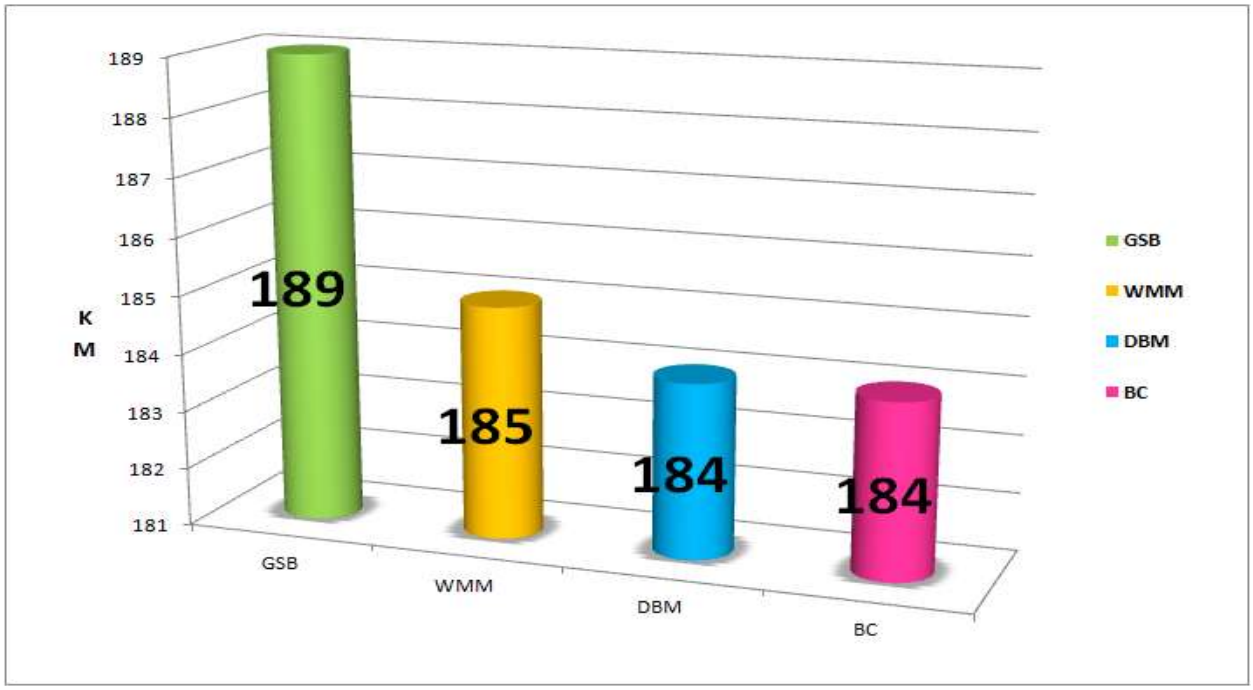
Estimated Actual loan allocation and disbursement received (Bank's Financial Year (January to December) (US$ million)

Fiscal Year	FY 2014 (Jan-Dec)	FY 2015 (Jan-Dec)	FY 2016 (Jan-Dec)	FY 2017 (Jan-Dec)	FY 2018 (Jan-Dec)	FY 2019 (Jan-Dec)
Allocation						
Annual	22	43	45	54	32	20
Cumulative	22	65	110	164	196	216
Disbursement						
Received	8.99	21.45	22.59	*15.20		
Cumulative	13.63	35.08	57.67	**72.87		

* Disbursement up to June 2017
** Cumulative up to June 2017

Note: The claims for July to September forwarded to CAAA. This disbursement is expected as US$ 4.00 million (approximately).

Physical Progress of Finished Pavement Works (KM)



Executive Summary

1.15 Upgradation Works

The work for Packages 1, 2, 4, 4A, 5 and 6 are in progress. The work in Package 3 was terminated due to poor performance of the contractor, and are arranged as 3A and 3B. The work for Package 8 is under PPP (Hybrid Annuity) and bidding is in progress. The PQ bids are been evaluated. The work for Package 8 is not taken up as upgradation, due to non availability of land. This is being taken up as Heavy Maintenance within the available land.

The following are the 9 upgradation Contract packages:

Sl. No.	*CONTRACT PACKAGE*	*NAME OF WORK*	*CONTRACTOR*
1.	KSTP-II/UG-1	Kasargod – Kanhangad	M/s RDS Projects, Kochi
2.	KSTP-II/UG-2	Pilathara – Pappinisery	M/s RDS Projects, Kochi
3.	KSTP-II/UG-3A	Thalassery – Kalarode	M/s Dinesh Chandra R. Agrwal
4.	KSTP-II/UG-3B	Kalarode – Valavupara	M/s EKK Infrastructure Pvt. Ltd.,
4.	KSTP-II/UG-4	Chengannoor - Ettumannoor	M/s Delma - Sreedhanya JV
6.	KSTP-II/UG-4A	Thiruvalla Bypass along (Chengannoor – Ettumannoor)	M/s EKK & Co, Kochi.
5.	KSTP-II/UG-5	Ettumannoor- Muvattupuzha	M/s NAPC Ltd, Chennai
7.	KSTP-II/UG-6	Ponkunnam - Thodupuzha	M/s GHV – EKK JV
8.	KSTP-II/UG-7	Perumbilavu – Perinthalmanna (EPC)	LA initiated
9	KSTP-II/UG-8	Punalur – Ponkunnam (PPP)	Bidding to identify concessionaire in progress

The works are being executed under FIDIC (5th edition) Conditions of Contract. The work involves improvement of State Highways including geometrical improvements and realignments to standard 2 lane of 7 m carriageway and 1.5 m paved shoulders. The Construction Works include:

- Widening the existing pavement where it is less than design width;
- Scarification, clearance, earthworks,
- Granular sub-base, wet mix macadam base course, bituminous mix surfacing,
- Construction of overlays to the existing pavement, inclusive of regarding to a designed vertical profile;
- Geometrical realignments at specific locations;
- Construction of paved shoulders;
- Construction and maintenance of diversion roads
- Construction of lined and unlined longitudinal drains, covered drains and footpaths in urban areas;
- New culverts, new bridges and rehabilitation of existing bridges/culverts and protective works
- Provision of road signs and markings;
- Provision of traffic safety features - road furniture and other road safety appurtenances,
- Routine maintenance and maintenance during Defects Rectification Period.
- Environmental protection measures and Social enhancement works/ landscaping works etc.

1.16 Summary of Progress (works)

The following tables present the summary of progress in each contract package during the month under report August 2017.

Contract Packages	Contract value (Rs. Crores)	Achieved cumulative percentage up to July 2017			Balance period (month)
		Financial		Physical (%)	
		Gross	Actual Paid		
KSTP/PMT/UG-1	1,33,05	74.62	65.00	78.00	
KSTP/PMT/UG-II	118.20	73.08	66.30	70.60	
KSTP/PMT/UG-1II-A	156.59%	10.00	10.00	19.00	10
KSTP/PMT/UG-1II-B	209.58	23.66	33.00	24.20	12
KSTP/PMT/UG-IV	293.58	79.38	71.00	77.90	03
KSTP/PMT/UG-IVA*	31.80	63.52	54.00	63.00	-
KSTP/PMT/UG-V	171.49	80.07	72.00	82.12	-
KSTP/PMT/UG-VI	227.13	119.67	93.00	100	

KSTP/PMT/UG-VIII (done as overlay)	08.00	100	100	100	-
Safe Corridor Demonstration Project (Civil Works)	146.67				

*****Work stopped for want of revision

1.17 Details of Supervision Consultancy Assignments:

Name of consultant	Contract signed	Contract Period	Commencement Date	Contract Amount (Rs.)	Work Package
CSC-1 – M/s Egis International in JV with M/s Egis India Pvt. Ltd.	28.02.2013	42 months	04.04.2013	18,36,04,600	I, II, III, IV, IVA & V (190 km)
CSC-2 – M/s MSV International USA	14.05.2014	30 months	14.05.2014	4,41,88200	VI (50 km)

1.18 General Issues:

The progress is not as per originally anticipated programme. The major factors that hindered the progress of works at initial stage were:

1. Delay in obtaining statutory clearances for erection of plants and crushers from the State Pollution Control Board, Mining and Geology Department and local bodies.
2. Unprecedented unseasonal rains affected adversely works in all the contract Packages in the initial stages
3. Resistance in identifying, erecting and operating crushers and quarry from the local people.
4. Poor cash flow problems with the contractors at the initial stages
5. Shortage of machinery, labour force in most of the contracts.
6. Frequent changes made in key personnel in some of the contracts by the contractor
7. Migrant labours working in all packages and labourers not available during festival season for long duration.
8. Lack of planning and managerial issues in contracts I, II & V
9. Work Contract-III terminated. Balance works procured under two contract (3A & 3B)
10. Delay in getting Environmental Clearance from Government Agency for excavation and conveyance of earth from borrow area.

Almost all these issues are now sorted out and the works are in progress now. The contractors were instructed to speed up the works to show better results. Contract Package-III was terminated due to poor performance of the contractor and rearranged as IIIA and IIIB and work in progress.

THE FOLLOWING SECTIONS DESCRIBE CIVIL WORKS CONTRACT PACKAGES IN DETAIL:

2 Current Status of Works

2.2 Contract Package I

Upgradation of Road from Kasargod to Kanhangad of SH 57

Scope of Works

Viaduct	–	1
Major Bridge	–	2
Minor Bridge	_	2
Widening Bridge	–	2
New culverts	_	16
Widening Slab culverts	–	16
Reconstruction	_	9
Foot path	_	6.7 Km
Drain	–	22.20 Km
Solar Lights		

2.3 Contract Details

Letter of Acceptance Date	::	06.03.2013
Agreement Date	::	01.04.2013
Name of Contractor	::	M/s RDS Projects Ltd, Kochi
Contract Price	::	Rs.133,05,79,485/-
Notice to Commence	::	24.04.2013
Total Length	::	27.78 Km
Contract Period	::	24 months
Completion Date	::	23-04-2015 extended to 31.03.2017
Defect Liability Period	::	365 days
1st Milestone	::	Km. 0+000 – Km. 10+000
2nd Milestone	::	Km. 0+000 – Km. 20+000
3rd Milestone		Km. 0+000 – Km. 27+780

2.4 Progress of Works for this month

2.4.1 Progress up to month ending August 2017

Sl No.	Item	Monthly Progress	Cumulative Progress	Balance Work
	Main Carriageway			
1	DBM	0.0 km	25.965 Km	1.815Km Kanhangad
2	BC	0.0 km	25.965 Km	1.815Km Kanhangad
	Service Road Kanhangad			
3	GSB	0.0 km	0.685 Km	2.805 Km
4	WMM	0.0 km	0.595 Km	2.895 Km
5	DBM	0.0 km	0.560 Km	2.930 Km
6	BC	0.0 km	0.0 km	3.490 Km (1.745 km both side)
	Structures			
7	Viaduct at 3+392		Completed and opened to traffic	
8	Chithari Bridge @ 18+400		Completed and opened to traffic.	
9	Culverts	0	35	
10	Drain - Casting	311.0 m	18170 m	4172 m
11	Drain - Placing	268 m	16,660m	1912 m

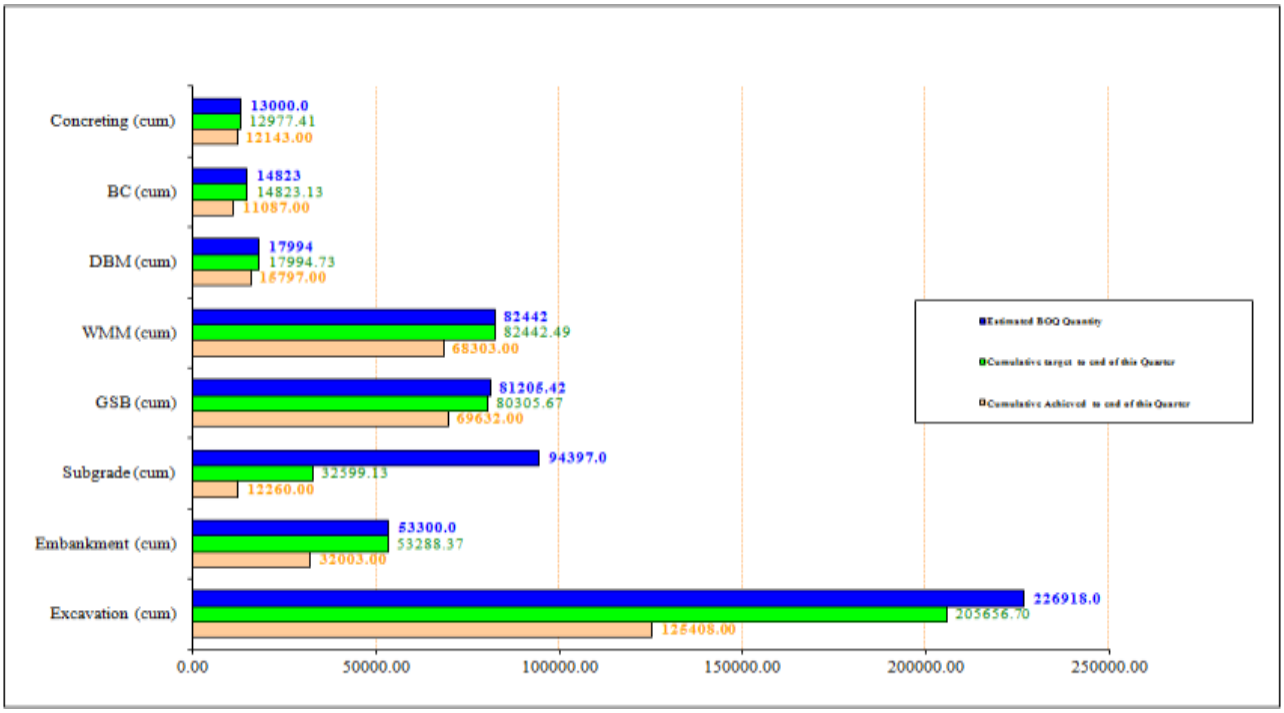
2.5 Schedule of Culverts and Drainage works

Nature of work	Total number	No. dwgs approved	Number completed	Number in progress	Number remaining	Total Number	No. dwgs approved	Number completed	Number in progress	Number remaining	Total number	No. dwgs approved	Number completed	Number in progress	Number remaining
Culverts	Milestone - I (1 to 2.8Km and 3.80 to 12.0Km)					Milestone - II (12 to 22Km.)					Milestone - III (0 to 1.0Km, 2.80 to 3.80Km and 22 to 27.78Km.)				
Widening Slab/Box Culverts	9	9	9	-	-	-	-	-	-	-	1	1	1	-	-
Reconstruction Slab/Box	7	7	7	-	-	7	7	7	-	-	2	2	2	-	-
New Box Culvert/Pipe culvert	6	6	6	-	-	2	2	2	-		1	1	1	-	-
Total culverts	22	22	22	-	-	9	9	9	-	-	4	4	4	-	-
Bridges/ROB Retained**	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Bridges Widening * **	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
New Bridges/Viaduct*	-	-	-	-	-	1	1	1	-	-	1	1	1	-	-

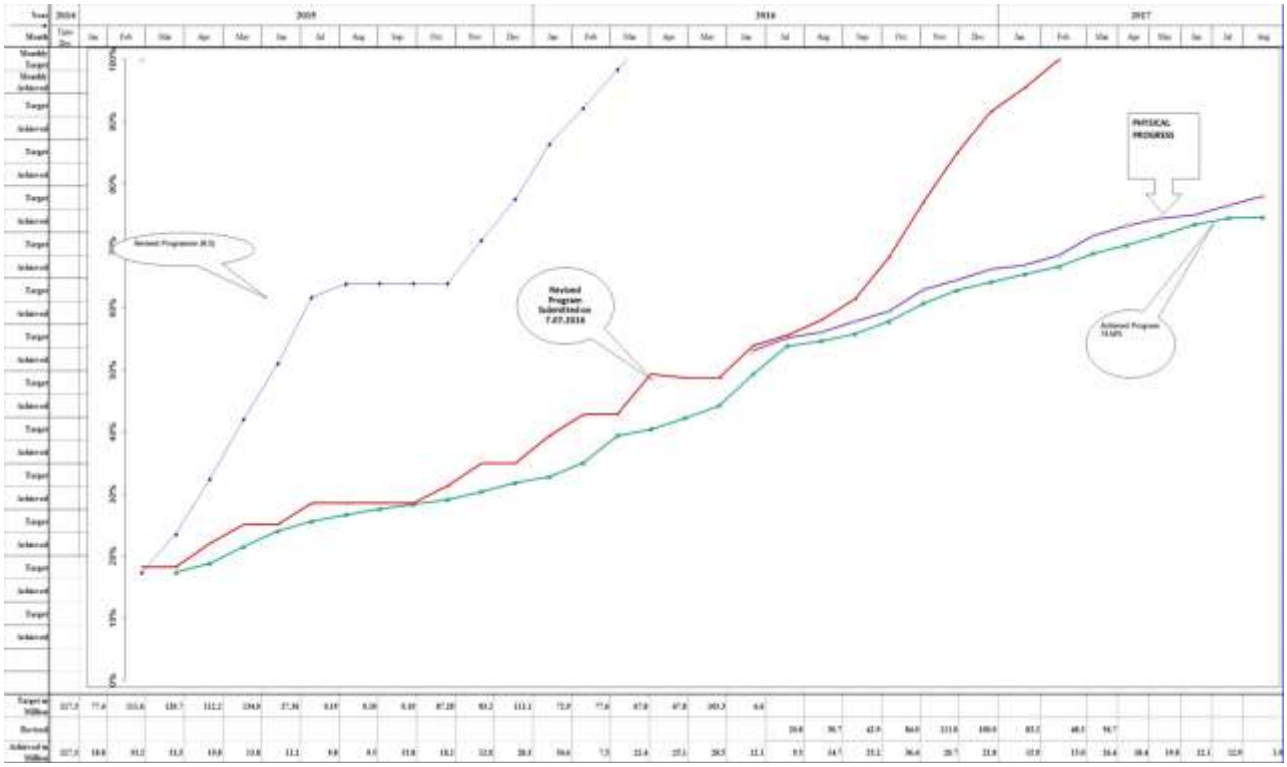
2.6 Progress Considering the Contract price up to this month ending Aug 2017

Up to previous month		This month		Cumulative to end of this month (gross)		Physical Progress
Target	Achieved	Target	Achieved	Target	Achieved (gross)	
100%	74.47%	-	0.15%	100%	74.62%	78%

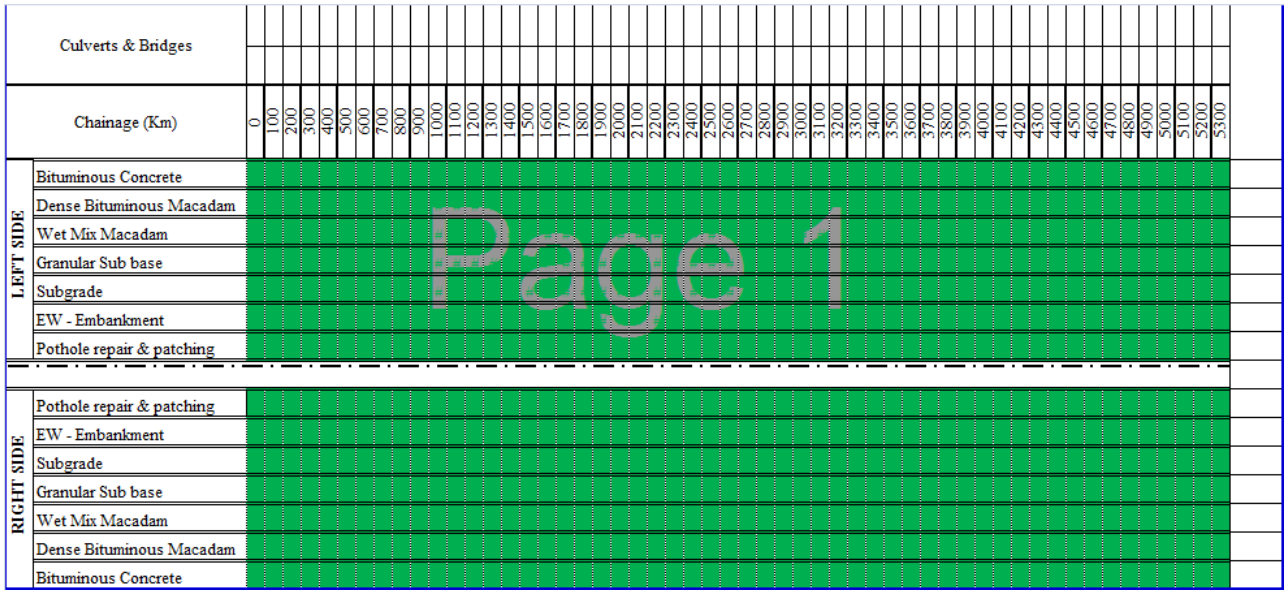
2.7 Physical progress Bar Chart

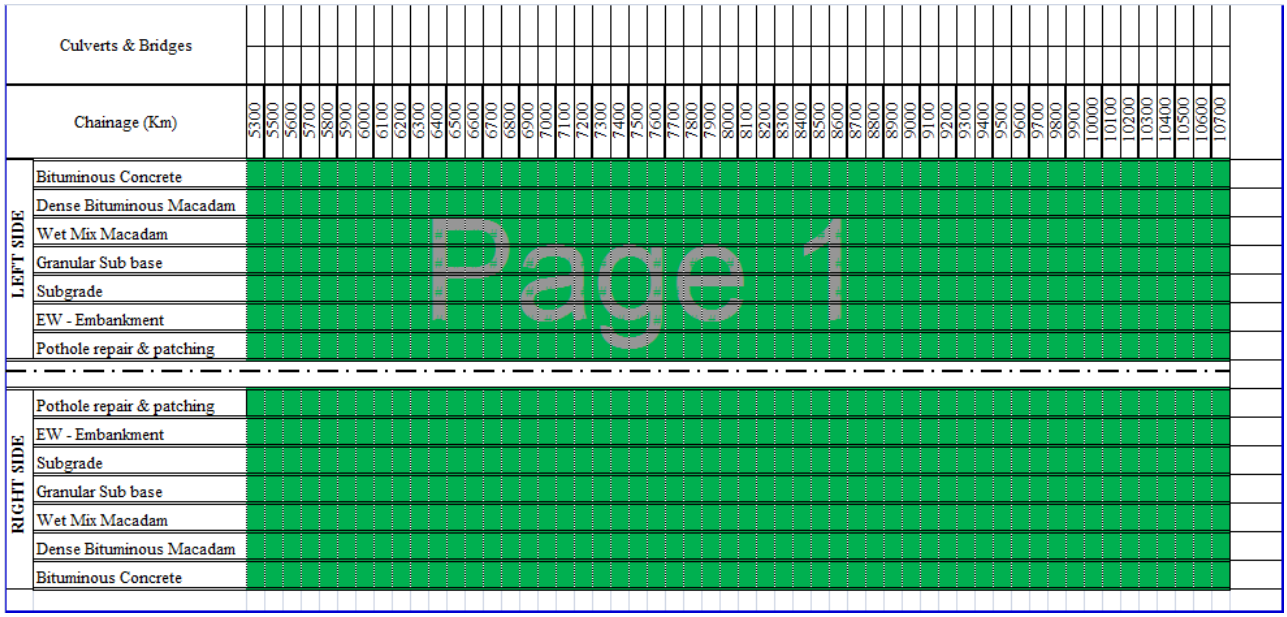


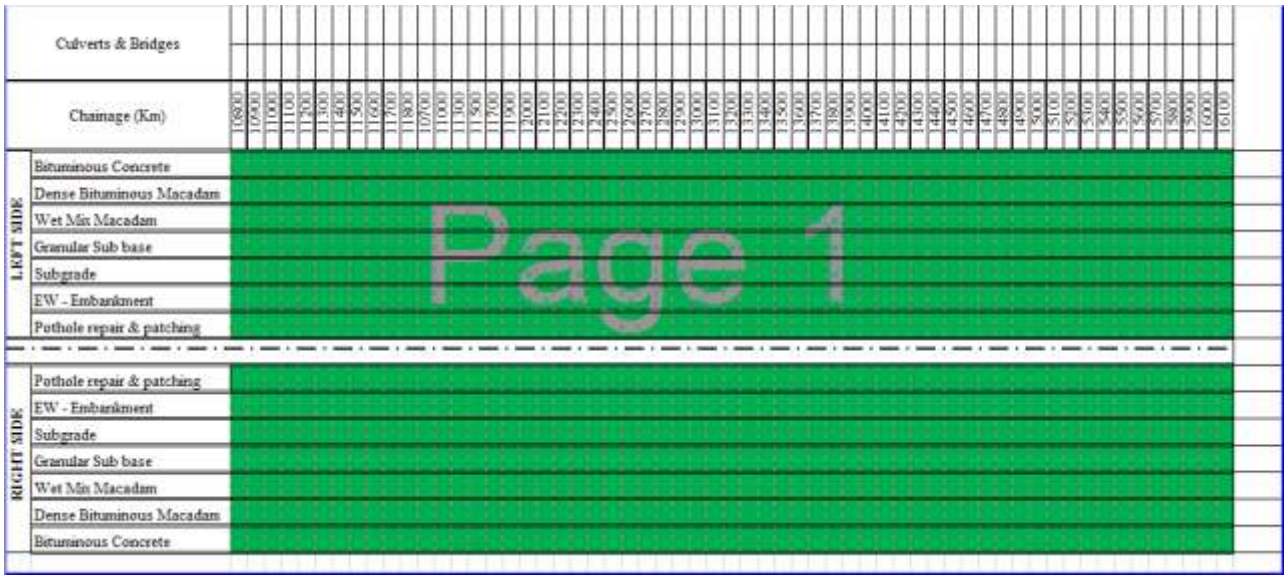
2.8 S-Curve

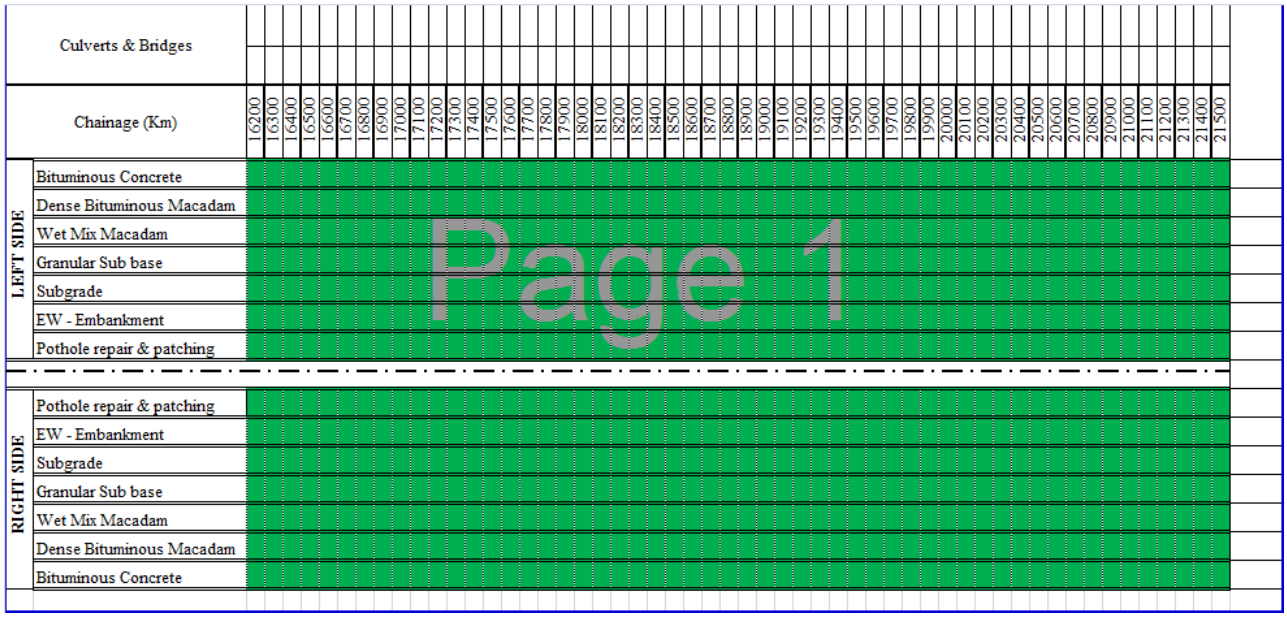


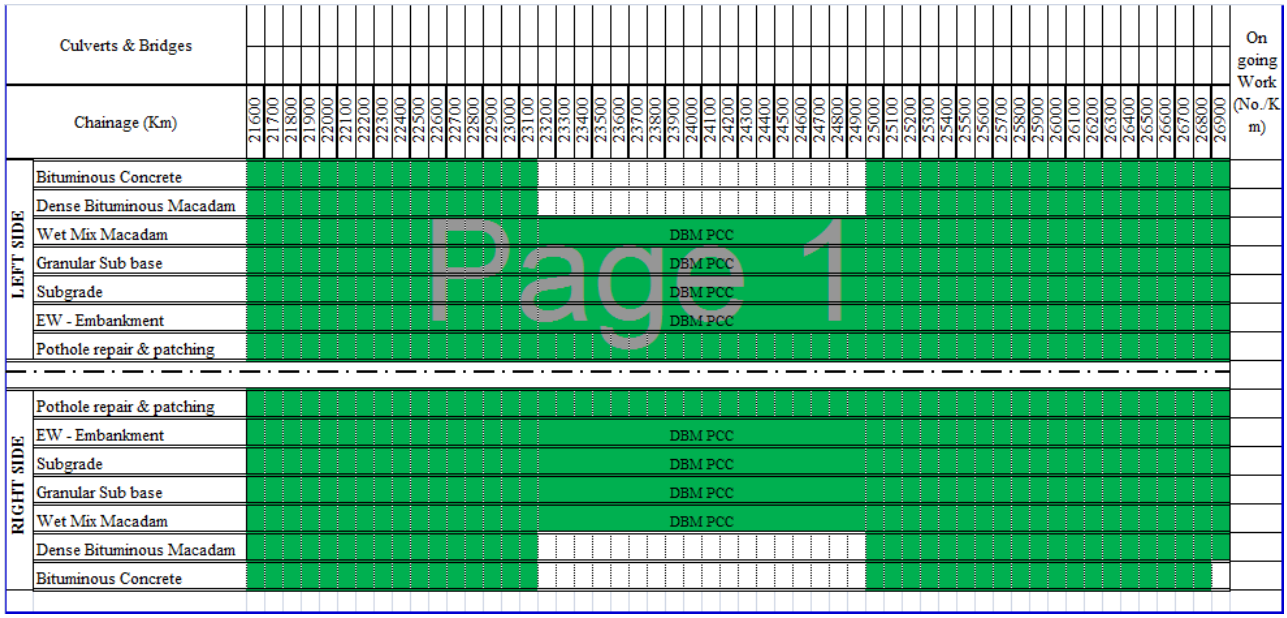
2.9 Strip map

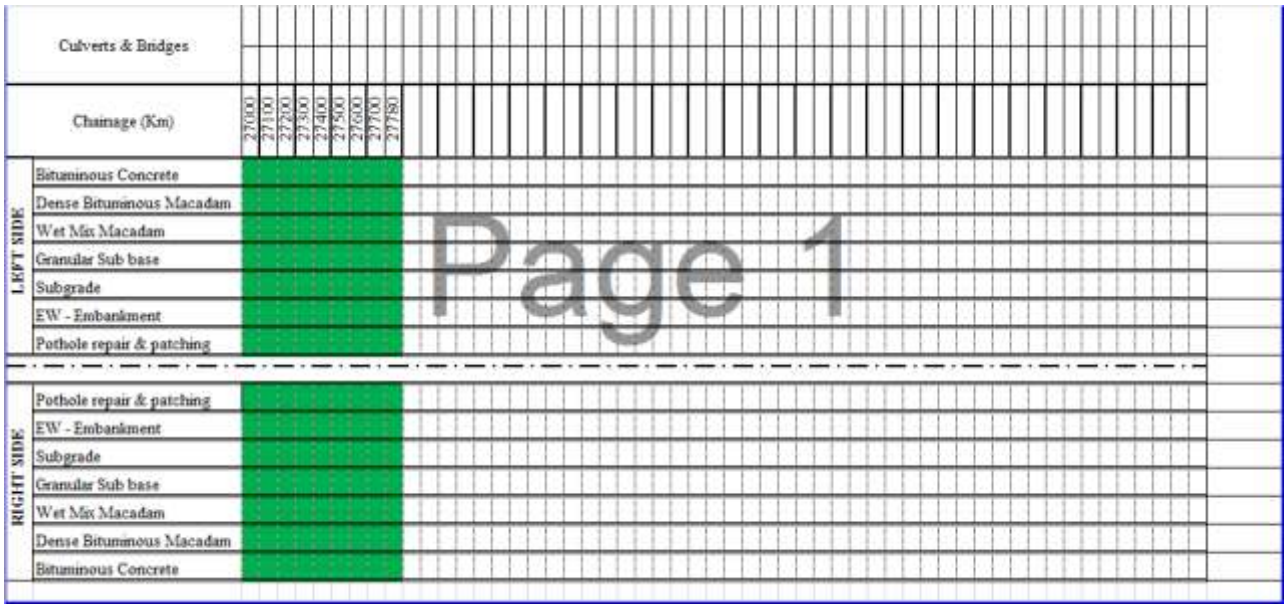

Culverts & Bridges
Chainage (Km)
0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300
LEFT SIDE
Bituminous Concrete
Dense Bituminous Macadam
Wet Mix Macadam
Granular Sub base
Subgrade
EW - Embankment
Pothole repair & patching
RIGHT SIDE
Pothole repair & patching
EW - Embankment
Subgrade
Granular Sub base
Wet Mix Macadam
Dense Bituminous Macadam
Bituminous Concrete
Page 1


Culverts & Bridges
Chainage (Km)
5300 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000 10100 10200 10300 10400 10500 10600 10700
LEFT SIDE
Bituminous Concrete
Dense Bituminous Macadam
Wet Mix Macadam
Granular Sub base
Subgrade
EW - Embankment
Pothole repair & patching
RIGHT SIDE
Pothole repair & patching
EW - Embankment
Subgrade
Granular Sub base
Wet Mix Macadam
Dense Bituminous Macadam
Bituminous Concrete
Page 1


Culverts & Bridges
Chainage (Km)
LEFT SIDE
Bituminous Concrete
Dense Bituminous Macadam
Wet Mix Macadam
Granular Sub base
Subgrade
EW - Embankment
Pothole repair & patching
RIGHT SIDE
Pothole repair & patching
EW - Embankment
Subgrade
Granular Sub base
Wet Mix Macadam
Dense Bituminous Macadam
Bituminous Concrete
Page 1


Culverts & Bridges
Chainage (Km)
16200 16300 16400 16500 16600 16700 16800 16900 17000 17100 17200 17300 17400 17500 17600 17700 17800 17900 18000 18100 18200 18500 18400 18500 18600 18700 18800 18900 19000 19100 19200 19300 19400 19500 19600 19700 19800 19900 20000 20100 20200 20300 20400 20500 20600 20700 20800 20900 21000 21100 21200 21300 21400 21500
LEFT SIDE
Bituminous Concrete
Dense Bituminous Macadam
Wet Mix Macadam
Granular Sub base
Subgrade
EW - Embankment
Pothole repair & patching
RIGHT SIDE
Pothole repair & patching
EW - Embankment
Subgrade
Granular Sub base
Wet Mix Macadam
Dense Bituminous Macadam
Bituminous Concrete
Page 1


Culverts & Bridges
Chainage (Km)
On going Work (No./Km)
21600 21700 21800 21900 22000 22100 22200 22300 22400 22500 22600 22700 22800 22900 23000 23100 23200 23300 23400 23500 23600 23700 23800 23900 24000 24100 24200 24300 24400 24500 24600 24700 24800 24900 25000 25100 25200 25300 25400 25500 25600 25700 25800 25900 26000 26100 26200 26300 26400 26500 26600 26700 26800 26900
LEFT SIDE
Bituminous Concrete
Dense Bituminous Macadam
Wet Mix Macadam
Granular Sub base
Subgrade
EW - Embankment
Pothole repair & patching
DBM PCC
RIGHT SIDE
Pothole repair & patching
EW - Embankment
Subgrade
Granular Sub base
Wet Mix Macadam
Dense Bituminous Macadam
Bituminous Concrete
Page 1


Culverts & Bridges
Chainage (Km)
27000 27100 27200 27300 27400 27500 27600 27700 27780
LEFT SIDE
Bituminous Concrete
Dense Bituminous Macadam
Wet Mix Macadam
Granular Sub base
Subgrade
EW - Embankment
Pothole repair & patching
RIGHT SIDE
Pothole repair & patching
EW - Embankment
Subgrade
Granular Sub base
Wet Mix Macadam
Dense Bituminous Macadam
Bituminous Concrete
Page 1

2.10 Potential Issues

The extended time for completion of works ended on 31.03.2017. However, finishing works are incomplete including junction improvement in complete works and snags.

The main carriageway works up to wearing course level has been completed except at Kanhangad Town for a length of 1.815 km. The work of main carriage way and service road works in Kanhangad town are in progress. The work in Kanhangad town has been unduly delayed due to the delay in shifting of OFC cables belonging to BSNL and UG cable belonging to KSEB and public interference to works.

2.11 Payments to the Contractor

Mobilization advance, Equipment advance and Interim payment Certificate for works up to (IPC-20) was paid to the Contractor amounting to Rs. 85.69 crores. Timely payments are released to the contractor. The Steering Committee held on 28.06.2014 lowered the threshold limit of minimum IPC amount for Rs. 1.5 crores from Rs. 3.00 crores to facilitate the cash flow of contractor. Payment towards variation and other bills are under processing.

2.12 Implementation of EMP

2.12.1 Environment Management at work sites

Contractor completed all road works except the roads in Kanhangad town. The works of parking area, bus shelter, balance street lighting is remaining. Some more drain works and culvert in kanhangad town is remaining to be completed. The land slide at Kasargode removed. The noise barrier construction in front of kottakulam school is in progress.

The lost access to the Homoeopathy hospital at Kanhangad town reinstated. The safety of construction site is a primary concern and requires further improvement. Pavement markings, fixing of sign boards, safety barriers installation bus bay construction, parking area developments started and halted due to rains.

The enhancement works in front of the Thrikanad temple is pending. Tree planting construction of bus bay footpath is to be completed at this location.

World Bank team visited site on 5th June and express concern on the progress and laxity on work zone safety. Land scape and tree plantation in Kanhangad town has to be done along with other works. The proposal in this regard is pending with the contractor. The proposal is pending with contractor.

2.12.2 Traffic Management and Road Safety Measure

The Contractor has not provided the required safety precautions such as flags, safety signboards, traffic cones, blinkers and safety tapes at the work zone at Kanhangad town.

2.13 Quality Control Tests

2.13.1 Material for Structure

Tests Performed	Standard used	Standard limits	Test Frequency	Tests conducted up to Previous Month			Tests conducted during this Month			Total tests up to end of this Month		
				No. of Test Conducted	Passed	Failed	No. of Test Conducted	Passed	Failed	No. of Test Conducted	Passed	Failed
STONE	MORT&H 1004											
Water Absorption	IS:1124	Max 2%	lot	1	1					1	1	
CEMENT	MORT&H 1006		lot									
Fineness	IS:269-1976		" "	129	129		1	1		130	130	
Standard Consistency	" "		" "	129	129		1	1		130	130	
Soundness	" "		" "	5	5					5	5	
Compressive Strength	" "		" "	5	5					5	5	
3 day strength test	" "	27 Mpa		127	127		1	1		128	128	
7 day strength test	" "	37 Mpa		127	127		1	1		128	128	
28 day strength test	" "	53 Mpa	Sets	127	124					127	124	3
Initial Setting time	IS:4031(Part 1)	< 30 min		129	129		1	1		130	130	
Final Setting time	IS:4031(Part 5)	> 600 min		129	129		1	1		130	130	
COARSE/FINE Aggregates	MORT&H 1007/1008											
Gradations	IS:2386(Part 1)		lot	2555	2555		14	14		2569	2569	
Flakiness Index	" "	min 35%	" "	1313	1313		14	14		1327	1327	
Deletrious Mat./Organic Imp.	" (Part 2)		" "									
Water Absorption/Spec.Grav.	" (Part 3)	Max 2%	" "	4	4					4	4	
Bulk Density	" "		" "									
Impact or Crushing Aggr.Value	" (Part 4)	Max 30%	" "	936	936		11	11		947	947	
Los Angeles Abrasion Value	" "		" "									
Soundness	" (Part 5)		" "									
Alkali Aggregate Reactivity	" (Part 7)		" "									
Surface Moisture Content	" (Part 3)		" "	290	290		14	14		304	304	
Fineness Modulus of FA				898	898		11	11		909	909	
STEEL	MORT&H 1009											
Verification of conformity(Yield stress,U.T.S, % Elg,Unit Wt.Dia. Test Etc	IS:432/1030/1785/1786 2004/2062		lot	4	4					4	4	
WATER	MORT&H 1010											
Verification of conformity	IS:3025		lot	4	3	1				4	3	1
CONCRETE ADMIXTURE	MORT&H 1012											
Verification of conformity	IS:1199/6925/9103		lot	4	4					4	4	
MIXING CONCRETE (Trial mixes)	MORT&H 1700											
3 Test Cubes/Slump test	IS:516/1199		MORT&H 1700-8									
Grade15: 7 Days	" "			19	19					19	19	
28 Days	" "			23	23					23	23	
Grade 20: 7 Days	" "			31	31					31	31	
28 Days	" "			21	21					21	21	
Grade 25:(RCC) 7 Days	" "		" "	24	24					24	24	
28 Days	" "		" "	21	21					21	21	
Grade 25 (Drain) 7 Days	" "		" "									
28 Days	" "		" "	3	3					3	3	
Grade 30: 7 Days	" "		" "	3	3					3	3	
28 Days				6	6					6	6	
Grade 35:(RCC) 7 Days	" "		" "	36	36					36	36	
28 Days	" "		" "	42	42					42	42	
M-40: 7 Days	" "		" "	6	6					6	6	
28 Days	" "		" "	12	12					12	12	
CONCRETE CUBE STRENGTH	MORT&H 1700/900											
M-15 : 7 Days		11.25 N/mm2	set	323	323		8	8		331	331	
28 Days		15 N/mm2	" "	505	494	11	19	19		524	513	11
M-20: 7 Days		15 N/mm2	" "	208	206	2	2	2		210	208	2
28 Days		20 N/mm2	" "	250	249	1				250	249	1
M-25 : 7 Days		18.75 N/mm2	set	521	519	2				521	519	2
28 Days		25 N/mm2	" "	938	931	7				938	931	7
M-25(Drain): 7 Days		18.75 N/mm2	" "	807	806	1	19	19		826	825	1
28 Days		25 N/mm2	" "	1265	1255	10	32	32		1297	1287	10
M-35: (Pile) 7Days		26.25 N/mm2	" "	2	2					2	2	
28 Days		35 N/mm2	" "	4	4					4	4	
M-35: (Pile Cap) 7 Days		26.25 N/mm2	" "	70	70					70	70	
28 Days		35 N/mm2	" "	143	143					143	143	
M-30: 7 Days		26.25 N/mm2	" "	17	17					17	17	
28 Days		35 N/mm2	" "	53	53					53	53	
M-40: 7 Days		30.00 N/mm2	" "	86	86					86	86	
28 Days		40 N/mm2	" "	280	274	6				280	274	6
STONE MASONRY	MORT&H 1400			17	15	2				17	15	2
3 Test Mortar Cubes	IS:2250		MORT&H :1407	26	18	8				26	18	8

2.13.2 Material for Pavement

Common Tests Performed	Indian / Foreign Standard	Test Frequency 1 test per	Total tests up to end of Previous Month			Tests during this Month			Total tests up to end of this Month		
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
EARTHWORK	**MORT&H 305/903.2**	Emb./Subgrade									
Gradation/Sand content	IS2720(Part 4)	1500 cum	203	203					203	203	
Atterberg Limits	" (Part5)	" "	196	194					196	194	
Proctor	" (Part 8)	" "	204	204					204	204	
CBR	" (Part 16)	3000 cum	137	137					137	137	
Free Swell Index	" (Part 40)	" "	191	190	1				191	190	1
Field Density/Compaction	" (Part 28)	500/1000 sqm	7098	6939	156	6	6		7104	6945	156
SUBBASE (GSB) granular material	**MORT&H 401/900.3.1**										
Gradation	IS2720(Part 4)	200 cum	546	545	1	3	3		549	548	1
Atterberg Limits	" (Part5)	" "	546	546		3	3		549	549	
Proctor			6	6					6	6	
Deleterious content											
10% fine value			43	43		1	1		44	44	
Water Absorption			1	1					1	1	
Field Density/Compaction	" (Part 28)	500 sqm	3291	3184	101	18	18		3309	3202	101
CBR if grading (II or III)			87	87					87	87	
BASE (WMM)	**MOST 406/900.3.4**										
Gradation & Belt Samples	IS 2386 (Part 4)	200 cum	998	996	2	5	5		1003	1001	2
Flakiness/Elongation Value	" (Part1)	" "	489	489		5	5		494	494	
Aggregate Impact Value / LAAV	" (Part4)	" "	494	494	12	5	5		499	499	12
Atterberg Limits	" (Part4)	100 cum	930	930		5	5		935	935	
Los Angels Abrasion Value	" (Part1)	" "	162	162		1	1		163	163	
Proctor			36	36					36	36	
Water Absorption			35	35					35	35	
Field Density/Compaction	" (Part 28)		4540	4427	107	30	30		4570	4457	107
PRIME/TACK COAT	**MORT&H 502/503/900.3.4**										
Rate of Spread	IS:217/8887	500 sqm	1786	1786		28	28		1814	1814	
DENSE BITUMINOUS MACADAM	**MORT&H 504/900.4.4**										
Aggregate Gradation (Individual, Combined + GSA Mix)	" (Part 1)		1728	1728		60	60		1788	1788	
Aggregate Impact Value (AIV)/ LAAV	IS:2386 (Part 4)	50 cum	315	315		5	5		320	320	
Flakiness/Elongation Value	" (Part 1)	" "	386	386		5	5		391	391	
Quality of Binder	IS-73		22	22					22	22	
Coating and Stripping	IS 6241		4	4					4	4	
Binder Content (ASTM - 2172-95)			330	330		10	10		340	340	
Marshall Stability Test	ASTM D 1559-62T	Sets	236	236		10	10		246	246	
Specific Gravity /Water Absorption	IS 2386(Part-3)		18	18					18	18	
Soundness	IS 2386(Part-5)	2 per day									
Bulk Density	IS:2386(Part 3)	" "									
Field Density/Compaction (Core density)	ASTM D 2041-95		1187	1182	5	23	23		1210	1205	5
Sand Equivalant/Value for FA											
Plasticity Index											
BITUMINOUS CONCRETE	**MORT&H 504/900.4.6**										
Aggregate Gradation (Individual, Combined + GSA Mix)			791	791		50	50		841	841	
Aggregate Impact Value/ LAAV	IS:2386 (Part 4)	50 cum	226	226		5	5		231	231	
Flakiness/Elongation Value	" (Part 1)	" "	238	238		5	5		243	243	
Marshall Stability	ASTMD 1559	2 tests per day	218	218		10	10		228	228	
Quality of Binder											
Binder Content	IS:2386 (Part 4)	" "	195	195		10	10		205	205	
Field Density/Compaction (Core density)	Core Samples	250 sqm	1113	921		17	17		1130	921	
Plasticity Index											

2.14 Roughness Index Report

Sl No	Date of Testing	Chinage in Km		Length	Side	Avg Bumps in (mm)	Remarks
		From	To				
1	21.03.2015	4+530	6+000	1470	LHS	1602.78	
2	21.03.2015	4+530	6+000	1470	RHS	1619	
3	21.03.2015	3+400	4+000	600	LHS	1776.5	
4	21.03.2015	3+300	4+080	780	RHS	2013.5	
5	31.03.2015	6+000	6+400	400	LHS	2028.25	
6	31.03.2015	6+000	6+400	400	RHS	2014	
7	31.07.2015	7+850	8+750	900	LHS	1887.5	
8	31.07.2015	7+850	8+750	900	RHS	1950.5	
9	31.07.2015	8+750	9+450	700	RHS	1973.28	
10	31.07.2015	8+750	9+450	700	LHS	1867.42	
11	26.09.2015	9+750	10+450	700	LHS	1916	
12	26.09.2015	9+750	10+350	600	RHS	1938	
13	01.06.2016	12+780	13+580	800	LHS	1800.35	
14	01.06.2016	12+780	13+580	800	RHS	1736.23	
15	02.06.2016	9+450	9+750	300	LHS	1767.1	
16	02.06.2016	9+450	9+750	300	RHS	2014.1	
17	23.09.2016	10+450	11+300	850	LHS	1753	
18	23.09.2016	10+350	11+300	950	RHS	1784.5	
19	23.09.2016	14+050	14+690	640	RHS	1827	
20	23.09.2016	14+050	14+690	640	LHS	1693.5	
21	23.09.2016	15+470	16+130	660	RHS	1668.5	
22	23.09.2016	15+470	16+130	660	LHS	1619.5	
23	01.11.2016	13+580	14+050	470	RHS	1751.8	
24	01.11.2016	13+580	14+050	470	LHS	1330	
25	01.11.2016	11+300	11+800	500	RHS	1373.4	
26	01.11.2016	11+300	11+800	500	LHS	1594.3	
27	13.01.2017	11+800	12+780	980	RHS	1489.5	
28	13.01.2017	12+000	12+780	780	LHS	1429.5	
29	16.02.2017	16+110	17+910	1800	LHS	1114.67	
30	16.02.2017	16+110	17+910	1800	RHS	1285.67	
31	04.03.2017	14+970	15+970	500	LHS	1865	
32	04.03.2017	14+970	15+470	500	RHS	1671.5	

Date of Testing	Chinage in Km		Length	Side	Avg Bumps in (mm)	Remarks
	From	To				
26.09.2015	7+840	9+440	1600	RHS	1672	
26.09.2015	7+840	9+440	1600	LHS	1764.62	
30.11.2015	0+000	1+000	1000	RHS	1586.5	
30.11.2015	1+000	2+000	1000	RHS	1643.5	
30.11.2015	2+000	3+000	1000	RHS	1711.5	
30.11.2015	3+000	4+080	1080	RHS	1904.5	
30.11.2015	0+000	1+000	1000	LHS	1774.5	
30.11.2015	1+000	2+000	1000	LHS	1523.5	
30.11.2015	2+000	3+000	1000	LHS	1654.5	
30.11.2015	3+000	4+080	1080	LHS	1962	
01.12.2015	4+550	5+550	1000	RHS	1757.5	
01.12.2015	4+550	5+550	1000	LHS	1757.5	
01.12.2015	9+800	10+300	500	RHS	1603	
01.12.2015	9+850	10+300	450	LHS	1706	
02.12.2015	5+550	6+700	1150	LHS	1618	
02.12.2015	5+550	6+700	1150	RHS	1612.5	
26.11.2016	9+400	9+800	400	RHS	1159	
26.11.2016	9+440	9+850	410	LHS	1045	
26.11.2016	10+300	11+750	1450	RHS	1067.8	
26.11.2016	10+300	11+750	1450	LHS	1121	
27.11.2016	12+800	14+600	1800	LHS	1447.16	
27.11.2016	12+800	14+600	1800	RHS	1399.665	
26.11.2016	15+500	16+100	600	RHS	1054.5	
26.11.2016	15+500	16+100	600	LHS	1225.5	

2.15 Photograph

0+000 JUNCTION WITH ARROWS & SIGNBOARDS

KM: 0+180 OVERHEAD GANTRY FOUNDATION WORK IS IN PROGRESS

KM: 0+280-405 RHS BREAST WALL WORK IS IN PROGRESS

KM: 1+600 BAR MARKING WORK COMPLETED

3 Contract Package - 2

Upgradation of Road from Pilathara to Pappinissery of SH 67

Scope of Works

New ROB	–	2
Repair of Bridge	–	2
New Box culverts	_	9
Widening Slab culverts	–	20
Reconstruction	_	8
Drain	–	26.04 Km
Foot path	_	12.6 Km
Solar Lights	-	

3.1 Contract Details

Letter of Acceptance Date	::	05.03.2013
Agreement Date	::	01.04.2013
Name of Contractor	::	M/s RDS Projects Ltd, Kochi
Contract Price	::	Rs.118,29,77,833/-
Notice to Commence	::	23.04.2013
Total Length	::	20.90 Km
Contract Period	::	24 months
Completion Date	::	22nd April 2015 extended to 31.03.2017
Defect Liability Period	::	365 days
1st Milestone	::	Km. 0+000 – Km. 08+000
2nd Milestone	::	Km. 0+000 – Km. 14+000
3rd Milestone	::	Km. 0+000 – Km. 20+900 revised to March 31, 2017

3.2 Progress of Works

3.2.1 Road portion

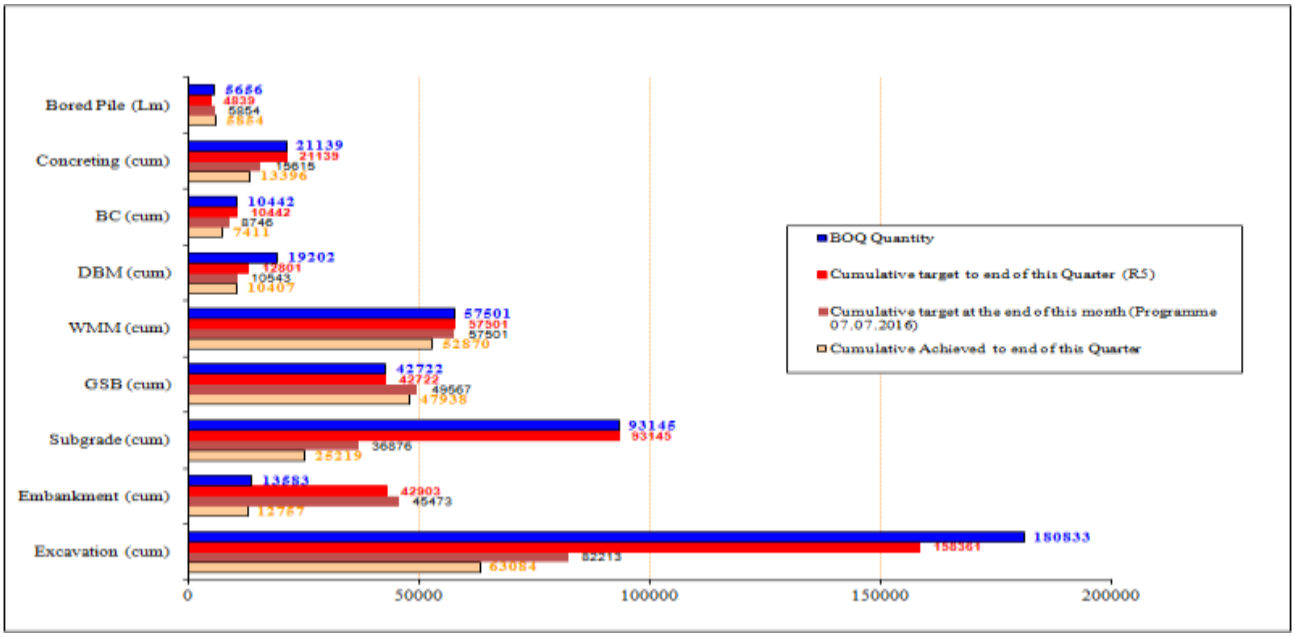
Sl No.	Item	Monthly Progress	Cumulative Progress	Balance Work
1	DBM	0.0 km	19.255 km	1.645 km
2	BC	0.0 km	16.780 km	4.12 Km including Thavam ROB 1.1 Km & Ramapuram Bridge Approaches 400 m

	Structures		
Sl No.	**Item**	**Monthly Progress**	**Cumulative Progress**
3	Ramapuram Bridge @ km 4+260	Pile cap for 2 Nos completed on A2 side approach	Super structure work except crash barrier and other finishing work completed. Approach work at A2 side pile casting completed (8 Nos) and pile cap 2 Nos completed.
4	Thavam ROB @7+420	Box cell top slab work completed for about 48 Mtrs.	Out of total 10 spans, Girder and deck slab for 6 Nos completed. PSC girders casting completed. Box cell approach: A2 side Box cell raft 135 mtr length completed out of 160mtr length. A1 side Box cell raft 80mtr length completed out of total 128 mtr. Top slab work completed for about 76Mtrs.
5	Pappinissery ROB @19+950	Subway approach retaining wall work and service road works are in progress	Work completed except miscellaneous works such as painting, road marking, road signs etc. Service road and Subway approach retaining wall works are in progress
6	Tree plantation	Tree plantation work in progress	Tree plantation completed from km 0+000 to 2+000 and from km 3+000 to 4+000. Partially completed between km 4+000 to km 5+000
7	Solar Street Lighting	Foundation work for poles are in progress.	117 Nos completed
8	Culverts	Nil	Out of total 38 Nos, 27 Nos completed except apron and protection works. Culvert 7 Nos deleted. Culvert at km 4+162 (at Ramapuram bridge approach), and 20+700 are yet to be started.
9	Drain - Casting	3.0 m	19435 m
10	Drain - Placing	75.0 m	14325 m

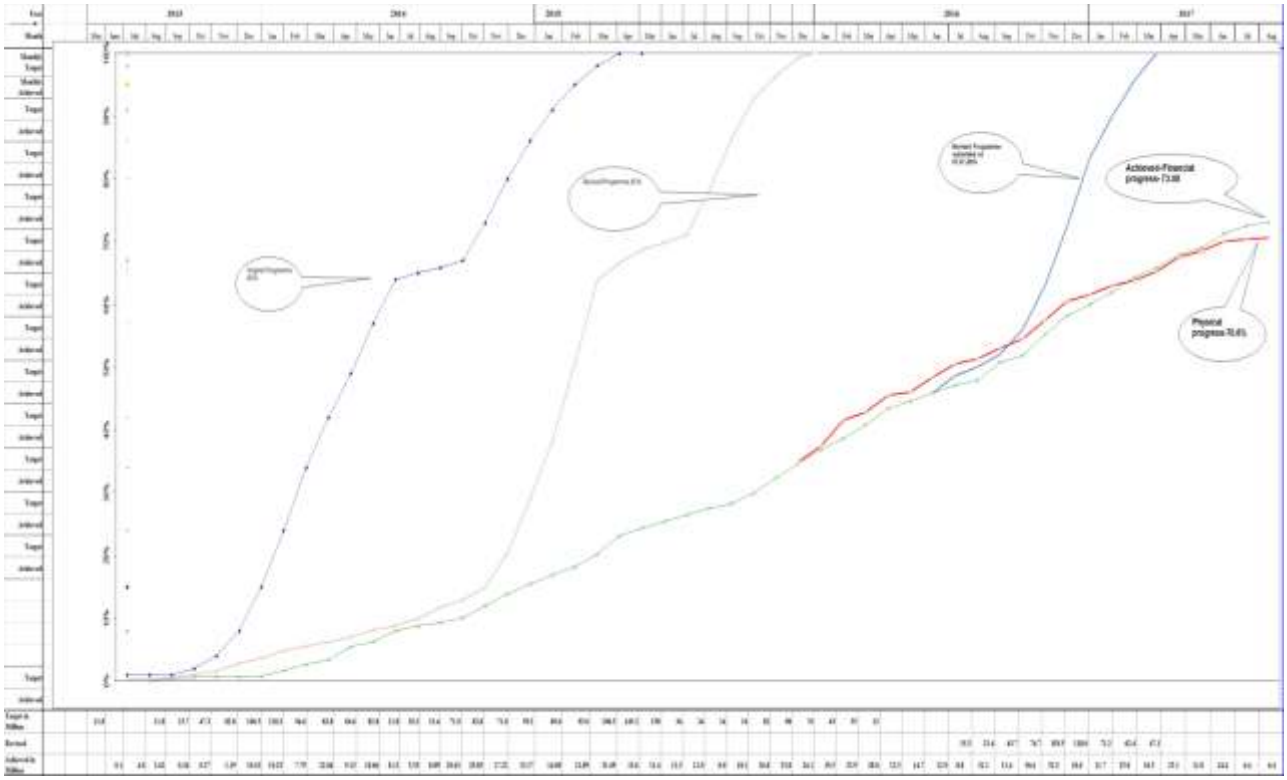
Progress up to month ending August 2017 is as follows:

For previous month		This month		Cumulative to end of this month (gross)		Physical
Target	Achieved	Target	Achieved	Target	Achieved (gross)	Achieved
100%	72.48%		0.60	100%	73.08	70.60

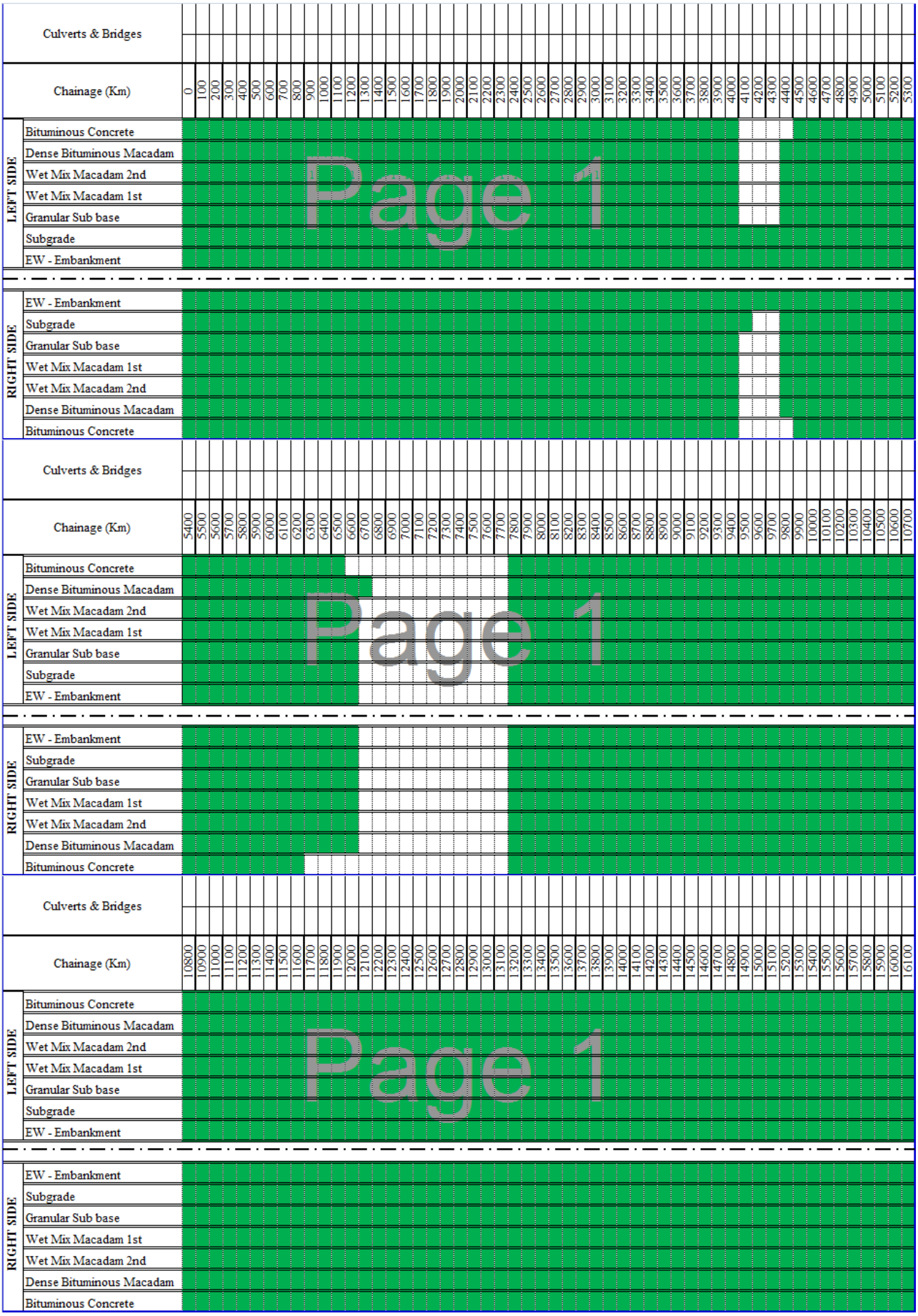
3.3 Physical Progress

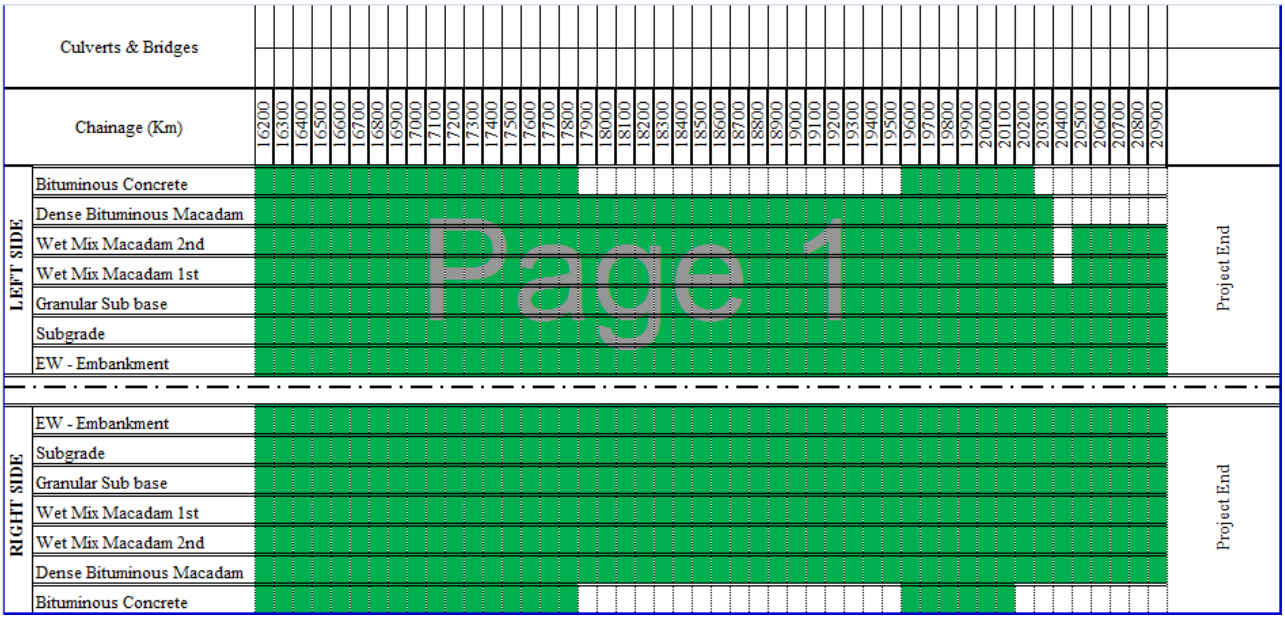


3.4 S-Curve



3.5 Strip Chart





3.6 Schedule of culverts of drainage

Nature of work	Original number	No. dwgs approved	Number completed	Number in progress	Number remaining	Original number	No. dwgs approved	Number completed	Number in progress	Number remaining	Original number	No. dwgs approved	Number completed	Number in progress	Number remaining
Culverts	**Milestone - I(0-8km)**					**Milestone - II(8-14km)**					**Milestone - III(14-20.9km)**				
Widening Slab Culverts	4	4	4	-	-	5	5	5	-	-	3	2	2		1
Slab Culvert retained	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reconstruction	12	12	11		1	-	-	-	-	-	5	2	1	-	4
New Box Culvert	1	1	1	-	-	2	2	1			6	1	2		4
Total culverts	**17**	**17**	**16**	-	**1**	7	7	**6**	-	-	**14**	**5**	**5**	-	**9**
Bridges Retained*	2	-	-	-	2	-	-	-	-	-	1	-	-	-	1
New Bridges/ROB**	1	-	-	-	1	-	-	-	-	-	1	-	-	-	1

3.7 Payments to the Contractor

Mobilization advance and Equipment advance and IPC's was paid to the Contractor amounting to Rs. 78.29 crore The Steering Committee held on 28.06.2014 lowered the threshold limit of minimum IPC amount for Rs. 1.5 crores from Rs. 3.00 crores to facilitate the cash flow of contractor. The pending payment are being processed and will be paid.

3.8 Implementation of EMP

3.8.1 Environment Management at Work Sites

The service road under the ROB is to be constructed and the land available shall be developed as parking areas. This work is pending due to rains. The main gate of the

school at A2 approach of ROB has been shifted and a sound barrier construction is in progress. The pavement markings, safety barrier fixing, fixing signage and pedestrian marking are still to completed.

3.8.2 Traffic Management and Road Safety Measures

The contractor is required to provide safety precautions such as barricading, flags, safety signboards and traffic cones at all work zones to ensure safety for all road users. Personal safety equipment such as jackets, safety shoes, face shields and hand gloves are to be provided to all workers as necessary. Instructions were given to provide adequate safety sign boards and fencing all along the active work site.. Toilet facilities not provided to the workers at site at Thavom.

3.9 Quality Control Tests

3.9.1 Materials for Structures

Tests Performed	Standard used	Test Frequency	Total tests up to previous Quarter			Tests during current Quarter			Total tests up to end of this Quarter		
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
STONE	**MOST 1004**										
Water Absorption	IS:1124	lot	1	1	0	0	0	0	1	1	0
CEMENT (Bag)	**MOST 1006**										
Fineness	IS:269-1976	" "	9	9	0	0	0	0	9	9	0
Standard Consistency	" "	" "	9	9	0	0	0	0	9	9	0
Soundness	" "	" "	9	9	0	0	0	0	9	9	0
Compressive Strength	" "	" "									
3 day strength test	" "	" "	4	4	0	0	0	0	4	4	0
7 day strength test	" "	" "	2	2	0	0	0	0	2	2	0
28 day strength test	" "	" "	2	2	0	0	0	0	2	2	0
Quality Of Cement			2	2	0	0	0	0	2	2	0
Initial Setting time	IS:4031(Part 1)		10	10	0	0	0	0	10	10	0
Final Setting time	IS:4031(Part 5)	" "	10	10	0	0	0	0	10	10	0
CEMENT (Bulk)	**MOST 1006**	lot									
Fineness	IS:269-1976	" "	167	167	0	1	1	0	168	168	0
Standard Consistency	" "	" "	167	167	0	1	1	0	168	168	0
Soundness	" "	" "	173	173	0	1	1	0	174	174	0
Compressive Strength											
3 day strength test	" "	" "	160	160	0	1	1	0	161	161	0
7 day strength test	" "	" "	161	161	0	1	1	0	162	162	0
28 day strength test	" "	" "	151	151	0	4	4	0	155	155	0
Initial Setting time	IS:4031(Part 1)	" "	167	167	0	1	1	0	168	168	0
Final Setting time	IS:4031(Part 5)	" "	167	167	0	1	1	0	168	168	0
COARSE/FINE Aggregates	**MOST 1007/1008**										
Gradation	IS:2386(Part 1)	lot	1646	1646	0	44	44	0	1690	1690	0
Flakiness/Elongation Index	" "	" "	1636	1636	0	44	44	0	1680	1680	0
Deletrious Mat./Organic Imp.	" (Part 2)	" "	0	0	0	0	0	0	0	0	0
Water Absorption/Spec.Grav.	" (Part 3)	" "	0	0	0	0	0	0	0	0	0
Bulk Density	" "	" "	0	0	0	0	0	0	0	0	0
Impact or crushing Aggr.Value	" (Part 4)	" "	0	0	0	0	0	0	0	0	0
Los Angeles Abrasion Value	" "	" "	0	0	0	0	0	0	0	0	0
Soundness	" (Part 5)	" "	0	0	0	0	0	0	0	0	0
Alkali Aggregate Reactivity	" (Part 7)	" "	0	0	0	0	0	0	0	0	0
Surface Moisture Content	" (Part 3)	" "	488	488	0	0	0	0	488	488	0
Fineness Modulus of FA			1063	1063	0	25	25	0	1088	1088	0
STEEL	**MOST 1009**										
Verification of conformity(Yield stress,U.T.S, % Elg.Unit Wt.Dia. Test. Etc	IS:432/1030/1785/1786	lot	106	106	0	0	0	0	106	106	0
	2004/2062										
WATER	**MOST 1010**										
Verification of conformity	IS:3025	lot	2	2	0	0	0	0	2	2	0
CONCRETE ADMIXTURE	**MOST 1012**										
Verification of conformity	IS:1199/6925/9103	lot	3	3	0	0	0	0	3	3	0
MIXING CONCRETE	**MOST 1700**										
3 Test Cubes/Slump test	IS:516/1199	MOST:1700-8	6056	6056	0	124	124	0	6180	6180	0

Compressive Strength	IS:516/1200											
Grade15: Pcc 7 Days	" "	" "	186	186	0	3	3	0	189	189	0	
28 Days	" "	" "	208	208	0	3	3	0	211	211	0	
Grade 20: 7 Days	" "	" "	103	103	0	11	11	0	114	114	0	
28 Days	" "	" "	115	115	0	5	5	0	120	120	0	
Grade 25: Rcc 7 Days	" "	" "	615	615	0	14	14	0	629	629	0	
28 Days	" "	" "	684	684	0	6	6	0	690	690	0	
Grade 25 (drain): 7 Days	" "	" "	1078	1078	0	21	21	0	1099	1099	0	
28 Days	" "	" "	1439	1439	0	18	18	0	1457	1457	0	
Grade 35: Pile 7 Days	" "	" "	221	221	0	2	2	0	223	223	0	
28 Days	" "	" "	686	678	8	6	6	0	692	684	8	
Grade 30: Rcc 7 Days	" "	" "	2	2	0	0	0	0	2	2	0	
28 Days	" "	" "	2	2	0	0	0	0	2	2	0	
Grade 35: RCC 7 Days	" "	" "	260	260	0	1	1	0	261	261	0	
28 Days	" "	" "	701	689	12	0	0	0	701	689	12	
Grade 40: RCC 7 Days	" "	" "	91	91	0	12	12	0	103	103	0	
28 Days	" "	" "	131	131	0	13	13	0	144	144	0	
Grade 45: RCC 7 Days	" "	" "	10	10	0	2	2	0	12	12	0	
28 Days	" "	" "	25	25	0	4	4	0	29	29	0	

3.9.2 Materials for Pavement

Common Tests Performed	Indian / Foreign Standard	Test Frequency 1 test per	Total tests up to previous			Tests during current Quarter			Total tests up to Quarter		
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
EARTHWORK(OGL)	**MOST 305/903.2**	OGL									
Gradation/Sand content	IS2720(Part 4)	1 test/200mtr	502	502	0	0	0	0	502	502	0
Atterberg Limits	" (Part5)	1 test/200mtr	502	502	0	0	0	0	502	502	0
Proctor	" (Part 8)	1 test/200mtr	502	502	0	0	0	0	502	502	0
CBR	" (Part 16)	As reqd	243	243	0	0	0	0	243	243	0
Free Swell Index	" (Part 40)	1 test/200mtr	502	502	0	0	0	0	502	502	0
EARTHWORK	**MOST 305/903.2**	Emb./Subgrade									
Gradation/Sand content	IS2720(Part 4)	1500 cum	223	221	2	0	0	0	223	221	2
Atterberg Limits	" (Part5)	" "	223	221	2	0	0	0	223	221	2
Proctor	" (Part 8)	" "	221	221	0	0	0	0	221	221	0
CBR	" (Part 16)	3000 cum	164	164	0	0	0	0	164	164	0
Free Swell Index	" (Part 40)	" "	209	207	2	0	0	0	209	207	2
Field Density/Compaction	" (Part 28)	500/1000 sqm	1335	1317	18	2	2	0	1337	1319	18
SUBBASE (GSB) granular material	**MOST 401/900.3.1**										
Gradation	IS2720(Part 4)	200 cum	430	426	4	2	2	0	432	428	4
Atterberg Limits	" (Part5)	" "	422	422	0	2	2	0	424	424	0
Proctor			10	10	0	0	0	0	10	10	0
Moisture content		250 cum	322	322	0	2	2	0	324	324	0
Deleterious content			2	2	0	0	0	0	2	2	0
10% fine value			4	4	0	0	0	0	4	4	0
Water Absorption			4	4	0	0	0	0	4	4	0
Field Density/Compaction	" (Part 28)		635	621	14	1	1	0	636	622	14
CBR if grading (II or III)			31	31	0	0	0	0	31	31	0
BASE (WMM)	**MOST 406/900.3.4**										
Gradation	IS 2386 (Part 4)	100 cum	774	774	0	8	8	0	782	782	0
Flakiness/Elongation Value	" (Part1)	200 cum	550	550	0	5	5	0	555	555	0
Atterberg Limits	" (Part4)	100 cum	760	760	0	8	8	0	768	768	0
Lose Angels Aration Value	" (Part1)	500 cum	543	543	0	5	5	0	548	548	0
Impact Value		200 cum	579	579	0	5	5	0	584	584	0
Proctor			4	4	0	0	0	0	4	4	0
Water Absorption			2	2	0	0	0	0	2	2	0
Field Density/Compaction	" (Part 28)	500 sqm	1145	1124	21	7	7	0	1152	1131	21
PRIME/TACK COAT	**MOST 502/503/900.3.4**										
Rate of Spread	IS:217/8887	500 sqm	928	926	0	24	24	0	950	950	0
Quality of Binder			2	2	0	0	0	0	2	2	0
BITUMINOUS MACADAM (BM)											
Aggregate Gradation (Individual+ Mix)			0	0	0	0	0	0	0	0	0
LAAV			0	0	0	0	0	0	0	0	0
Flakiness/ Elongation Value			0	0	0	0	0	0	0	0	0
Quality of Binder			0	0	0	0	0	0	0	0	0
Binder Content (ASTM - 2172-95)			0	0	0	0	0	0	0	0	0
Coating and Stripping			0	0	0	0	0	0	0	0	0
Soundness			0	0	0	0	0	0	0	0	0
Water Absorption			0	0	0	0	0	0	0	0	0
Field Density/Compaction			0	0	0	0	0	0	0	0	0
DENSE BITUMINOUS MACADAM	**MOST 504/900.4.4**										
Aggregate Gradation (Combined Mix)	" (Part 1)		430	430	0	2	2	0	432	432	0
Aggregate Impact Value (AIV)/ LAAV	IS:2386(Part 4)	50 cum	317	317	0	2	2	0	319	319	0
Flakiness/Elongation Value	" (Part 1)	" "	315	315	0	2	2	0	317	317	0
Quality of Binder	IS-73		311	311	0	0	0	0	311	311	0
Coating and Stripping	IS 6241		1	1	0	0	0	0	1	1	0
Binder Content (ASTM - 2172-95)			248	248	0	2	2	0	250	250	0
Marshal Test	ASTM D1559-62T		463	463	0	4	4	0	467	467	0
Specific Gravity /Water Absorption	IS 2386(Part-3)		3	3	0	0	0	0	3	3	0
Soundness	IS 2386(Part-5)	2 per day	2	2	0	0	0	0	2	2	0
Bulk Density	IS:2386(Part 3)	" "	0	0	0	0	0	0	0	0	0
Field Density/Compaction	ASTM D 2041-95		795	786	9	5	5	0	800	791	9
Sand Equivalant/Value for FA			2	2	0	0	0	0	2	2	0

Plasticity Index			2	2	0	0	0	0	2	2	0
BITUMINOUS CONCRETE	**MOST 504/900.4.6**										
Aggregate Gradation (Combined)			273	272	1	2	2	0	275	274	1
Aggregate Impact Value/ LAAV	IS:2386(Part 4)	50 cum	243	243	0	2	2	0	245	245	0
Flakiness/Elongation Value	" (Part 1)	" "	251	251	0	2	2	0	253	253	0
Marshall Stability	ASTMD 1559	2 per day	326	326	0	4	4	0	330	330	0
Coating and Stripping			2	2	0	0	0	0	2	2	0
Specific Gravity /Water Absorption			2	2	0	0	0	0	2	2	0
Stone poloshing Value			1	1	0	0	0	0	1	1	0
Soundness			1	1	0	0	0	0	1	1	0
Sand Equivalent Test			2	2	0	0	0	0	2	2	0
Binder Content	IS:2386(Part 4)	" "	170	170	0	2	2	0	172	172	0
Field Density/Compaction	Core Samples	250 sqm	606	595	11	6	6	0	612	601	11
Plasticity Index			0	0	0	0	0	0	0	0	0
SURFACING (MSS)	**MOST 504/900.4.3**										
Aggregate Impact Value	IS:2386(Part 4)	50 cum	0	0	0	0	0	0	0	0	0
Flakiness/Elongation Value	" (Part 1)	" "	0	0	0	0	0	0	0	0	0
Aggregate Gradation	IS:2720(Part 4)	25 cum	0	0	0	0	0	0	0	0	0
Binder Content	IS:2720(Part 4)	2 per day	0	0	0	0	0	0	0	0	0

3.10 Compliance Report on observations of World Bank Mission Nov 2016

Details Supervision and Quality issues in each work package

S No	Issue	Activity	Time period	Decision/ action by	Action taken
1	Bridge at km 4+220	Superstructure work started. Methodology for completion schedule to be worked out	Work to be completed by March 2017. Work schedule by November 2017	TL/PD	Bridge deck slab completed. Approaches have been re-designed and work started since. Piling completed and structure work in progress
2	ROB at km 7+420	Substructure pile driving completed except A1 side, where 6 piles remain.	Work to be completed by March 2017. Work schedule with suitable resource planning by November 10, 2016	TL/PD	Completion will be delayed due to additional spans 12 Nos. of girders cast slated to complete by November 2017 including approaches.
3	ROB at km 19+750	Land acquisition near A1 A2 spans for providing service lane Work of retaining walls, held up	Issue remains undecided Land acquisition to be concluded immediately	TL/PD	RoB opened to traffic. Approaches to vehicles/ pedestrians under pass underway
4	Rate of earth work for soil to be brought from package - I area	The issue is with the steering committee, who has further referred the matter to the CTE (Chief Tech Examiner)	Decision is to be expedited	PD	Action is being taken
Quality issues:					

Sl No	Observations	Action taken
1.	Bridge at Chainage 4+220 km	
a	Pile load test results shall be submitted giving complete details of pile as installed with borelogs, concrete grade and quantity used against theoretical quantity, load-settlement curve, record of settlement against load for various increments and during unloading complete as per guidelines in relevant codes for bored piling and load tests.	Static load test conducted.
b	Load test on pile has been done by Dynamic method which does not comply with requirements of IS 2911-Part 4 forming the basis of contract.	Static load test done.
c	No ladder has been provided for safe access to top of deck slab for inspection.	This has been complied and work completed.
d	There is no Bridge Engineer on behalf of consultant at Package II. Immediate action should be taken to find a replacement of the Engineer who left sometime back	Bridge Engineer Mr Thanigavel was mobilized on 16.11.2016
2	ROB at Chainage 7+420 km	
a	For Prestressed Concrete girders in this project, skilled workers with past experience in similar works should be engaged in fixing sheathing, anchorages and stressing work.	Pre-stressing yet to start and skilled personnel from Usha Martin will be deployed.
b	PTFE bearings shown in working drawings should not be replaced by elastomeric bearings due to absence of skilled personnel at site with experience in fixing of PTFE bearings. Rather for such fixing job trained person (s) should be mobilized.	Elastomeric bearing has been proposed and approved.
c	For bored piling work of 1200 mm dia, higher capacity pump (minimum 40 HP) should be used for flushing of boreholes.	Work completed.
3	ROB at Chainage 19+758km	
a	Crash barrier has been made ready for casting for certain length without any chipping of old concrete surface. This practice is not acceptable.	Completed
b	Weep hole pipes have been left in concrete retaining walls without maintaining proper alignment, spacing and level. Work should be executed as per drawings.	Complied
c	On either side of expansion joint deck, concrete has been laid without a vertical stopper. All loose and uncompacted concrete shall be cut and removed and the reinforcements cleaned of rust and mortar before casting second stage concrete as per contract specifications with fixing of expansion joint.	Complied
4	**Quality Control Laboratory**	
a	No test for chloride and sulphate content in soil and ground water has been conducted in confirmatory boreholes.	Test have been conducted

b	Chloride and sulphate content in concrete on the basis of chloride and sulphate content in all ingredients in concrete have not been determined so far.	Complied
c	Supplier of reinforcement bars shall be asked to send Manufacturer's Test Certificate (MTC) signed by QC-in-charge or Scientist or Head of QC laboratory with name and designation and not by Authorised Representative as is being followed now.	This has been done
5	**General**	
a	The work Programme for both packages I & II were finalized in the beginning of July 2016. There have been slippages in achievements in both the cases during rainy season. This calls for immediate review and revised work Programme to be prepared based on thorough resource planning.	EOT was granted up to 31st March 2017. Works not completed. Revised programme submitted by Contractor.
b	There is a lack of concerted efforts to ensure that the side drains are capable of draining surface water efficiently. Cross slope of shoulders have to be proper.	The work is still ongoing.
c	The instances, which lead to the dismantling of work already done and redoing the same to satisfy objection raised by local people, warrant timely intervention by the TL/PD for avoidable delays.	Being done on regular basis.
d	At Pazhayangadi junction – whereas the DBM has been done in the center area, BC has been laid in the carriageway portion alone. To complete the BC also in the entire area, machinery will have to be remobilized for a small activity. This is a poor reflection on work planning of the contractor and lack of requisite watch by TL & PD staff.	Completed

Environmental Safeguards

1	Construction Works Sites Safety: At road construction works sites, construction activities are under progress. At such locations, road works sites safety is lacking seriously and creating unsafe condition for pedestrian and vehicles. The contractor needs to provide necessary construction safety measures like cones and delineators with retro reflective tapes, flags, sinages, etc for safety of pedestrians and vehicles.	This has been carried out and monitored.
2	Many places along the project road, shoulders works are pending. However, road construction has been completed. Therefore, gap between carriageway and shoulder level creating unsafe conditions for traffic plying on the road, especially for two wheelers.	Shoulder works almost completed
3	Many places stone pitching protection works provided on the culverts, have damaged due to earth settlement during rains. It needs attention for repair and improvement.	Repair works are still pending.

4	Along the project road, small saplings of slow growing plants have been planted. Therefore, survival and growth of saplings is an issue. The contractor needs to consult with Forest Department or Horticulturist for selection of sapling of fast growing shed trees of minimum 1 m height to ensure it survival and growth.	In progress
5	During mission local people made complaint that many solar lights installed along the project road are not working.	This has been attended.
6	Metal Beam Crash Barriers have been provided at places but inclined end sections at end and starting have not provided. Further, retro reflective tapes have not provided on the lags of metal beam crash barriers. Incomplete metal beam crash barriers are creating safety hazards especially during night time. It needs attention for improvement.	Completed as per requirements.
7	At Tawam ROB, construction works safety is missing and creating unsafe conditions. Safety measures like delineators with retro reflective tapes, flags, sinagesetc need to be provided to ensure safety of the traffic.	Work completed
8	At left hand side of starting of Pappinesserry ROB, there will be access problem for 5 to 6 house in the length of about 20 m, once approaches of Pappinesserry ROB are constructed. Cars or ambulance cannot approach to these houses after construction of approaches of ROB. At this point, land acquisition issue is involved. Local people, whose houses are affected, informed that construction of approach of ROB will not be allowed until proper access to these 5-6 houses is not provided for movement of car/ambulance to these houses.	Access problem resolved and work completed.

ROAD SAFETY

1	Pilathara jn. (0 km?). The traffic channelization is observed as dangerous. There should be adequate caution and calming measures to control the speed of the vehicles plying on the NH	Road work still to be carried out.

3.11 Roughness Index Report

Sl No	Date of Testing	Chinage in Km		Length	Side	Avg Bumps in (mm)	Remarks
		From	To				
1	21.03.2015	4+530	6+000	1470	LHS	1602.78	
2	21.03.2015	4+530	6+000	1470	RHS	1619	
3	21.03.2015	3+400	4+000	600	LHS	1776.5	
4	21.03.2015	3+300	4+080	780	RHS	2013.5	
5	31.03.2015	6+000	6+400	400	LHS	2028.25	
6	31.03.2015	6+000	6+400	400	RHS	2014	
7	31.07.2015	7+850	8+750	900	LHS	1887.5	
8	31.07.2015	7+850	8+750	900	RHS	1950.5	
9	31.07.2015	8+750	9+450	700	RHS	1973.28	
10	31.07.2015	8+750	9+450	700	LHS	1867.42	
11	26.09.2015	9+750	10+450	700	LHS	1916	
12	26.09.2015	9+750	10+350	600	RHS	1938	
13	01.06.2016	12+780	13+580	800	LHS	1800.35	
14	01.06.2016	12+780	13+580	800	RHS	1736.23	
15	02.06.2016	9+450	9+750	300	LHS	1767.1	
16	02.06.2016	9+450	9+750	300	RHS	2014.1	
17	23.09.2016	10+450	11+300	850	LHS	1753	
18	23.09.2016	10+350	11+300	950	RHS	1784.5	
19	23.09.2016	14+050	14+690	640	RHS	1827	
20	23.09.2016	14+050	14+690	640	LHS	1693.5	
21	23.09.2016	15+470	16+130	660	RHS	1668.5	
22	23.09.2016	15+470	16+130	660	LHS	1619.5	
23	01.11.2016	13+580	14+050	470	RHS	1751.8	
24	01.11.2016	13+580	14+050	470	LHS	1330	
25	01.11.2016	11+300	11+800	500	RHS	1373.4	
26	01.11.2016	11+300	11+800	500	LHS	1594.3	
27	13.01.2017	11+800	12+780	980	RHS	1489.5	
28	13.01.2017	12+000	12+780	780	LHS	1429.5	
29	16.02.2017	16+110	17+910	1800	LHS	1114.67	
30	16.02.2017	16+110	17+910	1800	RHS	1285.67	
31	04.03.2017	14+970	15+970	500	LHS	1865	
32	04.03.2017	14+970	15+470	500	RHS	1671.5	

Date of Testing	Chinage in Km		Length	Side	Avg Bumps in (mm)	Remarks
	From	To				
26.09.2015	7+840	9+440	1600	RHS	1672	
26.09.2015	7+840	9+440	1600	LHS	1764.62	
30.11.2015	0+000	1+000	1000	RHS	1586.5	
30.11.2015	1+000	2+000	1000	RHS	1643.5	
30.11.2015	2+000	3+000	1000	RHS	1711.5	
30.11.2015	3+000	4+080	1080	RHS	1904.5	
30.11.2015	0+000	1+000	1000	LHS	1774.5	
30.11.2015	1+000	2+000	1000	LHS	1523.5	
30.11.2015	2+000	3+000	1000	LHS	1654.5	
30.11.2015	3+000	4+080	1080	LHS	1962	
01.12.2015	4+550	5+550	1000	RHS	1757.5	
01.12.2015	4+550	5+550	1000	LHS	1757.5	
01.12.2015	9+800	10+300	500	RHS	1603	
01.12.2015	9+850	10+300	450	LHS	1706	
02.12.2015	5+550	6+700	1150	LHS	1618	
02.12.2015	5+550	6+700	1150	RHS	1612.5	
26.11.2016	9+400	9+800	400	RHS	1159	
26.11.2016	9+440	9+850	410	LHS	1045	
26.11.2016	10+300	11+750	1450	RHS	1067.8	
26.11.2016	10+300	11+750	1450	LHS	1121	
27.11.2016	12+800	14+600	1800	LHS	1447.16	
27.11.2016	12+800	14+600	1800	RHS	1399.665	
26.11.2016	15+500	16+100	600	RHS	1054.5	
26.11.2016	15+500	16+100	600	LHS	1225.5	

3.12 Photographs

PAPPINISSERY ROB AT KM 19+950

JUNCTION AT KM 0+000

JUNCTION AT KM 6+080

PILE CAP CONCRETING A2 SIDE OF RAMAPURAM BRIDGE (KM 4+260)

4. Contract Package III-A

Upgradation of Road from Thalassery to Kalarode of SH 30

4.2 Contract Details

The Contract for the Upgradation of Road from Thalassery to Kalaroad has been awarded to M/s Dinesh Chandra R AgrawalInfracon (P) Ltd.The date of commencement of the Project is 27th June 2016 and completion date is 26th June 2018.

The permanent base camp office work in Progress at Valliyavellicham, which is 6km away from km 16+000 (Kuthuparamba) of the project road.

Contractor submitted the work programme with all required supporting resources details on 27th Sep-16 and the same was approved on 21st Oct-16.

Name of Contractor	::	M/s Dinesh Chandra R. Agrwal
Contract Amount	::	Rs. 156,33,51,422
Date of Agreement	::	20.05.2016
Length	::	28.80 km
Time of Completion	::	24 months
Milestone – I	::	10 km continuous stretch of road from km 1.200 to km 1.200 completion up to BC level 15 month from date of commencement
Milestone – II	::	28.80 km continuous stretch of road from km 1.200 to km 30.00 completion in all respect in 24 month from commencement date

4.3 Pre-Construction Activities

4.3.1 Utilities

Joint inspection conducted along with KSTP, KSEB, Kerala Water Authority, BSNL and other private cable operators and list finalized. Utility shifting is going on in the 1st milestone. No issues due to Utilities in 1st Mile Stone.

Milestone-I

Electrical Poles	29(Total)	20 shifted	09 to be shifted
Transformers	05(Total)	04 shifted	01 to be shifted
Total	**34**		

3.2 Work Progress

4.3.1 Road work

Roadway excavation for length of 8.00 km is completed.
Laying of GSB is completed for a length of 8.00 km.
WMM Top layer 4.7 km.
DBM Laying 4.7 km completed.

4.3.2 Drain Works

Total length of drain for Milestone-1 is 16000lm including both sides. Out of this 7490m laid by the previous Contractor. 3000m laid by the present Contractor. Balance to be laid is 5.51km. Drain laying from Km 01+200 to Km 05+000 is completed. Casting of precast drains and covering slabs are going on at casting yard.

4.3.3 Structure work

Bridge at km.2+910 (Eranholi):- Pedestal concreting of Abutment A2 and pier completed. Work started for the concerting of pile cap of abutment A1. Work stopped as per the instruction from KSTP. Stressing of balance 3 nos of girders completed. Redesigning of the bridge to accommodate a free board of 6m Navigation Clearance is being done by M/s. Asia Infrastructure Limited. The preparation of alignment of the service roads for connecting various roads coming the within the Embankment portion also entrusted to the above firm which is expected to be received shortly.

Bridge at km.19+758 (Merumbai):- Bridge deck completed. Other works are going on.

Bridge at km.21+162:- Bridge marking completed and earth work excavation for A2 abutment started, stopped due to rain.

Bridge at km.29+570:- Single Span Bridge: Bridge deck completed. Other works are going on.

Box culverts 20 Nos completed

Slab culverts 16 Nos completed

Pipe culverts 3 nos completed.

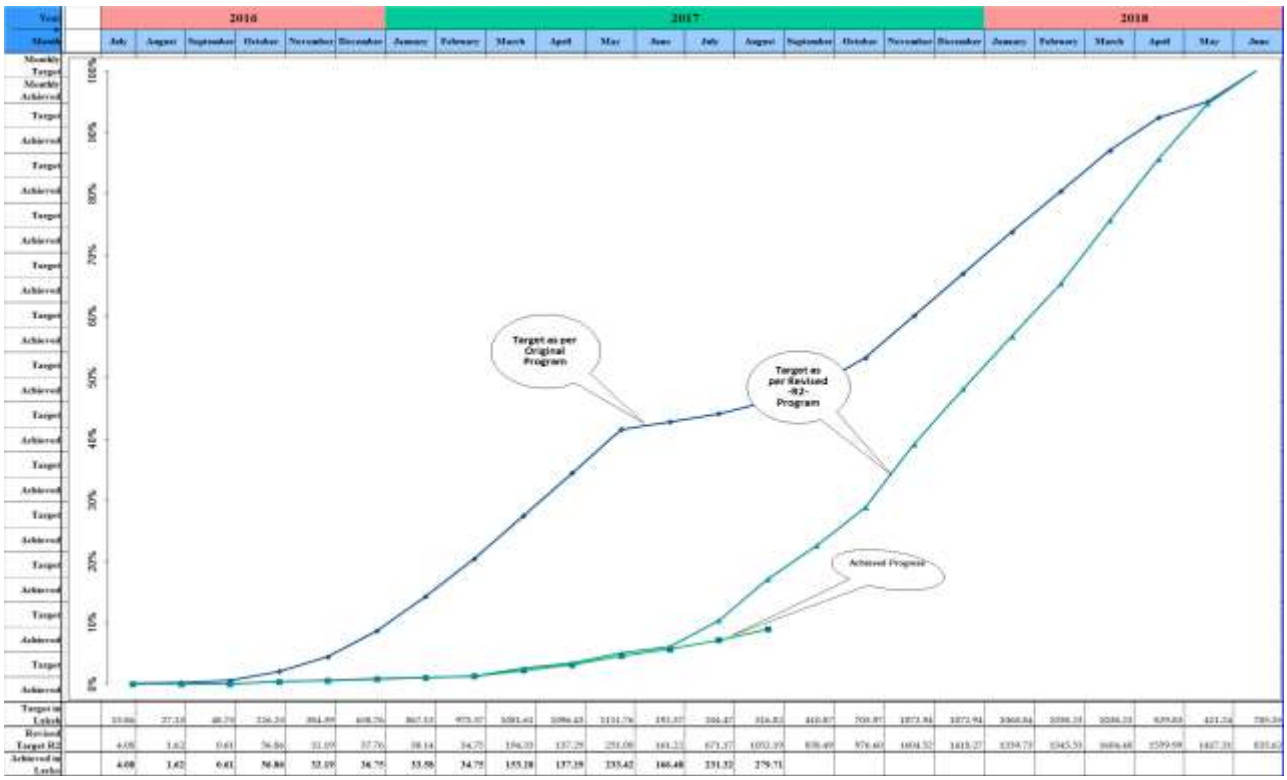
4.4 Progress considering contract price (Financial) as per revised work

Up to end of previous month		This month		Cumulative Financial to end of this month (gross)		Cumulative Physical
Target	Achieved	Target	Achieved	Target	Achieved (gross)	Achieved
10.639%	7.179%	6.731%	1.789%	17.10%	8.98%	19%

3.3 Schedule of culvert drainage

Nature of work	Total Numbers	Work in Progress	Completed	Balance To be tackled	Remarks
Culverts					
Slab Culvert	25	1	16	8	
Box Culverts	37	2	20	15	
Pipe culvert	5	-	3	2	
Total culverts	**67**	**3**	**39**	**25**	
Major Bridges	2	-	1	-	Work Stopped In Eronoli Major Bridge as per Direction of PMT
Minor Bridges	2	1	1	-	

3.4 S-Curve



3.5 Payments to the Contractor

The contractor has been paid Rs. 15.95 crores (mobilization advance)

3.6 Implementation of EMP

3.6.1. General

Mobilization completed. Batching plant, WMM plant, HM plant commissioned. The basic amenities for staff and labours at base camp have been provided. Contractor has obtained the required consents from PCB and local panchayat. Contractor also informed that aggregate required for the project is proposed to be purchased from local crusher. Contractor submitted EHS plan for the project work and the same was approved.. A safety officer and an assistant safety person are appointed. Contractor has to appoint an environmental engineer.

Fire extinguishers and first aid box has been provided in all vulnerable locations but the same thing is required in kitchen and accommodations. Additional numbers are required in accommodations. Lighting is to be provided inside the camp.

Contractor has to arrange a base line air and water quality monitoring through an accredited agency.

Contractor submitted work zone traffic management plan for milestone 1. Improvement in management of traffic at road cutting location is required.

Compliance with Statutory Requirements

Unit	Status of Compliance	Remarks
Crusher	No crusher proposed. Materials purchased from existing crusher . consent copy to Operate from Kerala State Pollution Control Board to be obtained. Building permit obtained from Grama Panchayat.	Copy of the consent submitted. Issue date 28/3/2017 , valid till 23/1/2018
Hot Mix Plant	Hot Mix Plant erected at vellivelicham near Kuthuparamba	Commissioned. cosent from PCB valid till 23/1/2018
WMM Plant & Batching Plant	Consent to Establish and Consent to Operate from Kerala State Pollution Control Board is to be obtained.	Commissioned consent valid till 23/1/2018.
Batching plant	Commissioned. Applied for combined consents for establishment and operation.	Commissioned. Consent valid till 23/1/2018.

The work zone safety has to be improved. Stretches are opened for long time and the safety arrangements provided has to be maintained regularly.The housekeeping inside the base camp has to be improved. World bank team visited site on 6th June and noticed

that the progress of work is not satisfactory. The appointment of environmental engineer is critical and it is a requirement as per contract. Contractor has to mobilize the person urgently. The cut earth disposal is an issue contractor has to find out disposal site urgently.

3.7 Quality Control Tests

3.7.1 Materials for Structures

Tests Performed	Standard used	Standard limits	Test Frequency	Total tests up to Previous Month			Tests during this Month			Total tests up to end of this Month		
				Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
STONE	**MOST 1004**											
Water Absorption	IS:1124	Max 2%	lot									
CEMENT	**MOST 1006**		lot									
Fineness	IS:269-1976		" "	22	22		4	4		26	26	
Standard Consistency	" "		" "	22	22		4	4		26	26	
Soundness	" "		" "									
Compressive Strength	" "		" "									
3 day strength test	" "	27 Mpa		22	22		3	3		25	25	
7 day strength test	" "	37 Mpa		21	21		4	4		25	25	
28 day strength test	" "	53 Mpa		22	22		2	2		24	24	
Initial Setting time	IS:4031(Part 1)	< 30 min		20	20		2	2		22	22	
Final Setting time	IS:4031(Part 5)	> 600 min	" "	20	20		2	2		22	22	
COARSE/FINE Aggregates	**MOST 1007/1008**											
Gradation	IS:2386(Part 1)		lot	298	298		40	40		338	338	
Flakiness Index	" "	Min 35%	" "	21	21		2	2		23	23	
Deletrious Mat./Organic Imp.	" (Part 2)		" "									
Water Absorption/Spec.Grav.	" (Part 3)	Max 2%	" "									
Bulk Density	" "		" "									
Impact or crushing Aggr.Value	" (Part 4)	Max 30%	" "	21	21		2	2		23	23	
Los Angeles Abrasion Value	" "		" "									
Soundness	" (Part 5)		" "									
Alkali Aggregate Reactivity	" (Part 7)		" "									
Surface Moisture Content	" (Part 3)		" "									
Fineness Modulus of FA				281	281		40	40		321	321	
STEEL	**MOST 1009**											
Verification of conformity(Yield stress,U.T.S, % Elg,Unit Wt.Dia. Test. Etc	IS:432/1030/1785/1786 2004/2062		lot	26	26		22	22		48	48	
WATER	**MOST 1010**											
Verification of conformity	IS:3025		lot	2	2					2	2	
CONCRETE ADMIXTURE	**MOST 1012**											
Verification of conformity	IS:1199/6925/9103		lot	3	3					3	3	
MIXING CONCRETE (Trial	**MOST 1700**											
3 Test Cubes/Slump test	IS:516/1199		MOST:1700-8									
Grade15: 7 Days	" "		" "	6	6					6	6	
28 Days	" "			6	6					6	6	
Grade 20: 7 Days	" "		" "	3	3					3	3	
28 Days	" "			3	3					3	3	
Grade 25:(RCC) 7 Days	" "		" "	6	6					6	6	
28 Days	" "			9	9					9	9	
Grade 20:(Drain) 7 Days	" "		" "	6	6					6	6	
28 Days	" "		" "	6	6					6	6	
Grade 30:(RCC) 7 Days	" "		" "	3	3					3	3	
28 Days	" "		" "	3	3					3	3	
Grade 35:(RCC) 7 Days	" "		" "	6	6					6	6	
28 Days	" "		" "	6	6					6	6	
Grade 35:(PILE) 7 Days	" "		" "	3	3					3	3	
28 Days	" "		" "	3	3					3	3	
Grade 40:(RCC) 7 Days	" "		" "	3	3					3	3	
28 Days	" "		" "	3	3					3	3	
Grade 45:(RCC) 7 Days	" "		" "									
28 Days	" "		" "	3	3					3	3	

CONCRETE CUBE STRENGTH	MOST 1700/900												
M-15 : 7 Days		10.5 N/mm2	set	35	35		6	6		41	41	
28 Days		15 N/mm2	"	37	37		1	1		38	38	
M-20: 7Days		14 N/mm2	"	75	75		6	6		81	81	
28 Days		20 N/mm2	"	80	80		8	8		88	88	
M-25 : 7 Days		17.5 N/mm2	set	90	90		13	13		103	103	
28 Days		25 N/mm2	"	97	97		7	7		104	104	
M-20(Drain): 7 Days		17.5 N/mm2	"	147	147		37	37		184	184	
28 Days		25 N/mm2	"	140	140		49	49		189	189	
M-30: 7 Days		24.5 N/mm2	"	3	3		1	1		4	4	
28 Days		35 N/mm2	"	5	5					5	5	
M-35: (Pile) 7Days		24.5 N/mm2	"									
28 Days		35 N/mm2	"									
M-35: (Pile Cap) 7 Days		24.5 N/mm2	"									
28 Days		35 N/mm2	"									
M-35: (RCC) 7 Days		24.5 N/mm2	"	26	26		3	3		29	29	
28 Days		35 N/mm2	"	36	36		3	3		39	39	
M-40: 7 Days			"	1	1					1	1	
28 Days			"	1	1					1	1	
STONE MASONRY	MOST 1400											
3Test Mortar Cubes	IS:2250		MOST :1407									
HUME PIPE	MOST 2902											
Three-edge Bearing/	IS:458/3597		20/900mm	1	1					1	1	
Hydrostatic Test				1	1					1	1	
Absorption/Straightness tests				1	1					1	1	

3.7.2 Materials for Pavements

Common Tests Performed	Indian / Foreign Standard	Standard limits	Test Frequency 1 test per	Total tests up to end of Previous Month			Tests during this Month			Total tests up to end of this Month		
				Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
EARTHWORK	MOST 305/903.2		Emb /Subgrade									
Gradation/Sand content	IS:2720(Part 4)		1500 cum	97	97					97	97	
Atterberg Limits	" (Part5)	LL = max 70% & PI = max 45%	" "	100	97	3				100	97	3
Proctor	" (Part 8)		" "	97	97					97	97	
CBR	" (Part 16)	Min 8%	3000 cum	75	75					75	75	
Free Swell Index	" (Part 40)	Max 40%	" "	100	97	3				100	97	3
Field Density/Compaction	" (Part 28)	95% and 97%	500/1000 sqm	610	609	1	219	219		829	828	1
SUBBASE (GSB) granular material	MOST 401/900.3.1											
Gradation	IS:2720(Part 4)		200 cum	60	60		25	25		85	85	
Atterberg Limits	" (Part5)	LL = max 25% & PI = max 6%	" "	60	60		25	25		85	85	
Proctor				14	14					14	14	
Deleterious content												
10% fine value		Min 50 KN		1	1					1	1	
Water Absorption		Max 2%		1	1					1	1	
Field Density/Compaction	" (Part 28)	98%	500 sqm	294	294		136	136		430	430	
CBR if grading (II or III)		Min 30%		1	1					1	1	
Site moisture				294	294		9	9		303	303	
BASE (WMM)	MOST 406/900.3.4											
Gradation	IS 2386 (Part 4)		200 cum	100	100		20	20		120	120	
Flakiness/Elongation Value	" (Part1)	Max 30%	" "	69	69		12	12		81	81	
Aggregate Impact Value / LAAV	" (Part4)	Max 30%	" "	65	65		12	12		77	77	
Atterberg Limits	" (Part4)	LL = max 25% & PI = max 6%	100 cum	69	69		12	12		81	81	
Lose Angels Aration Value	" (Part1)	Max 35%	" "	75	75		20	20		95	95	
Proctor				2	2					2	2	
Water Absorption		Max 2%		4	4					4	4	
Field Density/Compaction	" (Part 28)	98%	500 sqm	319	315		70	70	4	389	385	4
Site moisture				317	313		5	5	4	322	318	4
CBR				1	1					1	1	
PRIME/TACK COAT	MOST 502/503/900.3.4											
Rate of Spread	IS:217/8887	Prime - 7 kg / 10 Sqm Tack coat - 2.5 kg / 10 sqm	500 sqm	120	120		19	19		139	139	
Quality of Binder												
DENSE BITUMINOUS	MOST 504/900.4.4											
Aggregate Gradation (Individual+ Mix)	" (Part 1)			59	59		8	8		67	67	
Aggregate Impact Value (AIV)/ LAAV	IS:2386(Part 4)	Max 27%	50 cum	34	34		8	8		42	42	
Flakiness/Elongation Value	" (Part 1)	Max 30%	" "	30	30		8	8		38	38	
Lose Angels Aration Value				30	30		8	8		38	38	
Bitumen penetration				10	10		4	4		14	14	
Softening point				1	1					1	1	
Ductility				1	1					1	1	
Quality of Binder	IS-73											
Coating and Stripping	IS 6241											
Binder Content (ASTM - 2172-95)		Min 4.5%		30	30		8	8		38	38	
Marshal Test	ASTM D1559-62T	Min 9 KN	Set	42	42		8	8		50	50	
Specific Gravity /Water Absorption	IS 2386(Part-3)	Max 2%		12	12		4	4		16	16	
Soundness	IS 2386(Part-5)		2 per day									
Bulk Density	IS:2386(Part 3)		" "									
Field Density/Compaction (core density)	ASTM D 2041-95	98%	250 sqm	118	118		35	35		153	153	
Sand Equivalent/Value for FA												
Plasticity Index												
BITUMINOUS CONCRETE	MOST 504/900.4.6											
Aggregate Gradation (Individual+ Mix)												
Aggregate Impact Value/ LAAV	IS:2386(Part 4)	Max 24%	50 cum									
Flakiness/Elongation Value	" (Part 1)	Max 30%	" "									
Marshall Stability	ASTMD 1559	Min 9 KN	2 per day									
Quality of Binder												
Coating and Stripping												
Specific Gravity /Water Absorption		Max 2%										
Stone polishing Value		Min 55										
Soundness												
Sand Equivalent Test												
Binder Content	IS:2386(Part 4)	Min 5	" "									
Field Density/Compaction	Core Samples	98%	250 sqm									
Plasticity Index												

3.8 Compliance report on observations of World Bank Mission Nov 2016

Bridges to be constructed

S. No	LOCATION	CHAINAGE (km)	Length (m)	Spans (No./m)
1	ERANHOLI	2+910	64	2/32 each
2	MERUVAMBAI	19+758	64.80	3/21.6 each
3	KERETTA	21+162	21.60 (skew)	1/21.60
4	KALARODE	29+570	21 (skew)	1/21

Summary of Discussions				
S No	**Issue**	**Activity**	**Action By**	**Action taken**
1	Bridge at ERANHOLI	Bridge deck has to be raised by 7m to accommodate directive that the waterway has been declared national waterway Implications are that sizeable quantum of Sub-structure work already done may be rendered infructuous, when design is revisited. Land acquisition may also be required for high embankment of approaches, besides their additional lengths. Also if revised design of the substructure is to be adopted, dismantling the existing work may be extremely difficult. Time involved will also be a big factor. Variety of problems related to environment and social impact may also arise.	TL/PD to discuss all the pros and cons and the problems that the raising of deck may pose. The PD shall present case to steering committee with full details design options, cost variations, dismantling of work already done and involvement of land acquisition etc	Redesigning of the bridge due to raising of deck slab from 5m to 6m. Redesigning under way.
2	Mobilization	Camp set-up, but requires a number of corrective measures to address social impact. Work on road component to start by November 15, 2016 Lab has been established partially. To be established fully by November 7, 2016	TL/ PD to ensure action as per time schedule	Completed Lab completed and functioning road works started on completion of Hot Mix Plant

3	Shifting of Utilities	Most of electrical lines in the MS 1 have since been shifted. Whatever remains, the contractor does not feel them to be a hindrance The contractor also does not foresee any problem in respect of shifting of other utilities such as water pipes and removal of trees.	TL/PD to facilitate prompt solving of problems, if any, that may arise.	Utility Shifting completed for Milestone - I
4	Work program	It has been finalized	TL/PD to keep a constant watch over the methodology behind the approved work Programme, besides re-examining the resource planning.	Being monitored regularly.

Details Supervision and Quality issues in each work package

Sl No.	Observations	Action Taken
1	Site Works	
a	One No PSC girder out of 7 Nos left over by the previous contractor had prominent horizontal cold joint above bottom flange which need to be investigated by Ultrasonic Pulse Velocity test at joint location at 1 m centres horizontally and at 2 m centres vertically along length of girder to ascertain homogeneity and soundness of concrete through an accredited agency.	Retesting yet to be done. Bridge being re-designed.
b	In case of doubt load testing of the girder should be done under advice of a specialist before use of the particular girder in bridge structure.	Monitored noted
c	Launching scheme for precast girders should be asked from the contractor and the same should be checked by PMC in advance.	The bridge construction work on hold and will be monitored when work restarts.
d	Supplier of reinforcement bars shall be asked to send Manufacturer's Test Certificate (MTC) signed by QC-in-charge or Scientist or Head of QC laboratory with name and designation and not by Authorised Representative as is being followed now	Complied
2	**Quality Control Laboratory**	

a	Samples of reinforcement bars (3 Nos) projecting from top of pier concrete which have been coated with epoxy paint at site to prevent further corrosion should be sent to an approved laboratory for test to check tensile strength and also if p.c loss of bond due to epoxy application is within limit as per stipulations of relevant code.	Will be done
b	In concrete batching plant 18 cum capacity installed at site load cell for 12 mm size stone chips should be re-calibrated as error p.c is higher than permissible limit.	Complied
c	pH value of water tested is marginally higher than permissible limit. Re-test of water sample should be done in December, 2016 again to check if value has increased or further decreased for the worse. If less than 6.0, the source of water should be changed after satisfactory test of water sample from new source.	Re test done

Environmental Safeguards

1	CSC' Environmental Expert needs to visit site of base camp/plant for verification and approval as per siting criteria as given in the EMP.	Visited project site and base camp and approval issued.
2	The contractor has not deployed Environment & Safety Officer but base camp and plants are being installed. This is crucial stage for implementation of EMP. Hence, contractor needs to deploy experienced Environment & Safety Officer to ensure proper implementation of EMP.	Safety officer mobilised.
3	At base camp, hot mix plant, WMM plant, etc are being installed. However, basic amenities and EMP implementation at this stage, like toilets for males and females, bathrooms for workers, ventilation in laboratory & office through turbine type ventilators, canteen/rest rooms for having food by workers, solid waste management, air pollution control from DG sets by providing vertical stacks as per CPCB guidelines, proper earthing with three phase electrical equipment, peripheral fencing, display of emergency phone numbers and emergency response plan, placement of fire extinguishers at strategic locations, display of relevant safety signages, display of layout on the gate, separate entry and exist for trucks & heavy machines, etc are lacking and need to be provided by the contractor immediately.	All amenities have been provided. Ventilators provided for office /Lab.Earthing done, fire extinguishers and First aid box placed. Access road inside will be maintained.

4	Works site safety at culverts construction sites needs to be enhanced by providing cones and delineators, flags, signages with retro reflective tapes, etc.	Safety requirements provided

ROAD SAFETY

1	As per the DPR, there's no junction improvement plan for the ROB Jn. at the beginning point of the project road. The vehicles going to railway station from the project road and the oncoming traffic from ROB needs to be scientifically designed.	Junction being designed by the safety expert.

3.9 Photographs

ROAD EXCAVATION WORK AT 9+300 RHS

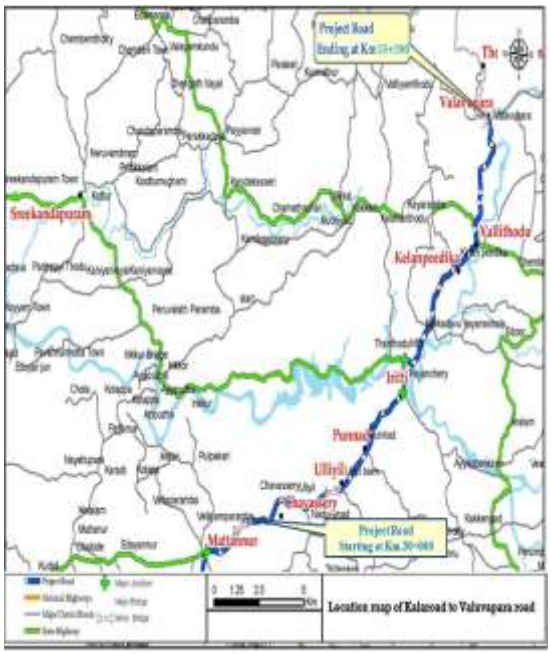
WMM 1ST LAYER ROLLING AT 9+700

CULVERT SLAB REINFORCEMENT WORK AT 20+746

RETAINING WALL CONCRETING WORKS IN PROGRESS AT 4+274

5. KSTP/PMT/UG – III-B

(Kalaroad – Valavupara) 25.20 km



1.	Contract value in crores	-	Rs. 209.69 crores
2.	Name of Contractor	-	M/s GHV-EKK (JV)
3.	Date of Agreement	-	27.09.2016
4.	Letter to Commence	-	26.09.2016
5.	Time of Completion	-	24 months
6.	Length	-	25.20 km
7.	Milestone – I	-	10 km
8.	Milestone – II	-	25.20 km
9.	Milestone – III	-	

Executive Summary

The contract of Package IIIB (Kalaroad – Valavupara) has been awarded toM/s GHV-EKK (JV) on 29th April 2016. Notice to Proceed has been issued to the contractor vide letter No. ET/1A/PJ/1842dt 16th August 2016 and thereby instructed to commence the work with effect from 18th August 2016. Date of commencement was revised to 26th September 2016 for completion of work by 25th September 2018, based on the date of release of mobilization advance vide letter No. ET/1A/PJ/2163 dt 17thFebruary 2017. Contractor submitted the revised work programme on 23rd September-16 and approved vide Team Leader letter No.ET/1A/PJ/1980 dated 5th November 2016.

5.1 Pre-Construction Activities

5.1.1 Utilities

Joint inspection conducted along with utility consultant, KSEB and Kerala Water Authority and list finalized.

(A) STATUS OF SETTING OUT INCLUDING CENTRE LINE AND OGL SURVEY

Traverse for entire Stretch completed.
TBM Fixing Completed for entire stretch.
Centerline Coordinates Marking and OGL recording Completed.

(B) STATUS OF ELECTRICAL UTILITY SHIFTING

Materials Procurement 90% Completed.

Poles and OH Line Shifting MS-1, 80% Completed. Balance work is in Progress.

MS-II work in progress.

Out of total 771 'A' poles, 495 Nos of 'A' pole shifting completed.

Out of total 26 Nos of transformers, 07 Nos of transformers shifted.

(C) STATUS OF WATER UTILITY SHIFTING

Procurement of UPVC pipes Completed. Variations Quantity yet to be Procured

Procurement of DI pipes Completed. Variations Quantity yet to be Procured

Water Utility shifting work is in progress at Ch 30+000 to 42+000, and about 63% completed.

Out of total 37550 mtr pipe lines, 21005 mtr pipe lines shifting done.

(D) SUB SOIL INVESTIGATION

Soil investigation is completed at Major Bridge Ch 42+198. Final Test Report of P2 is yet to be submitted.

Soil investigation Completed for Major Bridge Ch 53+865. Final Test Reports are submitted.

OGL Sampling and testing completed for the entire stretch.

3.10 Mobilization of Resources

3.10.1 Plant and Machinery

Contractor has erected two concrete Batching plants at Base camp and calibration done. Base Camp site office construction completed and Laboratory Construction work

completed at Kallyad on Poovam- Kallyad Road, 10 km away from Iritty bridge (Km 42+195). Hot Mix Plant and WMM Plant erected and production started.

3.11 Work Progress

Sl No.	Item	Monthly Progress	Cumulative Progress
1	GSB	1.10 km	7.06 Km
2	WMM	0.82 km	5.62 Km
3	DBM	0.71 km	5.50 Km
Sl No.	Item	Monthly Progress	Cumulative Progress
	Structures		
4	Minor Bridge Ch: 35+405	Nil	Girder and deck slab concrete completed.
5	Major Bridge Ch 42+198	Nil	Abutment A1 and A2 Side construction of Abutment cap completed. Out of 4 No's of pile at pier P1 location, 2 No's casting completed. Test pile casting completed at Pier P2 location. Work stopped due to heavy rain. Cofferdam washed away in flood and subsequently, test pile tilted. Contractor was asked to verify their submitted design by a foundation expert.
6	Major Bridge Ch: 53+865	Nil	Sub soil investigation work completed and working drawing submitted.
7	Culverts	Box culvert- 4 Nos completed Pipe Culvert- 9 Nos in progress Widening / slab culvert – 1 culvert completed	Box culvert- 32 Nos completed Pipe Culvert- 10 Nos completed Widening / slab culvert – 9 Nos completed
8	Drain - Casting	966 m	23448 m
9	Drain - Placing	380 m	12460 m

PCC retaining wall works completed between km 36+000 and 38+000

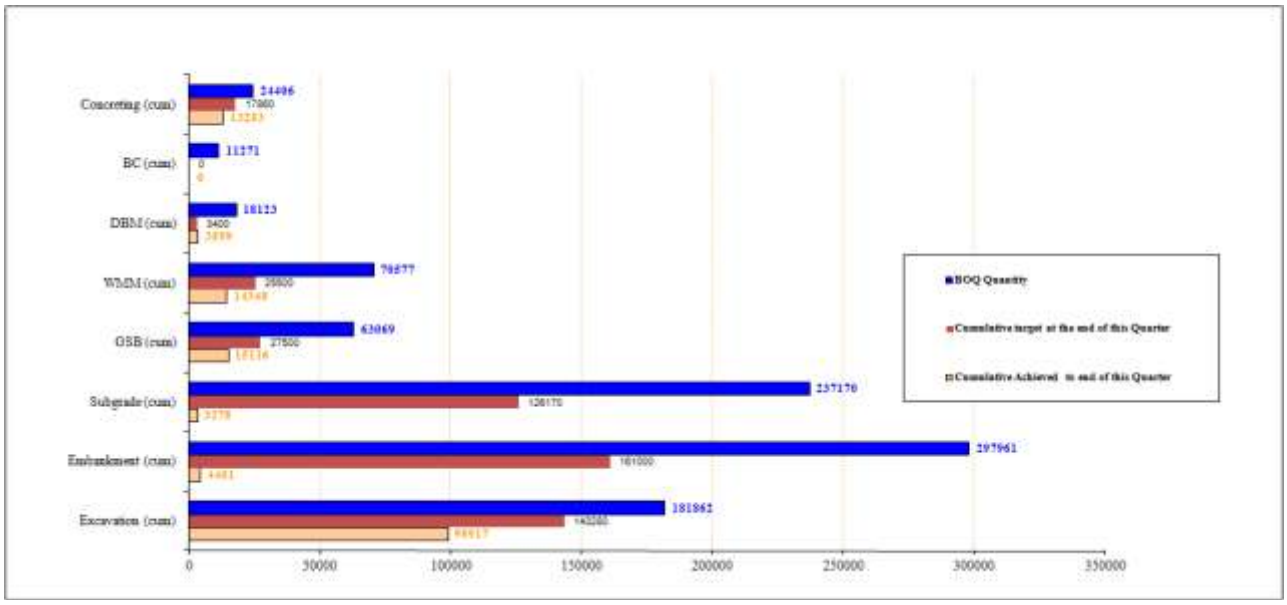
RCC retaining wall started at km39+500 and 35+110

Gabion wall work is in progress from km 33+315 to 33+580, km 35+242, km 44+215 to km 44+245 and from km 44+815 to km 44+860.

3.12 Financial Progress

Up to end of previous month		This month		Cumulative to end of this month (gross)		Physical Progress
Target	Achieved	Target	Achieved	Target	Achieved (gross)	Achieved
38.48%	21.88%	2.88%	1.78%	41.36%	23.66%	24.20%

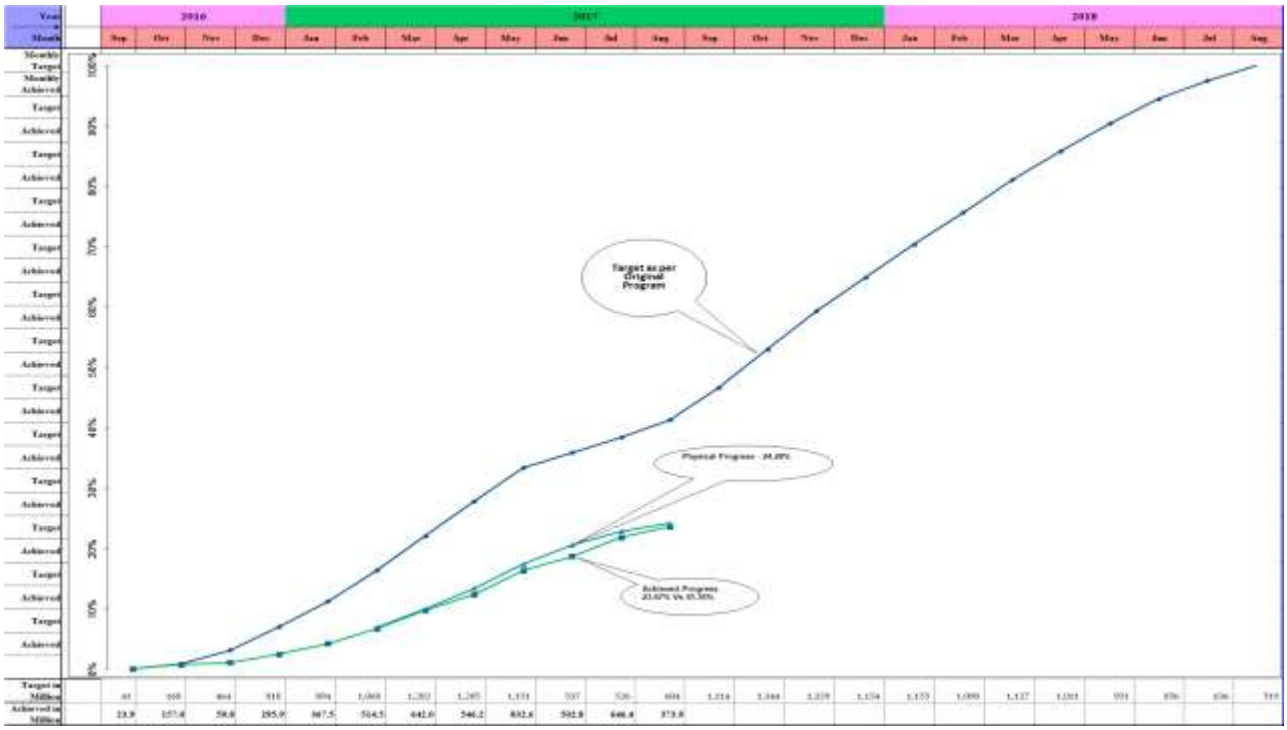
3.13 Physical Progress



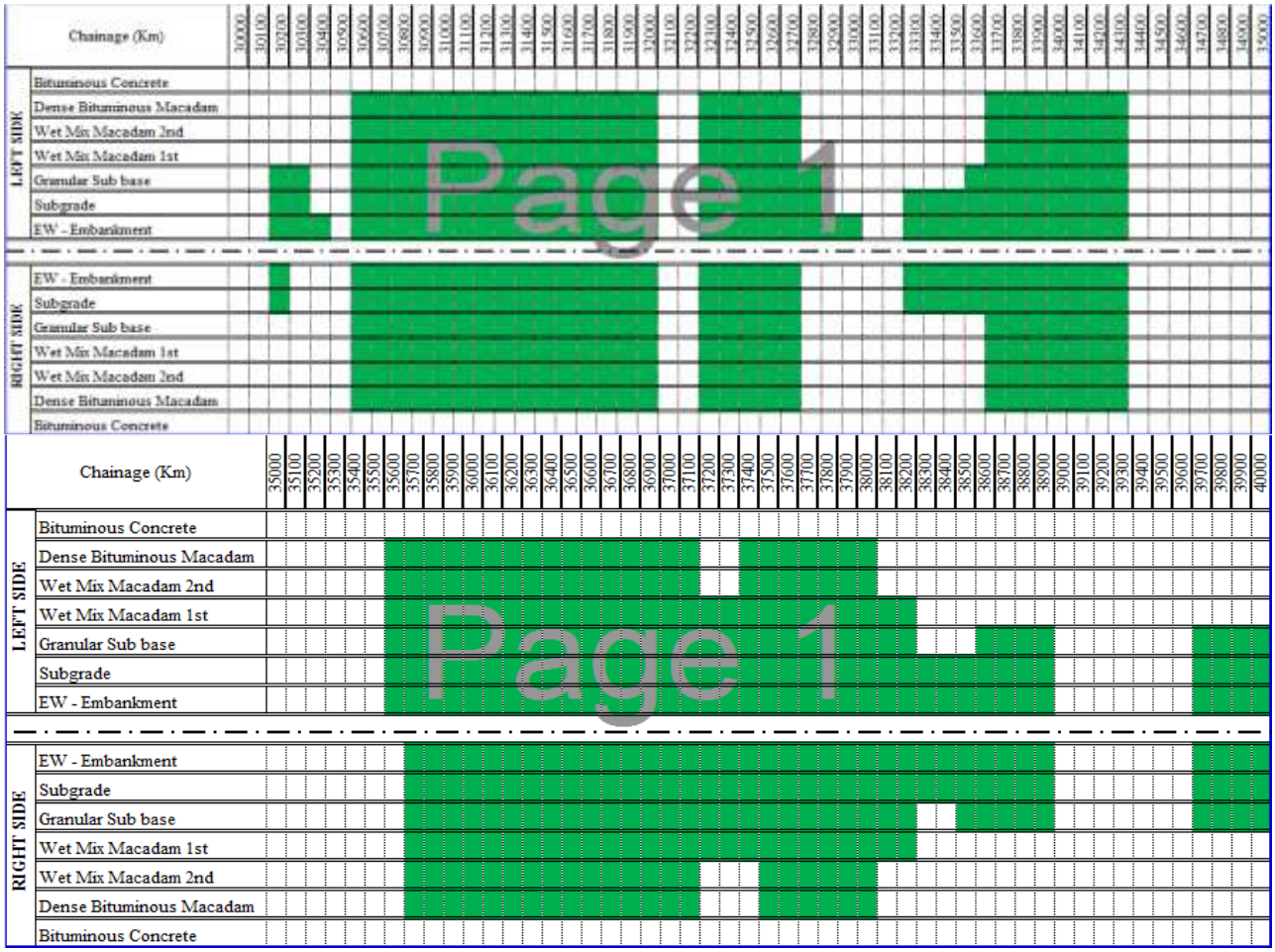
3.14 Schedule of Culverts and Drainage Works

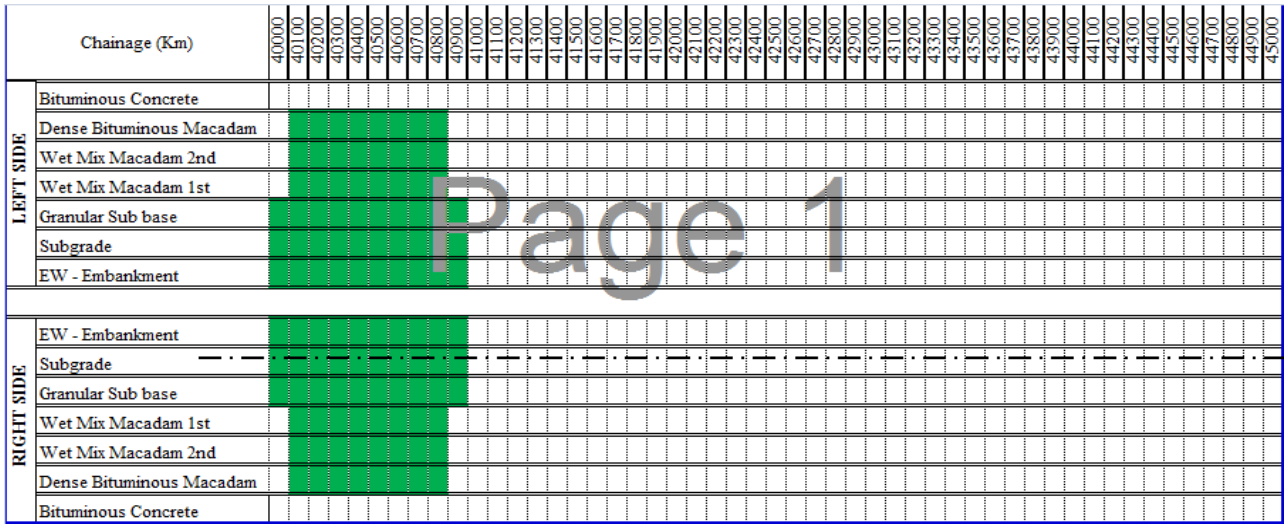
Nature of work	Original number	Number completed	Number in progress	Number remaining	Original number	Number completed	Number in progress	Number remaining	Remarks
Culverts	**Milestone - I (30+000 to 40+000 -10km)**				**Milestone - II (40+000 to 55+200- 15.2Km)**				
Slab Culverts	6	5	1		9	4	-	5	
Box Culvert	20	18	2		29	14	8	7	
Pipe Culvert	9	8	1	-	15	2	8	5	
Major Bridges	-	-	-	-	2	-	-	2	
Minor Bridges	1		1	-	-	-	-	-	
Total Structures	**36**	**31**	**5**	-	**55**	**20**	**16**	**19**	

3.15 S-Curve



3.16 Strip map





3.17 Payments to the Contractor

The contractor has been paid Rs. 68.54 crores

3.18 Implementation of EMP

Mobilization has been completed and all plants erected and trial run completed. Housekeeping, waste disposal are satisfactory but some improvement required in waste collection and disposal. The consent application submitted and clearance from PCB obtained for HM plant. NOC is expected for other plants shortly.

Dust suppression measures are required in side base camp. The workshop area is to be completed immediately with waste oil collection pits and separate service area for vehicles. Contractor has started road work and DBM works in progress. Tree cutting in milestone II is ongoing. Medical checkup for all staff inside the camp has been arranged.

Unit	Status of Compliance	Remarks
Crusher	No crusher proposed. Materials purchased from existing crusher. Consent copy to Operate from Kerala State Pollution Control Board to be obtained.	Copy of consents submitted.
Hot Mix Plant	Hot Mix Plant is planned at Padiyoor near Iritty for which Consent to Establish and Consent to Operate from Kerala State Pollution Control Board is to be obtained.	Mobilised, ready for operation. Consent from PCB obtained.
WMM Plant & Batching Plant	Consent to Establish and Consent to Operate from Kerala State Pollution Control Board is to be obtained.	Mobilised
Batching plants At base camp and at chevayur(2 nos)	Commissioned. Applied for combined consents for establishment and operation. Commissioned.	Applied for consents.

Contractor has erected a bio gas plant for treating kitchen waste and the gas from the plant is used for cooking. A RO plant has been installed to meet the drinking water requirements of the people inside the base camp. The contractor has also installed an activated carbon and filter unit to treat the waste water from wash rooms and kitchen for reuse. This will be reused for dust suppression and gardening purpose. The effort taken by the contractor is to be appreciated and can be a model for other contractors.

The base camp at Chavessery in which the contractor installed batching plant , WMM plant, and casting yard are also in operation. Contractor has using a mobile crusher for making GSB. The PCB clearance for the plant has also to obtained. The panchayat road to the base camp is in a bad shape; this may be repaired and to be maintained by the contractor. Toilet facility is not provided to the workers at the bridge site. A temporary site office is to be constructed at the site and space for rest and dining this is a pending issue.

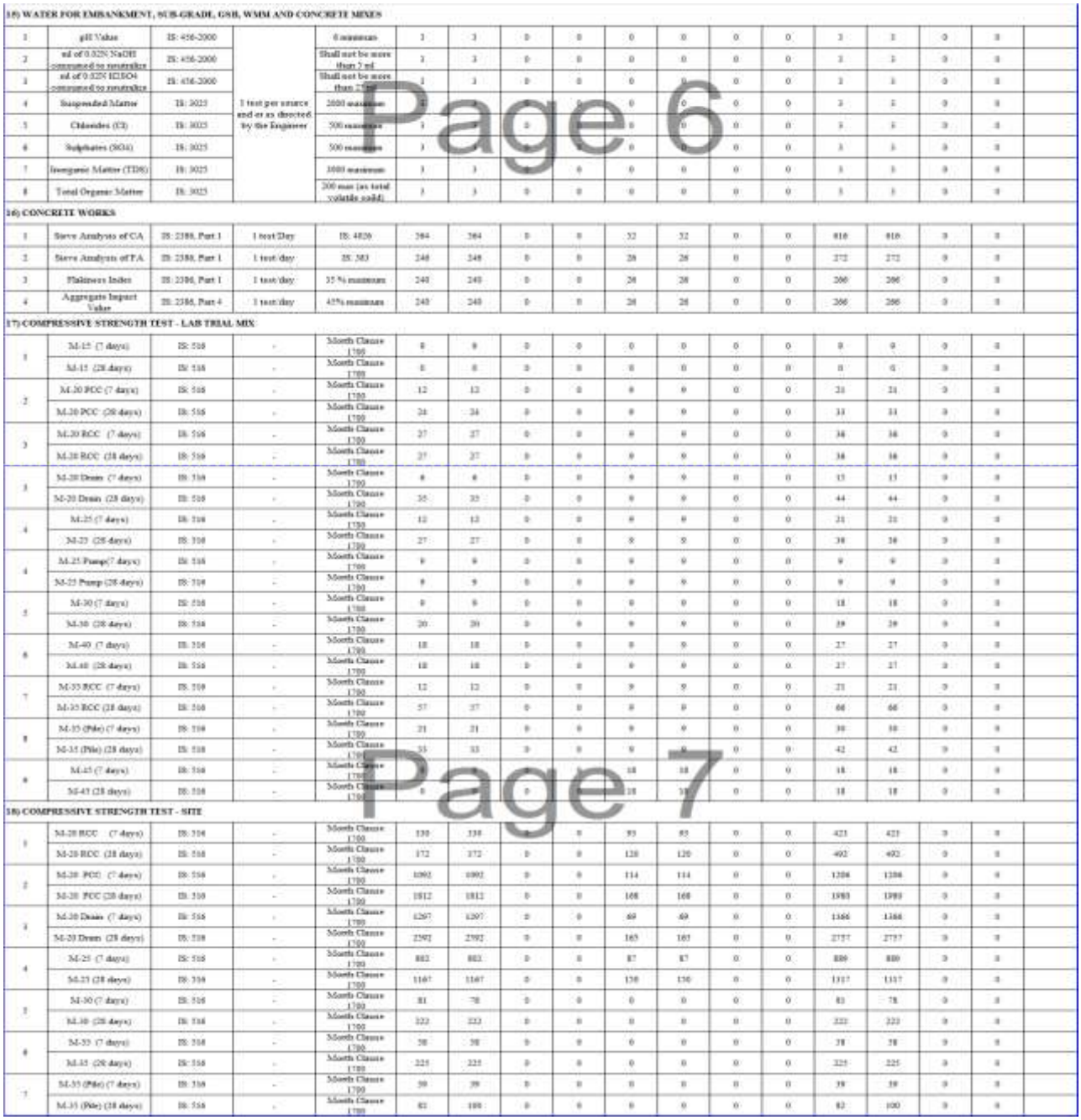
Contractor has maintained registers for accident reports and complaints from public. Direction has been issued to collect report on accidents from police stations on a weekly basis and report to the consultant monthly.
Training has to be provided to all workers, staff and operators as per the EHS plan by the safety officer, this is pending.

3.19 Material Tests Structure & Pavements

S. No.	Name of test	Testing method	Frequency of test	Specification requirement	Number of tests conducted												Remarks
					Up to Previous Month				This Month				Cumulative				
					Tested	Pass	Fail	Retest	Tested	Pass	Fail	Retest	Tested	Pass	Fail	Retest	
1) OGL																	
1	Attenberg's Limit	IS: 2720, Part 5	1 test/1500 m²	LL=50% max; PI=25 max.	109	109	0	0	0	0	0	0	109	109	0	0	
2	Sieve Analysis	IS: 2720, Part 4	1 test/1500 m²	75 mm maximum size	102	102	0	0	0	0	0	0	102	102	0	0	
3	Proctor Test	IS: 2720, Part 8	1 test/1500 m²	Min.15.2 kN/m² (for soils upto 3m Min.16.0 kN/m² (for soils above 3m ht.	99 71	99 71	0 0	0 0	0 0	0 0	0 0	0 0	99 71	99 71	0 0	0 0	
4	Moisture Content	IS: 2720, Part 2	1 test/250 m²	(+) 1 % (-) 2 % of OMC	120	120	0	0	0	0	0	0	120	120	0	0	
5	Free Swelling Index	IS: 2720, Part 40	As required	40% max.	164	164	0	0	0	0	0	0	164	164	0	0	
6	Lab CBR.	IS: 2720, Part 16	1 test/3000 m²	10% minimum	234	234	0	0	0	0	0	0	234	234	0	0	
7	Field Density	IS: 2720, Part 28	1 test / 1000 m²	Min. 95%	132	128	4	4	6	6	0	0	138	134	4	4	
2) NEW ALIGNMENT CUTTING MATERIALS																	
1	Attenberg's Limit	IS: 2720, Part 5	1 test/1500 m²	LL=70% max; PI=45 max.	10	10	0	0	0	0	0	0	10	10	0	0	
2	Sieve Analysis	IS: 2720, Part 4	1 test/1500 m²	75 mm maximum size	10	10	0	0	0	0	0	0	10	10	0	0	
3	Proctor Test	IS: 2720, Part 8	1 test/1500 m²	17.5 kN/m² min	10	10	0	0	0	0	0	0	10	10	0	0	
4	Deleterious Content: Sulphate	IS: 2720, Part 27	As required	0.5 % max	1	1	0	0	0	0	0	0	1	1	0	0	
5	Free Swelling Index	IS: 2720, Part 40	As required	40% max.	10	10	0	0	0	0	0	0	10	10	0	0	
6	Lab CBR.	IS: 2720, Part 16	1 test/3000 m²	10% minimum	10	10	0	0	0	0	0	0	10	10	0	0	
3) SOIL/EMBANKMENT MATERIALS																	
1	Attenberg's Limit	IS: 2720, Part 5	1 test/1500 m²	LL=70% max; PI=42 max.	16	16	0	0	1	1	0	0	17	17	0	0	
2	Sieve Analysis	IS: 2720, Part 4	1 test/1500 m²	75 mm maximum size	16	16	0	0	1	1	0	0	17	17	0	0	
3	Proctor Test	IS: 2720, Part 8	1 test/1500 m²	Min.15.2 kN/m² (for soils upto 3m Min.16.0 kN/m² (for soils above 3m ht.	1 16	1 16	0 0	0 0	0 1	0 1	0 0	0 0	1 17	1 17	0 0	0 0	
4	Moisture Content	IS: 2720, Part 2	1 test/250 m²	(+) 1 % (-) 2 % of OMC	688	688	0	0	12	12	0	0	700	700	0	0	
5	Deleterious Content: Sulphate	IS: 2720, Part 27	As required	0.5 % max	0	0	0	0	0	0	0	0	0	0	0	0	
6	Free Swelling Index	IS: 2720, Part 40	As required	40% max.	16	16	0	0	1	1	0	0	17	17	0	0	
7	Field Density	IS: 2720, Part 28	1 test/1000 m²	Min. 95%	688	648	40	36	12	12	0	0	700	660	40	36	
4) SUB-GRADE MATERIALS																	
1	Attenberg's Limit	IS: 2720, Part 5	1 test/1500 m²	LL=70% max; PI=43 max.	15	15	0	0	4	4	0	0	19	19	0	0	
2	Sieve Analysis	IS: 2720, Part 4	1 test/1500 m²	75 mm maximum size	15	15	0	0	4	4	0	0	19	19	0	0	

3	Proctor Test	IS: 2720, Part 8	1 test/1500 m²	17.5 kN/m³ min	15	15	0	0	4	4	0	0	19	19	0	0	
4	Moisture Content	IS: 2720, Part 2	1 test/250 m³	(+) 1 % (-) 2 % of OMC	1451	1451	0	0	274	274	0	0	1725	1725	0	0	
5	Deleterious Content: Sulphate	IS: 2720, Part 27	As required	0.5 % max	0	0	0	0	0	0	0	0	0	0	0	0	
6	Free Swelling Index	IS: 2720, Part 40	As required	50% max.	15	15	0	0	4	4	0	0	19	19	0	0	
7	Lab CBR	IS: 2720, Part 16	1 test/3000 m²	10% minimum	10	10	0	0	2	2	0	0	12	12	0	0	
8	Surface Tolerance Level	MORTH 902.1	As required	(-) 25 mm & (+) 20 mm	0	0	0	0	0	0	0	0	0	0	0	0	
9	Field Density	IS: 2720, Part 28	1 test/500 m²	Min. 97%	1451	1320	122	26	274	218	56	148	1725	1547	178	174	
5) GSB MATERIALS																	
1	Attenberg's Limit	IS: 2720, Part 5	1 test/200 m²	LL=25% max; PI=6 max.	118	113	0	0	18	18	0	0	136	131	0	0	
2	Sieve Analysis	IS: 2386, Part 1	1 test/200 m²	Morth a) 72, b) 53, c) 26.5 max	132	147	0	0	18	18	0	0	170	165	0	0	
3	Proctor Test	IS: 2720, Part 8	As required		11	11	0	0	1	1	0	0	12	12	0	0	
4	Deleterious Content	IS: 2386, Part 2	As required	No deleterious constituent	0	0	0	0	0	0	0	0	0	0	0	0	
5	Moisture Content	IS: 2720, Part 2	1 test/250 m³	(+) 1 % (-) 2 % of OMC	787	787	0	0	161	161	0	0	948	948	0	0	
6	Lab CBR	IS: 2720, Part 16	1 test/2000 m²	30 % minimum	9	9	0	0	1	1	0	0	10	10	0	0	
7	10 % Fines Value	BS: 812, Part 111	As required	50 kN min (soaked condition)	8	8	0	0	0	0	0	0	8	8	0	0	
8	Water Absorption	IS: 2386, Part 3	As required	2 % max. > 2% do Soundness	9	9	0	0	0	0	0	0	9	9	0	0	
9	Field Density	IS: 2720, Part 28	1 test/500 m²	Min. 98%	791	767	24	0	161	153	8	12	952	920	24	16	
10	Surface Tolerance Level	MORTH 902.1		(+) 10 mm & (-) 20 mm	0	0	0	0	0	0	0	0	0	0	0	0	
11	Acceptance Criteria	MORTH Section 902.2.2	As required	Spec'd D -[1.65-1.65 /Na of	86	86	0	0	15	15	0	0	111	111	0	0	
6) WMM MATERIALS																	
1	Sieve Analysis	IS: 2386, Part 1	1 test/300 m³	MORTH a) 75 b) 53 c) 26.5 max	188	188	0	0	27	27	0	0	215	215	0	0	
2	Attenberg's Limit	IS: 2720, Part 5	1 test/300 m³	PI=6 max.	170	170	0	0	27	27	0	0	197	197	0	0	
3	Proctor Test	IS: 2720, Part 8	As required		2	2	0	0	0	0	0	0	2	2	0	0	
4	Deleterious Content	IS: 2386, Part 2	As required	No deleterious constituent	0	0	0	0	0	0	0	0	0	0	0	0	
5	Aggregate Impact Value	IS: 2386, Part 4	1 test/100 m³	30% maximum	4	4	0	0	0	0	0	0	4	4	0	0	
6	Los Angeles Abrasion	IS: 2386, Part 4	1 test/300 m³	35 % maximum	79	70	0	0	15	15	0	0	94	94	0	0	
7	Comb. Flakiness Elongation	IS: 2386, Part 1	1 test/200 m³	30% maximum	108	108	0	0	17	17	0	0	125	125	0	0	
8	Water Absorption	IS: 2386, Part3	As required	2 % max > 2% do Soundness	3	3	0	0	0	0	0	0	3	3	0	0	
9	Field Density (Shoulder)	IS: 2720, Part 28	1 test/300 m³	98%	0	0	0	0	0	0	0	0	0	0	0	0	
10	Field Density	IS: 2720, Part 28	1 test/500 m²	98%	763	754	9	1	128	128	0	0	891	882	9	1	
11	Surface Tolerance Level	MORTH 902.1	As required	(+) 10 mm & (-) 20 mm	0	0	0	0	0	0	0	0	0	0	0	0	
12	Surface Irregularities	MORTH 902.4	As required	8 mm maximum	0	0	0	0	0	0	0	0	0	0	0	0	
13	Acceptance Criteria	MORTH Section 902.2.2	As required	Spec'd D-[1.65-1.65 /Na of	56	56	0	0	10	10	0	0	68	68	0	0	
7) BITUMINOUS EMULSIFIED PRIME COAT MATERIALS																	
1	Viscosity by Funil Viscometer	IS: 3117	1 test lot	20 to 100 seconds	1	1	0	0	2	2	0	0	3	3	0	0	
2	Rate of Application	MORTH 502	1 test/500sqm	6 to 9 kgs/ 10 sq.m.	117	117	0	0	13	13	0	0	130	130	0	0	
3	Temperature Application	MORTH 503.3.3	1 test/operation	20°C to 60°C	11	11	0	0	4	4	0	0	15	15	0	0	
8) BITUMINOUS EMULSIFIED TACK COAT MATERIALS FOR DBM																	
1	Viscosity by Funil Viscometer	IS: 3117	1 test lot	20 to 100 seconds	1	1	0	0	2	2	0	0	3	3	0	0	
2	Rate of Application	MORTH 503	1 test/500sqm	2.5 to 3.5kgs/ 10 sq.m.	80	80	0	0	13	13	0	0	93	93	0	0	
3	Temperature Application	MORTH 503.3.3	1 test/operation	20°C to 60°C	9	9	0	0	4	4	0	0	13	13	0	0	
9) BITUMINOUS EMULSIFIED TACK COAT MATERIALS FOR BC																	
1	Viscosity by Funil Viscometer	IS: 3117	1 tests/lot	20 to 100 seconds	0	0	0	0	0	0	0	0	0	0	0	0	
2	Rate of Application	MORTH 503	1 test/500sqm	2 to 2.5 kgs/ 10 sq.m.	0	0	0	0	0	0	0	0	0	0	0	0	
3	Temperature Application	MORTH 503.3.3	1 test/operation	20°C to 60°C	0	0	0	0	0	0	0	0	0	0	0	0	
10) BITUMEN MATERIALS FOR BM, DBM AND BC																	
1	Penetration Grade at 25°C	IS: 1203	1 test lot	Min.43mm	6	6	0	0	3	3	0	0	9	9	0	0	
2	Softening Point	IS: 1205	1 test lot	Min.47 degr.	6	6	0	0	3	3	0	0	9	9	0	0	
3	Ductility at 27°C	IS: 1208	1 test lot	Min.40cm	6	6	0	0	3	3	0	0	9	9	0	0	
4	Viscosity	IS: 1206	1 test lot	2400-3600 poises	5	5	0	0	3	3	0	0	8	8	0	0	
5	Specific gravity	IS: 1201	1 test lot		3	3	0	0	1	1	0	0	4	4	0	0	
6	Elastic recovery	IS 15462	1 test lot	Min.40%	0	0	0	0	0	0	0	0	0	0	0	0	
11) DENSE BITUMINOUS MACADAM MATERIALS - GRADE-II																	
1	Sieve Analysis	IS: 2386, Part 1	For each 400 tonnes; 2 tests per	MORTH Table 500-18	60	60	0	0	4	4	0	0	64	64	0	0	
2	Extraction Test of Bitumen	ASTM D-2172		= 0.30% by weight of total mix	48	48	0	0	4	4	0	0	52	52	0	0	
3	Sieve Analysis after Extraction	IS: 2386, Part 1		MORTH Table 500-18	32	32	0	0	4	4	0	0	36	36	0	0	
4	Aggregate Impact Value	IS: 2386, Part 4	1 test per 50 m³	25 % maximum	57	57	0	0	4	4	0	0	61	61	0	0	
5	Comb. Flakiness & Elongation	IS: 2386, Part 1	1 test per 50 m³	30 % maximum	54	54	0	0	4	4	0	0	58	58	0	0	
6	Los Angeles Abrasion	IS: 2386, Part 4	1 test per 50 m³	30 % maximum	2	2	0	0	0	0	0	0	2	2	0	0	
7	Water Absorption	IS: 2386, Part 3	As required	2% maximum. If >2% carry out	6	6	0	0	0	0	0	0	6	6	0	0	
8	Marshall Stability			Min.9 KN	26	26	0	0	3	3	0	0	29	29	0	0	
9	Marshall Flow		Set of 3 Marshall	3mm-6mm	26	26	0	0	3	3	0	0	29	29	0	0	
10	% Voids in Mineral Aggregates	ASTM D-1559	moulds: 400 tons & min. of 2 tests/day/ plant	Min 12.5%	26	26	0	0	3	3	0	0	29	29	0	0	
11	% Voids in Mineral Aggregates Filled by			65% to 75%	26	26	0	0	3	3	0	0	29	29	0	0	
12	% Voids in the Mix			3% to 6%	26	26	0	0	3	3	0	0	29	29	0	0	

13	Coating & Stripping of Bitumen in Aggregate	IS:6241	95% min retained coating	1 set of 3 specimens for	2	2	0	0	0	0	0	0	2	2	0	0
14	Drilled Core Density	IRC : 111	1 test/250 m²	98% min of Lab Density	209	209	0	0	16	16	0	0	225	225	0	0
15	Laboratory Density	ASTM D-1559	Set of 3 Marshall moulds/400 tons	As per Job Mix Formula	31	31	0	0	3	3	0	0	34	34	0	0
16	Soundness : Sodium Sulphate	IS: 2386, Part 5	As required	Max. 12%	1	1	0	0	0	0	0	0	1	1	0	0
	Magnesium Sulphate			Max. 18%	1	1	0	0	0	0	0	0	1	1	0	0
17	Sand Equivalent Value	IS: 2720, Part 37	As required	Min. 50%	1	1	0	0	0	0	0	0	1	1	0	0
18	Surface Tolerance Level	MORTH Section 902.3	As required	±6mm	0	0	0	0	0	0	0	0	0	0	0	0
19	Surface Irregularities	MORTH 902.4	As required	6mm maximum	0	0	0	0	0	0	0	0	0	0	0	0
20	Bump Integrator			2000 mm/Km	0	0	0	0	0	0	0	0	0	0	0	0
12) BITUMINOUS CONCRETE - GRADE-II																
1	Sieve Analysis	IS: 2386, Part 1	For each 400 tonnes/2 tests per	MORTH Table 500-18	0	0	0	0	0	0	0	0	0	0	0	0
2	Extraction Test of Bitumen	ASTM D-2172		± 0.30% by weight of total mix	0	0	0	0	0	0	0	0	0	0	0	0
3	Sieve Analysis after Extraction	IS: 2386, Part 1		MORTH Table 500-18	0	0	0	0	0	0	0	0	0	0	0	0
4	Aggregate Impact Value	IS: 2386, Part 4	1 test per 50 m³	25 % maximum	0	0	0	0	0	0	0	0	0	0	0	0
5	Comb. Flakiness & Elongation	IS: 2386, Part 1	1 test per 50 m³	30 % maximum	0	0	0	0	0	0	0	0	0	0	0	0
6	Los Angeles Abrasion	IS: 2386, Part 4	1 test per 50 m³	30 % maximum	0	0	0	0	0	0	0	0	0	0	0	0
7	Water Absorption	IS: 2386, Part 3	As required	2% maximum. If >2% carry out	0	0	0	0	0	0	0	0	0	0	0	0
8	Marshall Stability	ASTM D-1559	Set of 3 Marshall moulds/400 tons & min. of 2 tests/day/ plant	Min 900 Kg	0	0	0	0	0	0	0	0	0	0	0	0
9	Marshall Flow			2 mm to 4 mm	0	0	0	0	0	0	0	0	0	0	0	0
10	% Voids in Mineral Aggregates			Min 14%	0	0	0	0	0	0	0	0	0	0	0	0
11	% Voids in Mineral Aggregates Filled by			65% to 75%	0	0	0	0	0	0	0	0	0	0	0	0
12	% Voids in the Mix			3% to 6%	0	0	0	0	0	0	0	0	0	0	0	0
13	Polished Stone Value	BS 812	As required	Min.55	0	0	0	0	0	0	0	0	0	0	0	0
14	Coating & Stripping of Bitumen in Aggregate	IS:6241	95% min retained coating	1 set of 3 specimens for	0	0	0	0	0	0	0	0	0	0	0	0
15	Drilled Core Density	IRC-111	1 test/250 m²	98% min of Lab Density	0	0	0	0	0	0	0	0	0	0	0	0
16	Laboratory Density	ASTM D-1559	Set of 3 Marshall moulds/400 tons	As per Job Mix Formula	0	0	0	0	0	0	0	0	0	0	0	0
17	Surface Tolerance Level	MORTH Section 902.3		±6mm	0	0	0	0	0	0	0	0	0	0	0	0
18	Surface Irregularities	MORTH 902.4	As required	6mm maximum	0	0	0	0	0	0	0	0	0	0	0	0
19	Bump Integrator	MORTH Section	As required	2000 mm/Km	0	0	0	0	0	0	0	0	0	0	0	0
20	Acceptance Criteria	MORTH Section 902.2.2	As required	Spec'd D+(1.65-1.65/ (N)...of	0	0	0	0	0	0	0	0	0	0	0	0
13) CEMENT																
1	Total Loss on Ignition	IS:12269-1987	1 test per lot and or as directed by the Engineer	Not more than 5.0%	1	1	0	0	3	3	0	0	4	4	0	0
2	Insoluble Residue	IS: 12269-1987		Not more than 5.0%	1	1	0	0	0	0	0	0	1	1	0	0
3	Sulphur Content	IS: 12269-1987		Not more than 3.5%, for	3	3	0	0	0	0	0	0	3	3	0	0
4	Fineness	IS:4031 –PART-3		Not more than 10%	39	39	0	0	3	3	0	0	42	42	0	0
5	Consistency	IS:4031 –PART-3		5 to 7	38	38	0	0	3	3	0	0	41	41	0	0
6	Lime Saturation Factor	IS: 12269-1987		Between 0.66 and 1.02	2	2	0	0	0	0	0	0	2	2	0	0
7	Specific Surface	IS: 12269-1987		Not less than 225 m²/kg	0	0	0	0	0	0	0	0	0	0	0	0
8	Time of Setting	IS:4031 –PART-5		30 minutes min(initial)	45	45	0	0	3	3	0	0	48	48	0	0
	Time of Setting	IS:4031 –PART-5		600 minutes max (final)	45	45	0	0	3	3	0	0	48	48	0	0
9	Soundness - Le Chatelier	IS:4031 –PART-3		Not more than 10mm	1	1	0	0	0	0	0	0	1	1	0	0
	Soundness - Autoclave	IS:4031 –PART-3		Not more than 0.8%	1	1	0	0	0	0	0	0	1	1	0	0
10	Compressive Strength - 3 days	IS:4031, Part 6		27 MPa min after 72 hrs	108	108	0	0	9	9	0	0	117	117	0	0
	Compressive Strength - 7 days	IS:4031, Part 6		37 Mpa min after 168 hrs	108	108	0	0	12	12	0	0	120	120	0	0
	Compressive Strength - 28 days	IS:4031, Part 6		53 Mpa min after 672 hrs	108	108	0	0	9	9	0	0	117	117	0	0
14) STEEL REINFORCING BARS (Fe 500)																
1	8 mm Ø	IS: 228	1 test per lot and or as directed by the Engineer	0.367 to 0.423 kgs/m	13	13	0	0	0	0	0	0	13	13	0	0
2	10 mm Ø	IS: 228		0.574 to 0.660 kgs/m	24	24	0	0	0	0	0	0	24	24	0	0
3	12 mm Ø	IS: 228		0.844 to0.932 kgs/m	14	14	0	0	0	0	0	0	14	14	0	0
4	16 mm Ø	IS: 228		1.501 to 1.659 kgs/m	17	17	0	0	0	0	0	0	17	17	0	0
5	20 mm Ø	IS: 228		2.366 to 2.544 kgs/m	9	9	0	0	0	0	0	0	9	9	0	0
6	25 mm Ø	IS: 228		3.733 to 3.986 kgs/m	5	5	0	0	0	0	0	0	5	5	0	0
7	32 mm Ø	IS: 228		6.121 to 6.499 kgs/m	7	7	0	0	0	0	0	0	7	7	0	0
8	Carbon	IS: 228		0.30% maximum	33	33	0	0	0	0	0	0	33	33	0	0
9	Sulphur	IS: 228		0.06% maximum	33	33	0	0	0	0	0	0	33	33	0	0
10	Phosphorous	IS: 228		0.06% maximum	33	33	0	0	0	0	0	0	33	33	0	0
11	Sulphur and Phosphorous	IS: 228		0.11% maximum	0	0	0	0	0	0	0	0	0	0	0	0
12	Strengthening Elements	IS: 228		0.30% maximum	0	0	0	0	0	0	0	0	0	0	0	0
				mm²/mm for Ø≤10mm-0.12Ø	1	1	0	0	0	0	0	0	1	1	0	0
13	Mean area of ribs	IS: 1786		mm²/mm for10<Ø≤16mm-	1	1	0	0	0	0	0	0	1	1	0	0
				mm²/mm for Ø>16mm-0.17Ø	0	0	0	0	0	0	0	0	0	0	0	0
14	Cross-sectional Area	IS: 1786		See Table 1 of IS: 1786	0	0	0	0	0	0	0	0	0	0	0	0
15	Nominal Mass	IS: 1786		See Table 1 of IS: 1786	33	33	0	0	0	0	0	0	33	33	0	0
16	0.2% Proof Stress (yield)	IS: 1608; IS: 228		500 N/mm² minimum	41	41	0	0	0	0	0	0	41	41	0	0
17	Elongation	IS: 1608; IS: 228		14.5 % minimum	41	41	0	0	0	0	0	0	41	41	0	0
18	Tensile Strength	IS: 1608; IS: 228		10% more of Yield, but not less than	41	41	0	0	0	0	0	0	41	41	0	0
19	Modulus of Elasticity			200 GPa minimum	0	0	0	0	0	0	0	0	0	0	0	0
20	Bend Test	IS: 1599		No transverse crack	41	41	0	0	0	0	0	0	41	41	0	0
21	Re-bend Test	IS: 1786		No fracture in the bent portion	41	41	0	0	0	0	0	0	41	41	0	0



15) WATER FOR EMBANKMENT, SUB-GRADE, GSB, WMM AND CONCRETE MIXES																	
1	pH Value	IS: 456-2000	1 test per source and or as directed by the Engineer	6 minimum	3	3	0	0	0	0	0	0	3	3	0	0	
2	ml of 0.02N NaOH consumed to neutralize	IS: 456-2000		Shall not be more than 2 ml	3	3	0	0	0	0	0	0	3	3	0	0	
3	ml of 0.02N H2SO4 consumed to neutralize	IS: 456-2000		Shall not be more than 2 ml	3	3	0	0	0	0	0	0	3	3	0	0	
4	Suspended Matter	IS: 3025		2000 maximum	3	3	0	0	0	0	0	0	3	3	0	0	
5	Chlorides (Cl)	IS: 3025		500 maximum	3	3	0	0	0	0	0	0	3	3	0	0	
6	Sulphates (SO4)	IS: 3025		500 maximum	3	3	0	0	0	0	0	0	3	3	0	0	
7	Inorganic Matter (TDS)	IS: 3025		3000 maximum	3	3	0	0	0	0	0	0	3	3	0	0	
8	Total Organic Matter	IS: 3025		200 max (as total volatile solid)	3	3	0	0	0	0	0	0	3	3	0	0	
16) CONCRETE WORKS																	
1	Sieve Analysis of CA	IS: 2386, Part 1	1 test/Day	IS: 4926	384	384	0	0	32	32	0	0	416	416	0	0	
2	Sieve Analysis of FA	IS: 2386, Part 1	1 test/day	IS: 383	248	248	0	0	28	28	0	0	372	372	0	0	
3	Flakiness Index	IS: 2386, Part 1	1 test/day	35 % maximum	248	248	0	0	28	28	0	0	366	366	0	0	
4	Aggregate Impact Value	IS: 2386, Part 4	1 test/day	45% maximum	248	248	0	0	28	28	0	0	366	366	0	0	
17) COMPRESSIVE STRENGTH TEST - LAB TRIAL MIX																	
1	M-15 (7 days)	IS: 516	-	Month Classes 1709	0	0	0	0	0	0	0	0	0	0	0	0	
	M-15 (28 days)	IS: 516	-	Month Classes 1709	0	0	0	0	0	0	0	0	0	0	0	0	
2	M-20 PCC (7 days)	IS: 516	-	Month Classes 1709	12	12	0	0	9	9	0	0	21	21	0	0	
	M-20 PCC (28 days)	IS: 516	-	Month Classes 1709	24	24	0	0	9	9	0	0	33	33	0	0	
3	M-20 RCC (7 days)	IS: 516	-	Month Classes 1709	27	27	0	0	9	9	0	0	36	36	0	0	
	M-20 RCC (28 days)	IS: 516	-	Month Classes 1709	27	27	0	0	9	9	0	0	36	36	0	0	
3	M-20 Drain (7 days)	IS: 516	-	Month Classes 1709	4	4	0	0	9	9	0	0	13	13	0	0	
	M-20 Drain (28 days)	IS: 516	-	Month Classes 1709	35	35	0	0	9	9	0	0	44	44	0	0	
4	M-25 (7 days)	IS: 516	-	Month Classes 1709	12	12	0	0	9	9	0	0	21	21	0	0	
	M-25 (28 days)	IS: 516	-	Month Classes 1709	27	27	0	0	9	9	0	0	36	36	0	0	
4	M-25 Pump(7 days)	IS: 516	-	Month Classes 1709	9	9	0	0	9	9	0	0	9	9	0	0	
	M-25 Pump (28 days)	IS: 516	-	Month Classes 1709	9	9	0	0	9	9	0	0	9	9	0	0	
5	M-30 (7 days)	IS: 516	-	Month Classes 1709	9	9	0	0	9	9	0	0	18	18	0	0	
	M-30 (28 days)	IS: 516	-	Month Classes 1709	30	30	0	0	9	9	0	0	39	39	0	0	
6	M-40 (7 days)	IS: 516	-	Month Classes 1709	18	18	0	0	9	9	0	0	27	27	0	0	
	M-40 (28 days)	IS: 516	-	Month Classes 1709	18	18	0	0	9	9	0	0	27	27	0	0	
7	M-35 RCC (7 days)	IS: 516	-	Month Classes 1709	12	12	0	0	9	9	0	0	21	21	0	0	
	M-35 RCC (28 days)	IS: 516	-	Month Classes 1709	57	57	0	0	9	9	0	0	66	66	0	0	
8	M-35 (Pile) (7 days)	IS: 516	-	Month Classes 1709	21	21	0	0	9	9	0	0	30	30	0	0	
	M-35 (Pile) (28 days)	IS: 516	-	Month Classes 1709	33	33	0	0	9	9	0	0	42	42	0	0	
9	M-45 (7 days)	IS: 516	-	Month Classes 1709	9	9	0	0	9	9	0	0	18	18	0	0	
	M-45 (28 days)	IS: 516	-	Month Classes 1709	9	9	0	0	9	9	0	0	18	18	0	0	
18) COMPRESSIVE STRENGTH TEST - SITE																	
1	M-20 RCC (7 days)	IS: 516	-	Month Classes 1709	330	330	0	0	93	93	0	0	423	423	0	0	
	M-20 RCC (28 days)	IS: 516	-	Month Classes 1709	372	372	0	0	120	120	0	0	492	492	0	0	
2	M-20 PCC (7 days)	IS: 516	-	Month Classes 1709	1092	1092	0	0	114	114	0	0	1206	1206	0	0	
	M-20 PCC (28 days)	IS: 516	-	Month Classes 1709	1812	1812	0	0	168	168	0	0	1980	1980	0	0	
3	M-20 Drain (7 days)	IS: 516	-	Month Classes 1709	1297	1297	0	0	89	89	0	0	1386	1386	0	0	
	M-20 Drain (28 days)	IS: 516	-	Month Classes 1709	2592	2592	0	0	165	165	0	0	2757	2757	0	0	
4	M-25 (7 days)	IS: 516	-	Month Classes 1709	882	882	0	0	87	87	0	0	969	969	0	0	
	M-25 (28 days)	IS: 516	-	Month Classes 1709	1167	1167	0	0	150	150	0	0	1317	1317	0	0	
5	M-30 (7 days)	IS: 516	-	Month Classes 1709	81	78	0	0	0	0	0	0	81	78	0	0	
	M-30 (28 days)	IS: 516	-	Month Classes 1709	222	222	0	0	0	0	0	0	222	222	0	0	
6	M-35 (7 days)	IS: 516	-	Month Classes 1709	78	78	0	0	0	0	0	0	78	78	0	0	
	M-35 (28 days)	IS: 516	-	Month Classes 1709	225	225	0	0	0	0	0	0	225	225	0	0	
7	M-35 (Pile) (7 days)	IS: 516	-	Month Classes 1709	39	39	0	0	0	0	0	0	39	39	0	0	
	M-35 (Pile) (28 days)	IS: 516	-	Month Classes 1709	82	100	0	0	0	0	0	0	82	100	0	0	

3.20 Compliance report on observations of World Bank Mission Nov 2016

Bridges to be constructed

S No	LOCATION	CHAINAGE (km)	LENGTH (m)	SPAN (No./m)
1	ULIYIL	35+450	21.00 (skew)	1/21.00
2	IRITTY	42+195	144	3/48 (each)
3	KOOTTUPUZHA	52+865	90 (skew)	5/18 (each)

Crucial Actions

S No	Issues	Activities	Action by	Action taken
1	ULUYIL Bridge	There is a difference of 1.53 m in the deck levels of proposed bridge vis-à-vis the one which is	TL to examine the design implications and	Good For Construction drawings

		existing. Deck level to be raised.	convey decision / Good-For-Construction (GFC)drawings immediately.	issued and bridge completed
2	IRITTY Bridge	Time is a challenging constraint in its execution as water levels rise when gates are closed, downstream side of the bridge. Nearly 10 months of total time is available for construction (5 months in a year). Bridge is located across the reservoir. Pile driving in A1 abutment done. Under A2 abutment, 4 of 12 piles have been driven. Confirmatory bore holes are in progress. Changes in foundation design anticipated.	TL to conclude changes in the foundation design immediately and supply GFC drawings to the contractor.	Confirmatory boring completed. Design for pile foundation is approved for pier P1 and pier P2. Work temporarily stopped due to heavy rains
3	Approach of IRITTY bridge towards A2 abutment	For proper geometrics of the approach, issue of acquiring land has to be examined and decision taken urgently.	TL/ PD	No further land acquisition envisaged at present. To follow DPR proposal. However Employer would explore the possibilities of additional land.
4	KOOTTUPUZHA Bridge	Layout of the bridge has been marked by the contractor at the site. Geological investigations are to be carried out.	TL to examine and conclude the layout and convey decision for further action to be taken by the contractor.	Layout of bridge has been finalized. Variation Order submitted for additional cost.
5	Shifting of utilities	Electrical lines For MS 1, payment for material has been made by the contractor, but consignment awaited Tree Removal Process for 177 trees in MS 1 completed. But auctioning to be done. Total number of trees involved in the road is 1131	PD to intervene and expedite. PD to expedite	Work is being carried out.
6	Excise exemption	The process involved in allowing exemption needs to be fast-tracked to avoid wastage of time in procurement.	PD to keep a watch and expedite the process	This has been expedited.
7	Work Programme	Work Programme prepared and submitted by the contractor. It is	TL to expedite and conclude	Resubmitted and

		stated to have been discussed also.	approval urgently, with due diligence w.r.t resource planning and methodology.	approved.

Sl No	Observation	Action taken
1	Site Works	
a	In confirmatory boreholes under execution at Iritti bridge test for chloride and sulphate content in soil and ground water shall be conducted to check if these are within limits.	Complied
b	Use of precast segments for drain sections is allowed for better quality control. However in case cross-section is changed from approved drawings then revised design would need approval of Consultants with revision in cost, if any.	This has been completed.
c	Alternative design on pile foundation proposed by the contractor in place of open foundation in tender scheme for piers P1 and P2 in Iritti bridge has to be vetted by a reputable foundation specialist.	Design vetted by reputable designer
d	Prestressing work at bridge site should be executed only through a specialist agency with past experience in similar works.	Will be followed
2	Quality Control Laboratory	
e	Low relaxation test for HT strands to be used in the project shall be conducted for loss at 100 hrs and 1000 hrs.	Will be done.
f	Supplier of reinforcement bars shall be asked to send Manufacturer's Test Certificate (MTC) signed by QC-in-charge or Scientist or Head of QC laboratory with name and designation and not by Authorised Representative as is being followed now.	Complied

Environmental Safeguards

1	CSC' Environmental Expert needs to visit site of base camp/plant for verification and approval as per siting criteria as given in the EMP	Visited site and approval for camp issued.

ROAD SAFETY

1	The junction near to Iritty bridge (at the joining of Thalipparamba road), needs to be re-designed	Will be designed as per site conditions.

3.21 Photographs

DBM AT KM 30+600

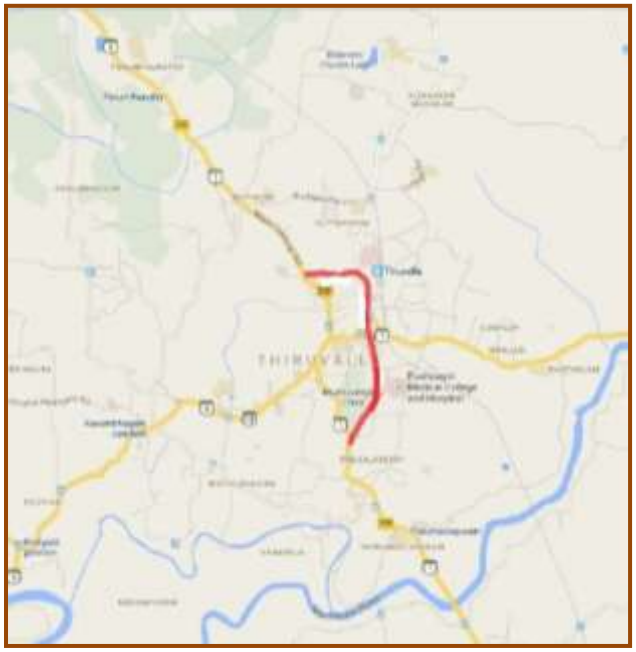
EXCAVATION IN PROGRESS AT KM 32+800

EXCAVATION IN PROGRESS AT KM 32+800

COUNTER FORT RETAINING WALL WORK IN PROGRESS A1 SIDE OF BRIDGE AT KM 42+198

6 Contract Package IVA

Construction of **Thiruvalla Bypass** along Chengannoor - Ettumannoor Road (SH-1) from chainage 7+390 to 9+400



Scope of Works

Major Bridges	- Nil
Minor Bridge	- 1 no.
Flyovers	- 1 no.
Culverts	- 8 nos.
Pipe Culverts	- 2 nos.
Solar lights	- 1380 nos.

6.1 Contract Details

Letter of Acceptance Date	::	29.10.2013
Agreement Date	::	29.11.2013
Name of Contractor	::	M/s EKK & Co, Kochi
Contract Price	::	Rs. 31,80,45,071/-
Notice to Commence	::	19.12.2013
Total Length	::	2.3 Km
Contract Period	::	24 months
Completion Date	::	06 August 2014 revised to September 6, 2016
Defect Liability Period	::	365 days

Work is at sand still position due to design and contractual issues

6.2 Work Progress

6.2.1 Summary of the progress of the month ending May 2017 (Work held up)

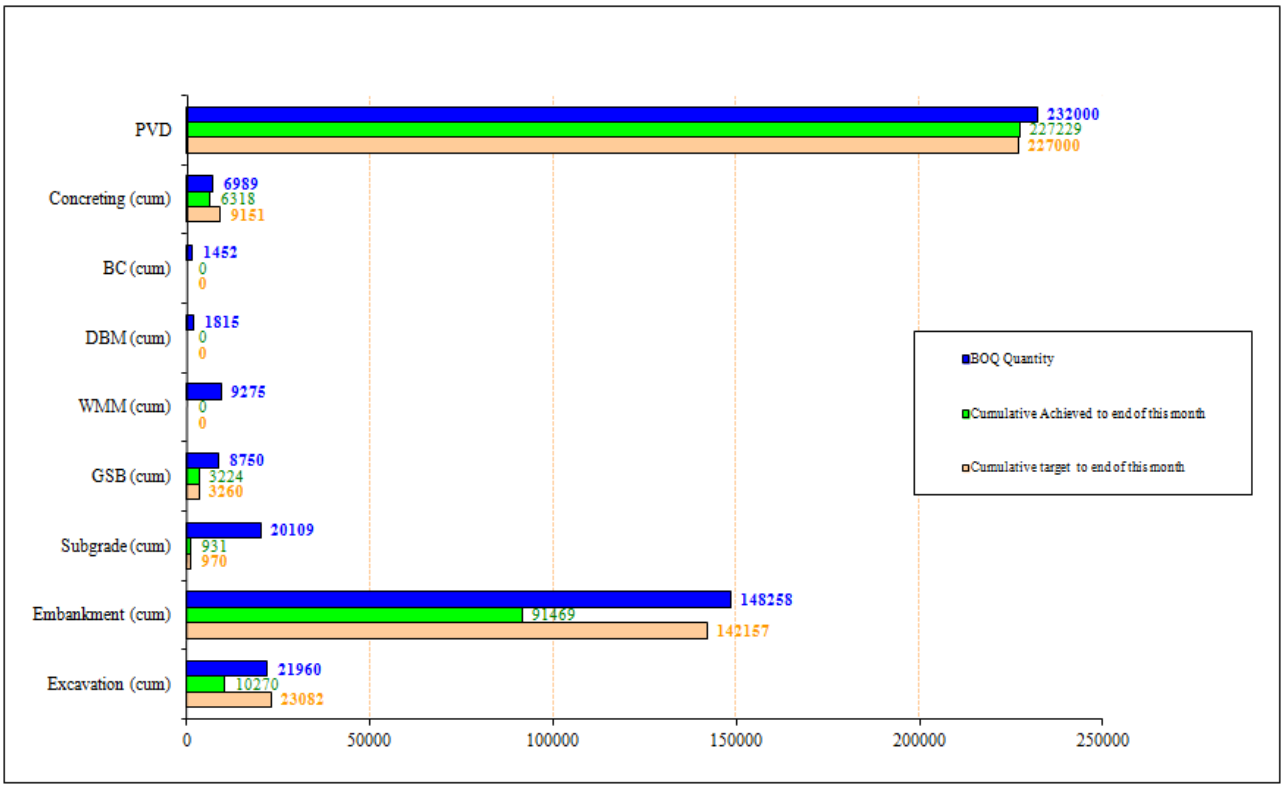
Sl No.	Item	Monthly Progress	Cumulative Progress
1	PVD		PVD from 0+080 km to 0+370km, 0+410km to 0+880km completed and earthwork in progress. PVD installation commenced in February 2015 and completed in May 2015
2	Flyover @ km 1+350		• Substructure completed • Deck slab & Crash barrier of A1-P1,P1-P2 & P3-P4 span completed. • Retaining wall at A2 side of flyover completed. • Two Girders of P4 A2 have been cast. Concreting of A2 retaining wall of flyover 6 lifts completed. At P3-P4 span 3 girders stressing and grouting completed. P3-P4 deck slab completed. P4-A2 span 2 girders & diaphragm completed. Flyover works completed. Approach work pending
3	Minor Bridge @ km0+380	2nd lift concreting of Minor bridge A1 & A2 dirt wall of minor bridge completed A2 side coconut pile driving in progress	• All 24 no's of pile completed. • A1 pilecap cast. • Abutments A1 & A2 completed. Work on superstructure in progress. Bund preparation at Minor bridge completed. Minor bridge A2 pilecap excavation & PCC completed. 4 girders completed. Deck slab completed Hand rail for crash barrier completed 2nd lift concreting of Minor bridge A1 & A2 dirt wall of minor bridge completed
4	RE Wall		• Casting of precast panel units completed. • Casting of Precast friction slab is in progress. • Ground improvement at RE wall location completed RE wall levelling pad PCC completed. RE wall levelling pad PCC completed. Embankment construction at RE wall portion (3rd & 4th layer) in progress Erection of RE wall panels in progress Paraweb layed after filling of 5th layer of embankment at RE wall portion. Embankment construction at RE wall portion (15th layer) Erection of RE wall panels.
5	Retaining wall		• RHS & LHS side of Pathanamthitta road completed. • RHS & LHS side of Thiruvalla road is in progress. • At 0+885 km is completed. • At RHS side of Ch: 1+040 – 1+115 km completed. • At LHS side of Ch: 1+060 – 1+112 km completed.

			• At LHS side of Ch: 1+060 – 1+112 km completed. The retaining wall at LHS of 1+120 Jn. (0+003-0+036.5km) LHS completed At LHS side of Ch: 1+060 – 1+112 km completed. The retaining wall at LHS of 1+120 Jn. (0+003-0+036.5km) LHS completed
6	Drainage		• At RHS of Ch: 0+920-1+057 km completed.• At LHS & RHS of 0+980 culvert completed• At LHS of Ch: 1+060 – 1+107 km completed.• At LHS of Ch: 1+121 – 1+150 km completed. At LHS of Ch: 1+060 – 1+107 km completed.• At LHS of Ch: 1+121 – 1+150 km completed.

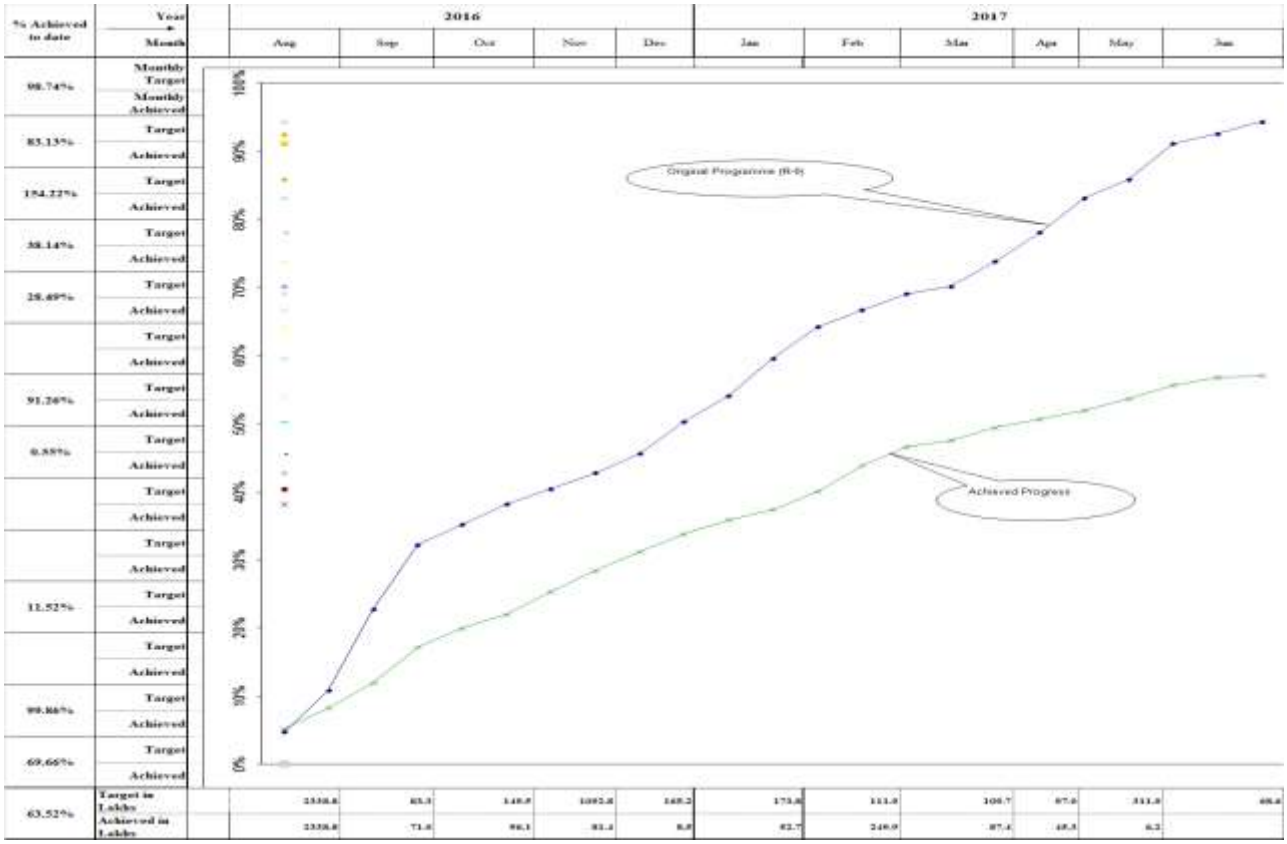
Progress up to month ending May 2017 is as follows (work held up)

Up to previous month		This month		Cumulative to end of this month (gross)		Cumulative Physical
Target	Achieved	Target	Achieved	Target	Achieved (gross)	Achieved
9.40%	63.39%	6.52%	0.13%	96.90%	63.52	63%

6.3 Physical Progress



6.4 S-Curve



6.5 Schedule of culverts and drainage works

Nature of work	Original number	No. dwgs approved	Number completed	Number in progress	Number remaining	Remarks
Culverts						
Pipe culvert	4	4	2		2	
New Box Culvert	8	4	4		4	
Total culverts	12	8	6		6	
Fly over and Minor bridge	2	2	2			Almost completed

6.6 Potential Issues

The following issues are very critical which may have adverse impact on the timely completion of the Project.

Finalisation of Extension of Time

Finalisation of Variations

Design of Viaduct

Handover of Encumbered land at Km 1+450 to 1+750

6.7 Payment

Upto IPC-13 has been paid to the contractor Rs. 17.12 crore

6.8 Implementation of EMP

6.8.1 General

No activities at site. Contractor submitted request for termination of the contract due to non-decision of the balance works and pending payments. The construction of minor bridge proper completed and approach road remaining. The RE wall work is in a slow pace. No activities on the date of inspection. Environmental expert visited site on 19thst April 2017 and observation forwarded to the contractor.

Contractor was asked to submit the action taken report on the site visit observation of the environmental expert.

6.8.2 Environment Management at Project Ancillary Facilities

The contractor has establishing a base camps at the locations detailed in Table below. Details of Construction Camps

Camp identity	Location	Village
Camp 1 Batching Pant precast yard ,Labour camp, store, laboratory	About 50 cents of land owned by Thiruvalla Municipality, and it is beside the project site.	Thiruvalla Town.
Debris Disposal site	Thiruvalla municipal area approved by municipality.	Thuruvalla
Labour Camp	Thiruvalla Town rented building.	At Thiruvalla Town.

Environment management facilities adopted at these ancillary facilities are detailed in.

Environment Management Facilities at Ancillary facilities

Sl. No.	Details of Camp/Plant	Environment Management Facilities Provided
1	Construction Camp	Provided sanitation facilities, drinking water supply, and solid waste collection facilities. Internal roads developed partially by utilizing the construction debris. Generators are provided, vertical stack of adequate height provided , but no enclosure for DG set used by the sub-contractor. The site drainage is to be improved by construction of collection tanks. Fencing only partially done, complete fencing around the camp is required.

6.9 Quality Control Tests

6.9.1 Materials for Structures

Tests Performed	Standard used	Test Frequency	Total tests up to previous month			Tests during current month			Total tests up to end of this month			Quantity of work done up to the end of the month	Test to be done up to the end of the month	Remarks
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed			
STONE	**MORTH 1004**													
Water Absorption	IS:1124	lot												
CEMENT (Bag)	**MORTH 1006**													
Fineness	IS:269-1976	" "	36	36					36	36				
Standard Consistency	" "	" "	29	29					29	29				
Soundness	" "	" "												
Compressive Strength	" "	" "												
3 day strength test	" "		23	23					23	23				
7 day strength test	" "		905	905	1	6	6		911	911	1			
28 day strength test	" "		1447	1447		12	12		1459	1459				
Initial Setting time	IS:4031(Part 1)		38	38					38	38				
Final Setting time	IS:4031(Part 5)	" "	38	38					38	38				
CEMENT (Bulk)	**MORTH 1006**	lot												
Fineness	IS:269-1976	" "												
Standard Consistency	" "	" "												
Soundness	" "	" "												
Compressive Strength														
3 day strength test	" "													
7 day strength test	" "													
28 day strength test	" "													
Initial Setting time	IS:4031(Part 1)													
Final Setting time	IS:4031(Part 5)													
COARSE/FINE Aggregates	**MORTH 1007/1008**													
Gradation	IS:2386(Part 1)		281	281		2	2		283	283				
Flakiness/Elongation Index	" "	" "	223	223		2	2		225	225				
Deleterious Mat./Organic Imp.	" (Part 2)	" "												
Water Absorption/Spec.Grav.	" (Part 3)	" "	9	9					9	9				
Bulk Density	" "	" "												
Impact or crushing Aggr.Value	" (Part 4)	" "	159	159		2	2		161	161				
Los Angeles Abrasion Value	" "	" "												
Soundness	" (Part 5)	" "												
Alkali Aggregate Reactivity	" (Part 7)	" "												
Surface Moisture Content	" (Part 3)	" "	119	119					119	119				
Fineness Modulus of FA			23	23					23	23				
Petrography		" "	2	2					2	2				
STEEL	**MORTH 1009**													
Verification of conformity(Yield stress,U.T.S, % Elg.Unit Wt.Dia. Test. Etc	IS:432/1030/1785/1786 2004/2062	lot	5	5					8	3				
WATER	**MORTH 1010**													
Verification of conformity	IS:3025	lot	2	2					2	2				
CONCRETE ADMIXTURE	**MORTH 1012**													
Verification of conformity	IS:1199/6925/9103	lot	1	1					1	1				
MIXING CONCRETE	**MORTH 1700**													
3 Test Cubes/Slump test	IS:516/1199	MOST:1700-8	274	266	8				274	266	8			
Compressive Strength	IS:516/1200													
Grade15: 7 Days(Nos.)	" "	" "	58	58					58	58				
28 Days(Nos.)	" "		100	100					100	100				
Grade 20: PCC 7 Days(Nos.)	" "	" "	12	12					12	12				
28 Days(Nos.)	" "		24	24					24	24				
Grade 20: RCC 7 Days(Nos.)			57	57					57	57				
28 Days(Nos.)			41	41					41	41				
Grade 25: 7 Days(Nos.)	" "	" "	78	78					78	78				
28 Days(Nos.)	" "		130	130					130	130				
Grade 30: 7 Days(Nos.)	" "	" "	18	18					18	18				
28 Days(Nos.)	" "	" "	36	24	12				36	24	12			
Grade 35: 7 Days(Nos.)	" "	" "	143	143					143	143				
28 Days(Nos.)	" "	" "	346	319	27				346	319	27			
Grade 40: 7 Days(Nos.)	" "	" "	18	18					18	18				
28 Days(Nos.)	" "	" "	12		12				12		12			
Grade 45: 7 Days(Nos.)			18	18					18	18				
28 Days(Nos.)			48	42	6				48	42	6			
STONE MASONRY	**MORTH 1400**													
3Test Mortar Cubes	IS:2250	MOST :1407												
HUME PIPE	**MORTH 2902**													
Three-edge Bearing/	IS:458/3597	20/900mm												
Hydrostatic Test														
Absorption/Straightness tests														

6.9.2 Materials for Pavement

Common Tests Performed	Indian / Foreign Standard	Test Frequency I test per	Total tests up to previous month			Tests during current month			Total tests up to month		
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
EARTHWORK(BORROW AREA)	**MORTH 305/903.2**	OGL									
Gradation/Sand content	IS2720(Part 4)	1 test/200mtr	26	26					26	26	
Atterberg Limits	" (Part5)	1 test/200mtr	26	26					26	26	
Proctor	" (Part 8)	1 test/200mtr	26	26					26	26	
CBR	" (Part 16)	As reqd	6	6					6	6	
Free Swell Index	" (Part 40)	1 test/200mtr	26	26					26	26	
Dynamic Cone Penetration (DCP) test		1 test/10mtr	15	15					15	15	
EARTHWORK (OGL)	**MORTH 305/903.2**	Emb./Subgrade									
Gradation/Sand content	IS2720(Part 4)	1500 cum	5	5					5	5	
Atterberg Limits	" (Part5)	" "	12	12					12	12	
Proctor	" (Part 8)	" "	9	9					9	9	
CBR	" (Part 16)	3000 cum	7	7					7	7	
Free Swell Index	" (Part 40)	" "	5	5					5	5	
Field Density/Compaction	" (Part 28)	500/1000 sqm	185	185					185	185	
SUBBASE (GSB) granular material	**MORTH 401/900.3.1**										
Gradation	IS2720(Part 4)	200 cum									
Atterberg Limits	" (Part5)	" "									
Proctor											
Deleterious content											
10% fine value											
Water Absorption											
Field Density/Compaction	" (Part 28)	500 sqm									
CBR if grading (II or III)											
BASE (WMM)	**MORTH 406/900.3.4**										
Gradation	IS 2386 (Part 4)	200 cum									
Flakiness/Elongation Value	" (Part1)	" "									
Atterberg Limits	" (Part4)	100 cum									
Lose Angels Aration Value	" (Part1)	" "									
Proctor											
Water Absorption											
Field Density/Compaction	" (Part 28)	500 sqm									
PRIME/TACK COAT	**MORTH 502/503/900.3.4**										
Rate of Spread	IS:217/8887	500 sqm									
Quality of Binder											
BITUMINOUS MACADAM (BM)											
Aggregate Gradation (Individual+ Mix)											
LAAV											
Flakiness/ Elongation Value											
Quality of Binder											
Binder Content (ASTM - 2172-95)											
Coating and Stripping											
Soundness											
Water Absorption											
Field Density/Compaction											
DENSE BITUMINOUS	**MORTH 504/900.4.4**										
Aggregate Gradation (Individual+ Mix)	" (Part 1)										
Aggregate Impact Value (AIV)/ LAAV	IS:2386(Part 4)	50 cum									
Flakiness/Elongation Value	" (Part 1)	" "									
Quality of Binder	IS-73										
Coating and Stripping	IS 6241										
Binder Content (ASTM - 2172-95)											
Marshal Test	ASTM D1559-62T										
Specific Gravity /Water Absorption	IS 2386(Part-3)										
Soundness	IS 2386(Part-5)	2 per day									
Bulk Density	IS:2386(Part 3)	" "									
Field Density/Compaction	ASTM D 2041-95										
Sand EquivalantValue for FA											
Plasticity Index											
BITUMINOUS CONCRETE	**MORTH 504/900.4.6**										
Aggregate Gradation (Individual+ Mix)											
Aggregate Impact Value/ LAAV	IS:2386(Part 4)	50 cum									
Flakiness/Elongation Value	" (Part 1)	" "									
Marshall Stability	ASTMD 1559	2 per day									
Quality of Binder											
Coating and Stripping											
Specific Gravity /Water Absorption											
Stone poloshing Value											
Soundness											
Sand Equivalent Test											
Binder Content	IS:2386(Part 4)	" "									
Field Density/Compaction	Core Samples	250 sqm									
Plasticity Index											
SURFACING (MSS)	**MORTH 504/900.4.3**										
Aggregate Impact Value	IS:2386(Part 4)	50 cum									
Flakiness/Elongation Value	" (Part 1)	" "									
Aggregate Gradation	IS:2720(Part 4)	25 cum									
Binder Content	IS:2720(Part 4)	2 per day									

6.10 Compliance report on observations of World Bank Mission

Discussion of issues affecting progress and causing huge variation

S No	Item/ Component	Attributed to
	Land acquisition and related court matters	Processing for land acquisition cases and stay orders by court caused considerable delay. This continues to be a serious hindrance
	Constructing a minor bridge in place of a box-culvert	This substitution has caused additional cost and time period
	Increase in length of the piles	Affected both cost and time
	Constructing viaduct instead of doing earthwork	Due to poor soil conditions, construction of protection walls for earthwork was not possible and provision of viaduct became an obvious option
	Cost of transportation of soil from Package IV	Affected the project cost
	Improving bearing strength of soil under strip footings by GSB material	Affected both cost and time
	Increase in the PVD quantity	Affected both cost and time

Sl No.	Site works - Observations	Action taken
a	In concrete crash barrier on deck slab holes left due to use of PVC sleeves for fixing of formwork would have to be properly sealed.	Complied
b	Sample prestressing records for the main girders used in decks were checked in which locking pressure mentioned as about 75 p.c of jack pressure could not be reconciled. The same should be referred to Design Engineer of EGIS.	Complied
c	At location of minor bridge with one span of 18m due to existence of very soft top soil and heaving noticed it was suggested that sub-soil investigating agency be consulted for value of coefficient of compressibility of top layers of soil and recommendation for depth of cocoanut piles proposed and extent of length along embankment on either side up to which such piles should be installed to limit settlement.	Complied

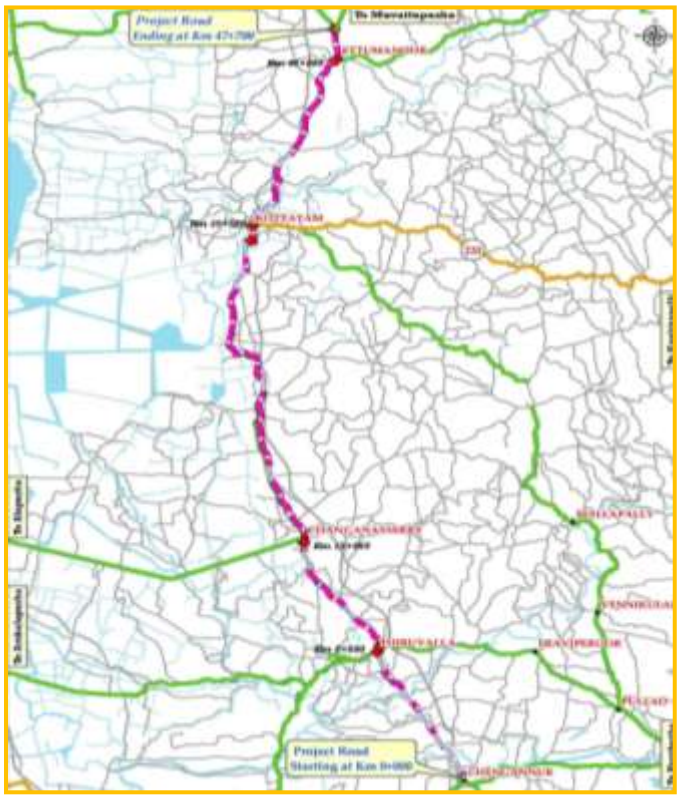
6.11 Photographs

PROVIDING HAND RAIL FOR MINOR BRIDGE CRASH BARRIER (CH: 0+380 KM)

EMBANKMENT CONSTRUCTION AT PATHANAMTHITTA JN. (CH: 1+120 KM)

7 Contract Package IV

Upgradation of Road from Chengannoor to Ettumannoor of SH-1



Scope of Works (45.40 Km):

Construction of Major Bridges	–	3
Construction of Minor Bridge	–	5
New Box culverts	-	9
Widening Slab culverts	–	8
Reconstruction of Culverts	-	59

7.1 Contract details:

Letter of Acceptance	::	21.08.2014
Agreement date	::	15.09.2014
Name of contractor	::	M/s Delma-Sreedhanya JV
Contract amount	::	Rs. 293,58,17987
Notice to commence	::	November 25, 2014
Total length	::	45-80
Contract period	::	36 months
Completion date	::	24.11.2017
Defect liability period	::	365 days
I milestone	::	10 km upto BC level 18 months from commencement date
II milestone	::	25 km upto BC level 25 months from commencement date
III milestone	::	47.80 km upto BC level 36 months from commencement date

7.2 Pre-Construction Activities:

7.2.1 Utilities

Utilities such as water lines, telephone cables and associated accessories, electrical lines and associated accessories and trees are being removed / shifted. Removal of stumps of trees cut by agencies engaged by KSTP is also the responsibility of the Contractor.

Relocation of Electrical lines and Waterlines are included in the Contract. 3279 lm of 700mm, 5246 lm of 200mm & 15248.75 lm of 300mm DI pipe and 500mm ϕ 6048.5 m laid. 58062 lm of 160mm PVC pipe laid. Work in progress.

Electrical Utility shifted for approximately 44.22 km. Work in progress.

7.2.2 Progress of work so far

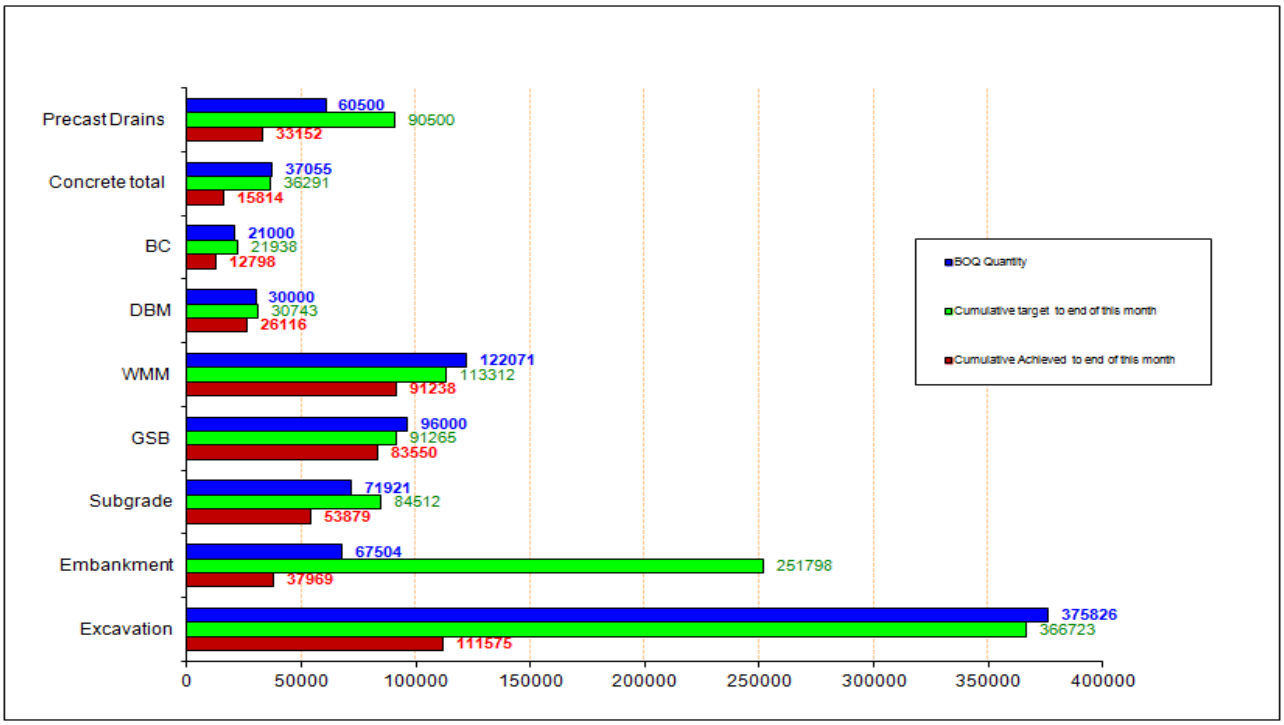
Sl No.	Item	Monthly Progress	Cumulative Progress	Balance Work
1	GSB	0.170 km	39.510 Km	1.710 km
2	WMM	0.110 km	39.350 km	1.870 km
3	DBM	0.090 km	39.340 km	1.880 km
4	BC	0.760 km	36.910 km	4.310 km

Sl No.	Item	Monthly Progress	Cumulative Progress
	Structures		
6	Bridge @ km 0+740 (Puthanveetilpadi)		New Bridge completed and commissioned
7	Bridge @ km 1+558 (Kallissery)		Bridge completed. Approach on kottayam end cannot be completed due to existence of a shrine
8	Minor Bridge @ km 2+500 (Kallissery)		Bridge completed & opened to traffic.
9	Bridge @ km 4+008 (Varattar)		Bridge completed
10	Bridge @ km 5+213 (Thondra)	P2-P3 2nd girder concrete completed .P3-P4 3rd Girder concrete completed.P1-P2 2nd Gider concrete completed..	• P1P2 1st Girder upto stressing completed & 2nd concrete completed. • P2P3 1st Girder upto stressing completed & 2nd Girder concrete completed. • P3P4 1st & 2nd girder upto stressing completed and 3rd girder concrete completed. • P4-A2 & A1-P1 Deck slab completed.
11	Bridge @ km 11+235 (Pannikuzhi)		New Bridge completed and commissioned
12	Bridge @ km 20+018(Palathra)		• Work completed & opened to traffic
13	Bridge @ km 24+965 (Puthanpalam)		Work completed & opened to traffic
14	Bridge @ km 39+709 (Neelimangalam)		Bridge completed – Load retest to beconducted.
15	Retaining Wall		10589 Lm completed.
16	Culverts	culverts work in progress	78
17	Drain -	484.830 m	49848.83 m

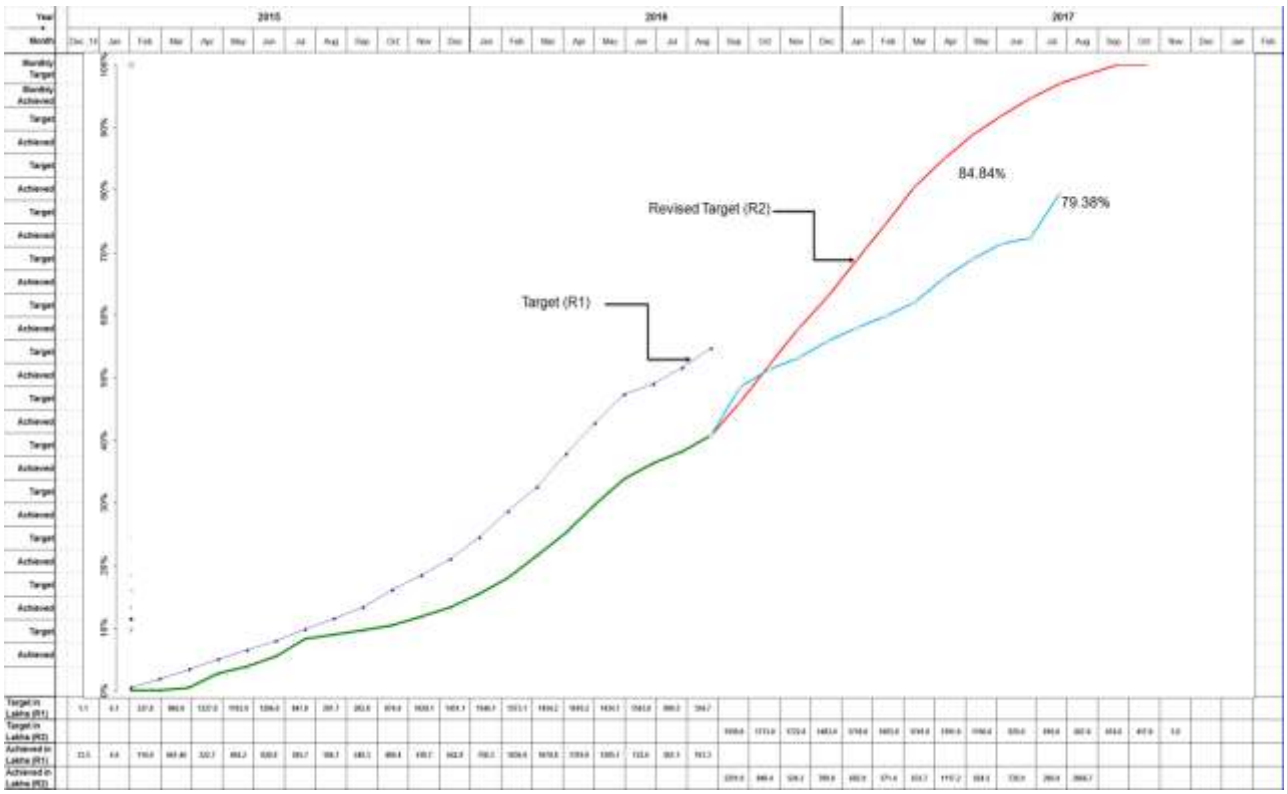
Progress up to quarter ending August 2017 is as follows:

For previous month		This month		Cumulative to end of this month (gross)		Cumulative Physical
Target	Achieved	Target	Achieved	Target	Achieved (gross)	Achieved
94.68%	72.34%	2.27%	7.04%	96.96%	79.38%	77.9%

7.3 Physical Progress



7.4 S-Curve



7.5 Schedule of culverts and drainage works

Nature of work	Total number	No. dwgs approved	Number completed	Number in progress	Number remaining
Culverts					
Pipe culvert	1	1	1		
New Box Culvert	78	78	77	1	
Total culverts	79	79	78	1	
Major Bridge	2	2	1	1	
Minor Bridge	4	4	4		
Widening Bridge	3	3	3		

7.6 Payments

The contractor has been paid Rs. 207.61 crores

7.7 Implementation of EMP

7.7.1 General

Most of the road work completed.The bridges at Thondara and Kallissery remaining The road marking is done for 20 km. The load test of Neelimangalam bridge completed and opening of bridge expected soon. Constructions of bus shelters, parking area development are not started. Pedestrian crossing in front of schools marked and sign boards to be placed as the road works are completed. The environmental expert visited project on June8th June 2017 along with world bank team2017 and observation forwarded. Tree planting works, land scape, cultural property rehabilitation works are to be started. The waste materials dumped at site has to be disposed at designated places in Changanassery Municipality. Contractor has to submit a base camp closure management plan for the closed WMM plant at Vembally. Housekeeping of Batching plant, HM plant are to be improved. Water stagnation noticed inside the batching plant site. The cultural property on the approach of the Kallessery Bridge is to be relocated since it is a long pending issue. Contractor has to initiate actions to carry out safety works, tree planting works and construction of bus shelter. The design approved earlier for bus shelter has been revised.

7.8 Quality control tests

7.8.1 Materials for structures

Tests Performed	Standard used	Test Frequency	Total tests up to previous month in numbers			Tests during current month in numbers			Total tests up to end of this month in numbers		
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
STONE	**MORTH 1004**										
Water Absorption	IS:1124	lot	22	22					22	22	
CEMENT (Bag)	**MORTH 1006**										
Fineness	IS:269-1976	" "	1	1					1	1	
Standard Consistency	" "	" "	1	1					1	1	
Soundness	" "	" "	1	1					1	1	
Compressive Strength	" "	" "									
3 day strength test	" "		3	3					3	3	
7 day strength test	" "		3	3					3	3	
28 day strength test	" "										
Initial Setting time	IS:4031(Part 1)		1	1					1	1	
Final Setting time	IS:4031(Part 5)	" "	1	1					1	1	
CEMENT (Bulk)	**MORTH 1006**	lot									
Fineness	IS:269-1976	" "	61	61		3	3		64	64	
Standard Consistency	" "	" "	61	61		3	3		64	64	
Soundness	" "	" "	3	3					3	3	
Compressive Strength											
3 day strength test	" "		198	198		9	9		207	207	
7 day strength test	" "		189	189		9	9		198	198	
28 day strength test	" "		171	171		9	9		180	180	
Initial Setting time	IS:4031(Part 1)		61	61		3	3		64	64	
Final Setting time	IS:4031(Part 5)		59	59		3	3		62	62	
COARSE/FINE Aggregates	**MORTH 1007/1008**										
Gradation	IS:2386(Part 1)		542	542		9	9		551	551	
Flakiness/Elongation Index	" "	" "	249	249		9	9		258	258	
Deletrious Mat./Organic Imp.	" (Part 2)	" "	2	2					2	2	
Water Absorption/Spec.Grav.	" (Part 3)	" "	15	15					15	15	
Bulk Density	" "	" "									
Impact or crushing Aggr.Value	" (Part 4)	" "	236	236		9	9		245	245	
Los Angeles Abrasion Value	" "	" "	7	7					7	7	
Soundness	" (Part 5)	" "	2	2					2	2	
Alkali Aggregate Reactivity	" (Part 7)	" "	2	2					2	2	
Surface Moisture Content	" (Part 3)	" "	732	732		28	28		760	760	
Fineness Modulus of FA			405	405		9	9		414	414	
Petrography		" "	2	2					2	2	
STEEL	**MORTH 1009**										
Verification of conformity(Yield stress,U.T.S, % Elg,Unit Wt.Dia. Test. Etc	IS:432/1030/1785/1786	lot	125	125					125	125	
	2004/2062										
WATER	**MORTH 1010**										
Verification of conformity	IS:3025	lot	2	2					2	2	
CONCRETE ADMIXTURE	**MORTH 1012**										
Verification of conformity	IS:1199/6925/9103	lot	3	3					3	3	
MIXING CONCRETE	**MORTH 1700**										
Test Cubes/Slump test	IS:516/1199	MOST:1700-8	6372	6372		152	152		6524	6524	
Compressive Strength	IS:516/1200										
Grade15: 7 Days(Nos.)	" "	" "	1443	1443		24	24		1467	1467	
28 Days(Nos.)	" "		1542	1542		21	21		1563	1563	

Grade 20: PCC 7 Days(Nos.)	" "	" "	877	877		54	54		931	931	
28 Days(Nos.)	" "		1212	1212		36	36		1248	1248	
Grade 20: RCC 7 Days(Nos.)			3347	3347		102	102		3449	3449	
28 Days(Nos.)			4442	4442		93	93		4535	4535	
Grade 25: 7 Days(Nos.)	" "	" "	1278	1278		48	48		1326	1326	
28 Days(Nos.)	" "		2205	2205		24	24		2229	2229	
Grade 30: 7 Days(Nos.)	" "	" "	276	276		3	3		279	279	
28 Days(Nos.)	" "	" "	747	747		3	3		750	750	
Grade 35: 7 Days(Nos.)	" "	" "	486	486					486	486	
28 Days(Nos.)	" "	" "	835	835		3	3		838	838	
Grade 40: 7 Days(Nos.)	" "	" "	147	147					147	147	
28 Days(Nos.)	" "	" "	238	229		6	6		244	235	9
Grade 45: 7 Days(Nos.)			144	144		12	12		156	156	
28 Days(Nos.)			384	384		27	27		411	411	
STONE MASONRY	**MORTH 1400**										
3Test Mortar Cubes	IS:2250	MOST :1407	3048	3048		24	24		3072	3072	
HUME PIPE	**MORTH 2902**										
Three-edge Bearing/	IS:458/3597	20/900mm									
Hydrostatic Test											
Absorption/Straightness tests											

7.8.2 Materials for Pavements

Common Tests Performed	Indian / Foreign Standard	Test Frequency I test per	Total tests up to previous month in numbers			Tests during current month in numbers			Total tests up to month in numbers		
			Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
EARTHWORK(BORROW AREA)	**MORTH 305/903.2**	OGL									
Gradation/Sand content	IS2720(Part 4)	1 test/200mtr	7	7					7	7	
Atterberg Limits	" (Part5)	1 test/200mtr	7	7					7	7	
Proctor	" (Part 8)	1 test/200mtr	7	7					7	7	
CBR	" (Part 16)	As reqd	7	7					7	7	
Free Swell Index	" (Part 40)	1 test/200mtr	7	7					7	7	
EARTHWORK (OGL)/SHOULDER	**MORTH 305/903.2**	Emb /Subgrade									
Gradation/Sand content	IS2720(Part 4)	1500 cum	298	298					298	298	
Atterberg Limits	" (Part5)	" "	308	308					308	308	
Proctor	" (Part 8)	" "	308	308					308	308	
CBR	" (Part 16)	3000 cum	142	142					142	142	
Free Swell Index	" (Part 40)	" "	324	324					324	324	
EARTHWORK EXCAVATED SOIL	" (Part 28)	500/1000 sqm									
Gradation/Sand content	" (Part5)	" "	55	55					55	55	
Atterberg Limits	" (Part 8)	" "	55	55					55	55	
Proctor	" (Part 16)	3000 cum	55	55					55	55	
CBR	" (Part 40)	" "	30	30					30	30	
Free Swell Index	" (Part 40)	" "	72	72					72	72	
Embackment/backfilling of Structures											
Field Density/Compaction	IS 2720 (part28)	1000sqm	2743	2743		114	114		2857	2857	
Sub grade / Shoulder filling											
Field Density/Compaction	IS 2720 (part28)	500sqm	5765	5655	110	36	36		5801	5691	110
SUBBASE (GSB) granular material	**MORTH 401/900.3.1**										
Gradation	IS2720(Part 4)	200 cum	826	826		4	4		830	830	
Atterberg Limits	" (Part5)	" "	826	826		4	4		830	830	
Proctor			4	4					4	4	
Deleterious content			2	2					2	2	
10% fine value			3	3					3	3	
Water Absorption			3	3					3	3	
Field Density/Compaction	" (Part 28)	500 sqm	5011	4578	283	60	60		5071	4578	283
CBR if grading (II or III)			7	7					7	7	

BASE (WMM)	**MORTH 406/900.3.4**										
Gradation	IS 2386 (Part 4)	200 cum	1249	1249		4	4		1253	1253	
Flakiness/Elongation Value	" (Part1)	" "	1035	1035		4	4		1039	1039	
Atterberg Limits	" (Part4)	100 cum	536	536		4	4		540	540	
Lose Angels Aration Value	" (Part1)	" "	1234	1234		4	4		1238	1238	
Proctor			2	2					2	2	
Water Absorption			1	1					1	1	
Field Density/Compaction	" (Part 28)	500 sqm	6755	6710	45	90	90		6845	6800	45
PRIME/TACK COAT	**MORTH 502/503/900.3.4**										
Rate of Spread Prime Coat			1603	1603		72	72		1675	1675	
Quality of Binder Prime Coat			1	1					1	1	
Rate of Spread Tack Coat	IS:217/8887	500 sqm	2663	2663		152	152		2815	2815	
Quality of Binder			3	3					3	3	
BITUMINOUS MACADAM (BM)											
Aggregate Gradation (Individual+ Mix)											
LAAV											
Flakiness/ Elongation Value											
Quality of Binder											
Binder Content (ASTM - 2172-95)											
Coating and Stripping											
Soundness											
Water Absorption											
Field Density/Compaction											
DENSE BITUMINOUS MACADAM	**MORTH 504/900.4.4**										
Aggregate Gradation (Individual+ Mix)	" (Part 1)		668	668		27	27		695	695	
Aggregate Impact Value (AIV)/ LAAV	IS:2386(Part 4)	50 cum	657	657		14	14		671	671	
Flakiness/Elongation Value	" (Part 1)	" "	651	651		14	14		665	665	
Quality of Binder	IS-73		290	290		18	18		308	308	
Coating and Stripping	IS 6241		2	2					2	2	
Binder Content (ASTM - 2172-95)			471	471		18	18		489	489	
Marshal Test	ASTM D1559-62T		1565	1565		54	54		1619	1619	
Specific Gravity /Water Absorption	IS 2386(Part-3)		6	6					6	6	
Soundness	IS 2386(Part-5)	2 per day	2	2					2	2	
Bulk Density	IS:2386(Part 3)	" "	2	2					2	2	
Field Density/Compaction	ASTM D 2041-95		1687	1687		10	10		1697	1697	
Sand Equivalant/Value for FA			2	2					2	2	
Plasticity Index											
BITUMINOUS CONCRETE	**MORTH 504/900.4.6**										
Aggregate Gradation (Individual+ Mix)			378	378		27	27		405	405	
Aggregate Impact Value/ LAAV	IS:2386(Part 4)	50 cum	423	423		17	17		440	440	
Flakiness/Elongation Value	" (Part 1)	" "	423	423		17	17		440	440	
Marshall Stability	ASTMD 1559	2 per day	843	843		54	54		897	897	
Quality of Binder			188	188		18	18		206	206	
Coating and Stripping			1	1					1	1	
Specific Gravity /Water Absorption			4	4					4	4	
Stone polishing Value			1	1					1	1	
Soundness			1	1					1	1	
Sand Equivalent Test			1	1					1	1	
Binder Content	IS:2386(Part 4)	" "	275	275		18	18		293	293	
Field Density/Compaction	Core Samples	250 sqm	1399	1399		19	19		1418	1418	
Plasticity Index											
SURFACING (MSS)	**MORTH 504/900.4.3**										
Aggregate Impact Value	IS:2386(Part 4)	50 cum									
Flakiness/Elongation Value	" (Part 1)	" "									
Aggregate Gradation	IS:2720(Part 4)	25 cum									
Binder Content	IS:2720(Part 4)	2 per day									

7.9 Compliance report on observations of World Bank Mission Nov 2016

Summary of discussions

S No	Issues	Scope	Time required	Action by	Action taken
	Land acquisition	In 28th km some land requires clearance by the postal department	Uncertain as of now	PD to pursue the matter	Arranged
	Shifting of Utilities	Water lines - fairly large outstanding work BSNL Telecom lines	To be attended to as the work progresses	Contractor to expedite execution	Work in progress.

Factors contributing towards delay and variations

S No	Item/ Component	Issue	For consideration	Action/ Decision by	Action taken
	Bridge	Bridge at km 39+709 had quality deficiency. Deck slab has developed cracks. Investigation done earlier suggest excess water /cement ratio and improper use of vibrators has caused of segregation of mix. Transportation engineering department of Bangalore University conducted investigations for consideration	The recommendation of the organization which has carried out investigations are not convincing in view of its observations. The Team Leader has to get fresh investigation done.	PD / TL to fast track fresh investigation through a reputed and competent organization	Re-load test being arranged
2.	Pedestrian walk	The side drains are to be covered with slabs for making pedestrian walks as decided by the Govt.	Preparing and finalizing variation orders	Supervision Consultant / PD for prompt decision and action	This has been complied
3.	Earth Filling	In the absence of availability of soil from nearby, it is being brought from Package V	Rate of transportation of soil to be finalized early	PD to pursue the matter with Steering Committee	Will be done

Quality issues

Sl No.	Observations	Action taken
1	Site Works	
a	Kalissery bridge Ch 1+558km - Alternative design of unconventional nature with no bearing and expansion joint submitted by the contractor on the basis of which work has been progressed a lot has to be proof checked by an expert if proof checking cannot be done by EGIS office as was pointed out during May, 2016 mission.	Proof checking was done by Prof. Devadas Menon from IIT Chennai and has approved the same. Bridge completed.
b	Varattar bridge Ch 4+010km - Base concrete of Approach retaining wall has been cast without any stopper at the end of day's work which practice is not acceptable.	Work has been rectified.
c	Thondara bridge Ch 5+220km	
i)	Test pile reinforcements have been cut upto lean concrete level under pile cap. This shall be dismantled upto a depth equal to bond length of pile reinforcement, lap provided in reinforcement by welding of bars and then pile re-built to underside of pile cap.	Complied

ii)	One lift of a pier has been cast with top surface left smooth. Such surface shall be thoroughly chipped off and cleaned before fixing formwork and rings.	Complied
d	Neelimangalam bridge Ch 39+710km - Out of 3 spans in this bridge, in the central span large No of deep and wide cracks were noticed in large areas of deck slab during inspection in May,'16. Some investigations were carried out at Bangalore University but these are not comprehensive and the results were inconclusive. Details of investigations needed to be carried out have been explained to RE of PMC for the project, which should be carried out through expert as early as possible so that on the basis of recommendations remedial measures may be taken to allow passage of traffic on this bridge.	Re-test being arranged
2	Quality Control Laboratory	
a	For different grades of concrete coefficient of variation should be checked to ensure that these are within specified limits.	Complied
b	Chloride and sulphate content for e ach grade of concrete used at site shall be calculated on the basis of chloride and sulphate content in each ingredient material used in concrete and checked if these are within specified limits in relevant IRC code.	Complied

ROAD SAFETY

1	All major junctions should be audited by the road safety auditor	Road safety audit conducted.
2	Footpath should be provided in all town areas	Will be constructed.

7.10 Roughness Index Report

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DEPARTMENT OF CIVIL ENGINEERING

JNANA BHARATHI
BANGALORE - 560 056

Dr MANJESH L
ME(Highways), Ph.D, MIRC

BUB/CTE/2017-18/BI-

Date: 04-07-2017.

To

M/s. Delma SREEDHANYA JV
Opp. to Amala cold storage
Chingavanam Post, Kottayam.

Sir,

Sub: Measurement of the Unevenness index value using Bump Integrator/ Vehicle Mounted Bump Integrator (VMBI)-ROMDAS Equipment – regd.
{ Project *: KSTP Project No. KSTP/PMT/UG IV for the "Upgradation of the road from Chengannur (KM 0+000) to Ettumannur (KM 47 + 700) of SH- 01 in the state of Kerala"}.

Ref: Letter No: DSD/TPT/KSTP/2017/QC/62, dated 26-06-2017.

Please find enclosed here with the report on road roughness survey/ Unevenness index value for the above project.

Thanking You

Yours faithfully

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Enclosure... Pages Test Report.

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2017-18/BI-

Date: 04-07-2017.

TEST REPORT

Sub: Measurement of the Unevenness index value using Bump Integrator/ Vehicle Mounted Bump Integrator (VMBI)-ROMDAS Equipment – regd.
{Project *: KSTP Project No. KSTP/PMT/UG IV for the "Upgradation of the road from Chengannur (KM 0+000) to Ettumannur (KM 47 + 700) of SH- 01 in the state of Kerala"}.

Ref: Letter No: DSD/TPT/KSTP/2017/QC/62, dated 26-06-2017.

Work referred by: M/s. Delma SREEDHANYA JV, Opp. to Amala cold storage Chingavanam Post, Kottayam

Test conducted in presence of : Representatives of Consultant M/s EGIS International Sri Sajimon M.E., and Contractor P.V Sajesh. A.M.E.

1. **ON B C LAYER**
   (Left Hand Side)

Results of Road Unevenness Survey							
Equipment Used: Vehicle Mounted Bump Integrator-VMBI(ROMDAS)							
Equipment Used for Calibration: MERLIN							
Chainage, Km		International Roughness Index		Average	Unevenness Index, mm/Km		Remarks
From	To	Trial-1	Trial-2				
Chainage: 11+340 to 13+200							
11.340	11.400	2.51	2.55	2.53	1782		
11.400	11.500	2.48	2.5	2.49	1750		
11.500	11.600	2.45	2.53	2.49	1750		
11.600	11.700	2.32	2.35	2.34	1629	1707	
11.700	11.800	2.34	2.38	2.36	1648		
11.800	11.900	2.32	2.35	2.34	1629		
11.900	12.000	2.49	2.52	2.51	1762		
12.000	12.100	2.29	2.31	2.30	1601		
12.100	12.200	2.34	2.42	2.38	1663		
12.200	12.300	2.26	2.20	2.23	1548		
12.300	12.400	2.37	2.30	2.33	1627	1626	
12.400	12.500	2.44	2.40	2.42	1697		
12.500	12.600	2.24	2.20	2.22	1536		
12.600	12.700	2.34	2.31	2.33	1621		
12.700	12.800	2.26	2.20	2.23	1547		

4/7/2017

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12.800	12.900	2.40	2.47	2.44	1707		
12.900	13.000	2.46	2.42	2.44	1711		
13.000	13.100	2.15	2.18	2.16	1496	1502	
13.100	13.200	2.17	2.19	2.18	1508		
Chainage: 15+000 to 15+760							
15.000	15.100	2.55	2.50	2.53	1778		
15.100	15.200	2.45	2.39	2.42	1695		
15.200	15.300	2.55	2.52	2.54	1786		
15.300	15.400	2.48	2.44	2.46	1727	1759	
15.400	15.500	2.49	2.54	2.52	1770		
15.500	15.600	2.49	2.39	2.44	1711		
15.600	15.700	2.38	2.48	2.43	1703		
15.700	15.760	2.66	2.70	2.68	1900		
Chainage: 13+710 to 14+230							
13.710	13.800	2.44	2.43	2.44	1707		
13.800	13.900	2.41	2.39	2.40	1679		
13.900	14.000	2.38	2.42	2.40	1679	1698	
14.000	14.100	2.48	2.50	2.49	1750		
14.100	14.230	2.39	2.40	2.40	1676		
Chainage: 2+790 to 3+000							
2.790	2.900	2.58	2.64	2.61	1845	1881	
2.900	3.000	2.68	2.72	2.70	1916		

2. **ON B C LAYER**
(Right Hand Side)

Results of Road Unevenness Survey							
Equipment Used: Vehicle Mounted Bump Integrator-VMBI(ROMDAS)							
Equipment Used for Calibration: MERLIN							
Chainage, Km		International Roughness Index		Average	Unevenness Index, mm/Km		Remarks
From	To	Trial-1	Trial-2				
Chainage: 11+340 to 13+200							
11.340	11.400	2.24	2.26	2.25	1562		
11.400	11.500	2.21	2.28	2.24	1557		
11.500	11.600	2.20	2.26	2.23	1546		
11.600	11.700	2.24	2.21	2.22	1541	1568	
11.700	11.800	2.20	2.24	2.22	1536		
11.800	11.900	2.28	2.30	2.29	1592		
11.900	12.000	2.33	2.38	2.35	1643		
12.000	12.100	2.34	2.42	2.38	1663	1620	
12.100	12.200	2.26	2.30	2.28	1587		

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12.200	12.300	2.37	2.30	2.33	1627		
12.300	12.400	2.44	2.47	2.46	1724		
12.400	12.500	2.24	2.20	2.22	1536		
12.500	12.600	2.29	2.31	2.30	1602		
12.600	12.700	2.39	2.46	2.42	1699		
12.700	12.800	2.21	2.24	2.22	1541		
12.800	12.900	2.48	2.41	2.44	1714		
12.900	13.000	2.20	2.15	2.17	1502		
13.000	13.100	2.29	2.17	2.23	1547	1522	
13.100	13.200	2.15	2.18	2.16	1496		
Chainage: 15+000 to 15+520							
15.000	15.100	2.08	2.16	2.12	1461		
15.100	15.200	2.07	2.17	2.12	1461		
15.200	15.300	2.13	2.21	2.17	1501	1497	
15.300	15.400	2.15	2.31	2.23	1548		
15.400	15.520	2.17	2.21	2.19	1516		
Chainage: 13+950 to 14+230							
13.950	14.000	2.17	2.24	2.20	1526		
14.000	14.100	2.34	2.37	2.35	1643	1612	
14.100	14.230	2.37	2.41	2.39	1668		
Chainage: 2+780 to 3+000							
2.780	2.900	2.38	2.35	2.37	1653	1600	
2.900	3.000	2.29	2.17	2.23	1547		

3. **ON DBM SURFACE**
(Left Hand Side)

Results of Road Unevenness Survey							
Equipment Used: Vehicle Mounted Bump Integrator-VMBI(ROMDAS)							
Equipment Used for Calibration: MERLIN							
Chainage, Km		International Roughness Index		Average	Unevenness Index, mm/Km		Remarks
From	To	Trial-1	Trial-2				
Chainage: 09+850 to 10+240							
9.850	9.900	2.48	2.49	2.49	1746		
9.900	10.000	2.45	2.48	2.47	1731	1738	
10.000	10.100	2.42	2.47	2.45	1715		
10.100	10.240	2.48	2.50	2.49	1750		
Chainage: 10+410 to 10+610							
10.410	10.500	2.43	2.41	2.42	1695	1691	
10.500	10.610	2.42	2.40	2.41	1687		

4

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Chainage: 16+580 to 16+840							
16.580	16.700	2.52	2.49	2.51	1762	**1786**	
16.700	16.840	2.55	2.58	2.57	1809		
Chainage: 9+560 to 9+820							
9.560	9.700	2.56	2.54	2.55	1797	**1801**	
9.700	9.820	2.58	2.54	2.56	1805		
Chainage: 12+780 to 12+890							
12.780	12.890	2.45	2.47	2.46	1727	**1727**	
Chainage: 14+060 to 14+210							
14.060	14.210	2.55	2.59	2.57	1813	**1813**	
Chainage: 5+380 to 5+510							
5.380	5.510	2.48	2.46	2.47	1731	**1731**	
Chainage: 4+980 to 5+090							
4.980	5.090	2.39	2.35	2.37	1656	**1656**	
Chainage: 2+950 to 2+990							
2.950	2.990	2.42	2.47	2.45	1715	**1715**	

4. ON DBM SURFACE
(Right Hand Side)

Results of Road Unevenness Survey							
Equipment Used: Vehicle Mounted Bump Integrator-VMBI(ROMDAS)							
Equipment Used for Calibration: MERLIN							
Chainage, Km		**International Roughness Index**		**Average**	**Unevenness Index, mm/Km**		**Remarks**
From	**To**	**Trial-1**	**Trial-2**				
Chainage: 09+860 to 10+240							
9.860	9.900	2.55	2.50	2.53	1778	**1746**	
9.900	10.000	2.45	2.39	2.42	1695		
10.000	10.100	2.55	2.52	2.54	1786		
10.100	10.240	2.48	2.44	2.46	1727		
Chainage: 10+850 to 10+960							
10.850	10.900	2.55	2.57	2.56	1805	**1809**	
10.900	10.960	2.56	2.58	2.57	1813		
Chainage: 9+560 to 9+820							
9.560	9.600	2.49	2.39	2.44	1711	**1781**	
9.600	9.700	2.46	2.47	2.47	1731		
9.700	9.820	2.66	2.70	2.68	1900		
Chainage: 16+580 to 16+840							
16.580	16.700	2.62	2.64	2.63	1861	**1877**	
16.700	16.840	2.68	2.66	2.67	1892		
Chainage: 12+770 to 12+900							

5

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12.770	12.900	2.47	2.50	2.49	1746	**1710**	
Chainage: 14+060 to 14+160							
14.060	14.160	2.39	2.41	2.40	1680	**1680**	
Chainage: 4+980 to 5+080							
4.980	5.080	2.42	2.44	2.43	1703	**1703**	
Chainage: 5+390 to 5+540							
5.390	5.540	2.49	2.51	2.50	1758	**1758**	
Chainage: 2+920 to 2+990							
2.920	2.990	2.42	2.40	2.41	1687	**1687**	

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7.11 Photographs

GS 1+620 TO 1+730(LHS)

WMM LAYING @ 19+980 TO 20+040(RHS)

DBM WORK @ 16+590 TO 16+670(RHS)

SUBGRADE PREPARATION @ 19+980 TO 20+040(LHS)

8 Contract Package V

Upgradation of Road from Ettumannoor to Muvattupuzha of SH 1

Scope of Works (40.96 Km):

Construction of Major Bridges	–	0
Construction of Minor Bridge	–	4
New Box culverts	-	3
Widening Slab culverts	–	14
Reconstruction of Culverts	-	75
Foot path, Solar Lights		

Contract details:

Letter of Acceptance Date	::	29.11.2013
Agreement Date	::	30.12.2013
Name of Contractor	::	M/s NAPC Ltd.,
Contract Price	::	Rs. 171.49
Notice to Commence	::	04.02.2014
Total Length	::	40.60 km
Contract Period	::	30 months
Completion Date	::	03.08.2016 (original)
Defect Liability Period	::	365 days
1st Milestone	::	10 km – BC level 02.05.2015
2nd Milestone	::	30 km – 05.10.2016
3rd Milestone	::	whole works by 23.03.2017 (extended)

8.1 Work Progress

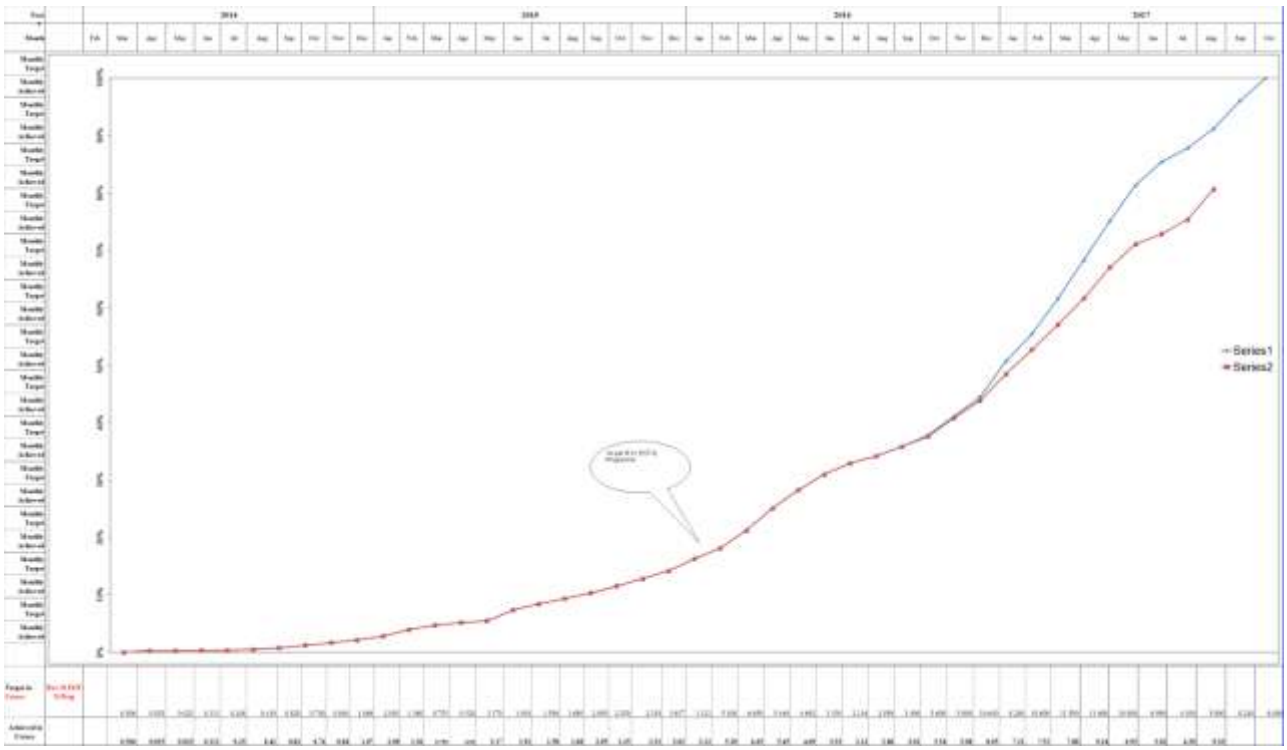
8.1.1 Progress Achieved

Sl No.	Item	August- 17 Progress (Monsoon Season)	Cumulative Progress	Balance Work (Actual length 40.123km)
1	GSB	0.160 km	39.860 km	0.263 km
2	WMM	0 km	39.550 km	0.573 km
3	DBM	0.690 km	38.340 km	1.093 km
4	BC	0 km	31.580 km	8.543 km
Structures				
5	Bridge @ km 3+877		Widening work completed.	Aprons, reconstruction of old handrails and repair of existing bridge
6	Bridge @ km 12+524		Widening work completed.	Aprons, reconstruction of old handrails and repair of existing bridge
7	Bridge @ km 22+187		Reconstruction of bridge completed	Side Protection works and drain connection works.
8	Bridge @ km 24+506		Widening completed on both sides.	Aprons, and repair of existing bridge
9	Bridge @ km 28+361		Reconstruction of bridge completed	U/S and DS aprons, and other finishing works
10	Culverts	3 are in progress	113 completed	Reconstruction of one culverts and widening of two culverts yet to start.
11	Drain	197	43759 m	

Even though the Contract Drawing contains only 109 culverts, during execution existing additional culverts found at site. Hence actual number of culverts increased up to 118.

Up to previous month		This month		Cumulative up to end of this month (gross)		Physical
Target	Achieved	Target	Achieved	Target	Achieved (gross)	Achieved
87.80%	98.61%	3.38%	1.46%	91.23%	80.07%	82.12%

8.2 S-Curve



8.3 Key issues:

The following issues are very critical which may have adverse impact on the timely completion of the Project.

Since LA is delayed at Ch: 39+00 - 39.00, the contractor was directed to follow existing route

Adequate resources available at site however improper planning delayed the progress.

Occurrence of hard rock has delayed the progress.

8.4 Payment to the contractor

The contractor has been paid Rs. 122.68 crores

8.5 Implementation of EMP

8.5.1 General

Contractor has obtained consent to operate for all the plants except crusher. The works are spread over to Km 30 to 42. The camp management is to be improved. Contractor has mobilized a environmental engineer at site. The environmental expert visited site 7th june along with world bank team.

The access lost at ch 37+300 to the house at RHS is to be re constructed with ramp and retaining wall. The road work at CH 34+420 completed and safety arrangements has to be provided by constructing a footpath at RHS, approval has been issued to start the work. Temporary safety measures are required at this point.

8.5.2 Traffic Management and Road Safety Measures

Contractor has submitted a traffic management plan for the balance works including Kuthattukulam town. Traffic safety management at site has to be improved in locations where high cutting and in the realignments where rock blasting is anticipated, safety provisions is to be increased. Contractor was asked to prepare site specific work zone traffic management plan.

Contractor has arranged a health checkup for the labor and report awaited.

The removal of waste material is an issue. Contractor has to remove all construction waste from the site, drain and to be disposed to the disposal site.

The bus shelter constructed is not as per approved contract plan and a revised version has been issued for construction.

8.6 Compliance report on observations of World Bank Mission Nov 2016

Issues affecting progress of work

S No	Issues	Scope	Time Required	Action/ Decision by
1	Land acquisition	Still to achieve finality in 300mt length of 39th Km	Likely date of completing the process – Dec 2016	Actions in progress. Contractors instructed to follow existing alignment
2	Shifting of Utilities	Water Lines Ductile iron pipes to be laid in place of existing pipes 15th km – 600m length 24th – 25th km – 1300mt length 34th& 40th km – about 1900mt length Electricity lines in km 22/0 – 40/960	Work requires procurement and placement which may take 4 months as per the contractor Contractor's assessment – work can be completed by March 2017	-do -

Factors contributing towards delay and variations

S No	Item	Issue	For consideration	Action by	Action taken
1	Rock excavation	Lowering the road bench by rock excavation to adjust pavement layers (all relevant stretches) Lowering of existing road bench in vertical curves to create required sight distance 3m depth – 33rd km 1.8m depth – 27th& 28th km	Profile correction with WMM may suffice for bituminous overlays The available sight distance vis-à-vis that required as per standards needs immediate reexamination to take a call on rationalizing extent of excavation	TL	Work completed
2	Random Rubble masonry breast walls in cement mortar	Massive retaining structure in front of the rock	Avoiding wasteful activity	PD	Action taken
3 3a	Constriction of Gabions	In many stretches, only for the purpose of covering ROW where road traverses through open areas Quality of workmanship	Avoidable wasteful work of excavation and then raising Gabions consuming a lot of time Gabion Construction has shown marked improvement in workmanship	PD	Completed
4	Requirement of RE/DRE	There is no representative of Supervision Consultant at the project site	Action required to post in position is suitable person	TL to take immediate action	RE –Mr KK Paily joined office on16th January 2017. DRE will be mobilized from 04th June 2017

ROAD SAFETY

1	All major junctions should be audited by the road safety auditor	Road safety audit done by Safety Expert.
2	Footpath should be provided in all town areas	Done

6.1 Roughness Index Report

Sl No	Date of Testing	Chainage in Km		Length in m	Avg Bumps in (mm)	RFI No	Remarks
		From	To				
1	31.12.16	0+000	0+100	100	1771.73	24169	
2	9.6.16	0+080	3+780	3700	1772.75	15934	
3	30.12.16	3+780	4+000	220	1735.22	24043	
4	9.6.16	4+000	8+860	4860	1629.2	15935	
5	17.12.16	8+860	8+960	100	1893.43	23049	
6	9.6.16	8+950	9+740	790	1894	15936	
7	17.12.16	9+730	9+900	170	1771.73	23051	
8	5.11.16	9+900	11+630	1730	1404.4	20790	
9	4.12.16	11+630	12+450	820	1751.96	22040	
10	11.12.16	12+450	12+580	130	1978.62	22626	
11	4.12.16	12+580	14+050	1470	1735.22	22041	
12	21.12.16	14+050	14+690	640	1686.54	23220	
13	22.12.16	14+690	15+190	500	1765.65	23320	
14	7.1.17	15+190	15+750	560	1824.47	24492	
15	5.3.17	15+750	16+320	570	1865.04	23624	
16	4.12.16	16+320	17+850	1530	1725.66	22153	
17	18.12.16	17+850	18+450	600	1688.57	23111	
18	9.1.17	18+450	18+590	140	1735.22	24563	
19	24.12.16	18+590	18+900	310	1775.79	23442	
20	6.12.16	18+900	20+970	1040	1674.38	22309	
21	15.12.16	20+970	21+630	660	1593.24	22878	
22	12.12.16	21+630	22+060	430	1796.08	22750	
23	30.12.16	22+060	22+100	40	1978.62	24045	

24	12.12.16	22+100	22+750	650	1729.14	22751	
25	25.12.16	22+750	23+640	890	1846.28	23539	
26	29.4.17	23+640	23+790	150	1960.37	30414	
27	26.4.17	23+790	24+090	300	1897.49	30223	
28	20.4.17	24+090	24+910	820	1755	29942	
29	21.4.17	24+910	25+110	200	1449.23	30010	
30	25.4.17	25+110	25+660	550	1467.48	30170	
31	17.3.17	25+660	25+890	230	1552.67	27835	
32	16.3.17	25+890	26+060	170	1875.18	27791	
33	16.3.17	26+060	26+220	160	1820.41	27787	
34	14.2.17	26+220	26+980	760	1749.13	26054	
35	31.1.17	26+980	27+460	480	1645.16	25266	
36	7.2.17	27+460	28+180	720	1792.59	25635	
37	11.5.17	28+180	28+310	130	1534.42	31084	
38	16.2.17	28+310	28+700	390	1613.52	26269	
39	19.4.17	28+700	29+460	760	1688.28	29883	
40	14.2.17	29+460	29+960	500	1752.26	26056	
41	18.5.17	29+960	30+660	700	1615.26	31492	
42	10.5.17	30+750	31+600	850	1680.62	31057	

Sl No	Date of Testing	Chainage in Km		Length in m	Avg Bumps in (mm)	RFI No	Remarks
		From	To				
1	31.12.16	0+000	0+100	100	1698.71	24169	
2	9.6.16	0+070	3+790	3720	1848.25	15934	
3	28.12.16	3+790	4+000	210	1777.82	23676	
4	9.6.16	4+000	8+860	4860	1707.8	15935	
5	17.12.16	8+860	8+960	100	1893.43	23050	
6	9.6.16	8+950	9+740	790	2049.5	15936	
7	17.12.16	9+730	9+900	170	1771.73	23052	
8	5.11.16	9+900	11+630	1730	1403.1	20791	
9	4.12.16	11+630	12+470	840	1850.84	22038	
10	12.12.16	12+580	12+470	110	1820.41	22627	
11	4.12.16	13+880	12+580	1300	1799.12	22039	
12	11.12.16	13+880	15+060	1180	1714.94	22628	
13	6.1.17	15+060	15+720	660	1755.5	24425	
14	28.12.16	15+720	16+230	510	1866.05	23678	
15	17.12.16	17+850	18+440	590	1668.29	23048	
16	8.1.17	18+440	18+590	150	1735.22	24523	
17	23.12.16	18+590	18+900	310	1625.69	23408	
18	13.12.16	18+900	20+160	1260	1566.87	22752	
19	14.12.16	20+160	21+010	850	1619.61	22811	
20	18.12.16	21+010	21+630	620	1688.57	23112	
21	4.12.16	21+630	22+060	430	1604.4	22151	
22	30.12.16	22+000	22+100	100	1771.73	24045	
23	4.12.16	22+100	22+770	670	1755.51	22152	

24	24.12.16	22+770	23+640	870	1732.79	23441	
25	28.4.17	23+640	23+810	170	1942.11	30352	
26	25.4.17	23+810	24+430	620	1905.6	30168	
27	23.4.17	24+430	25+100	670	1856.92	30052	
28	26.4.17	25+100	25+660	560	1744.96	30221	
29	16.3.17	25+660	26+220	560	1946.98	27789	
30	17.2.17	26+220	26+980	760	1674.37	26357	
31	5.2.17	26+980	27+820	840	1543.54	25548	
32	7.2.17	27+820	28+180	360	1909.66	25637	
33	11.5.17	28+180	28+320	140	1753.48	31086	
34	14.2.17	28+320	28+700	380	1829.54	26058	
35	18.4.17	28+700	29+460	760	1886.48	29774	
36	14.2.17	29+460	29+960	500	1698.71	26052	
37	19.5.17	29+960	30+660	700	1670.89	31585	
38	9.5.17	30+730	31+610	880	1826.5	31033	

6.2 Photographs

PROVISION OF SOLAR STREET LIGHTS WITH ROAD MARKING @ CH:02+200

PROVISION OF JUNCTION SIGNALISATION WITH ROAD MARKING @ CH:09+800

PROVISION OF CHEVRON SIGN BOARDS @ CH:02+850

FIXING OF 4 ROPE TYPE WIRE ROPE SAFETY FENCE @ CH : 18+570 TO 18+770 RHS

PROVISION OF LED BLINKERS, ROAD MARKING @ CH:26+150

9 Contract Package VI

Upgradation of Road from Ponkunnam to Thodupuzha

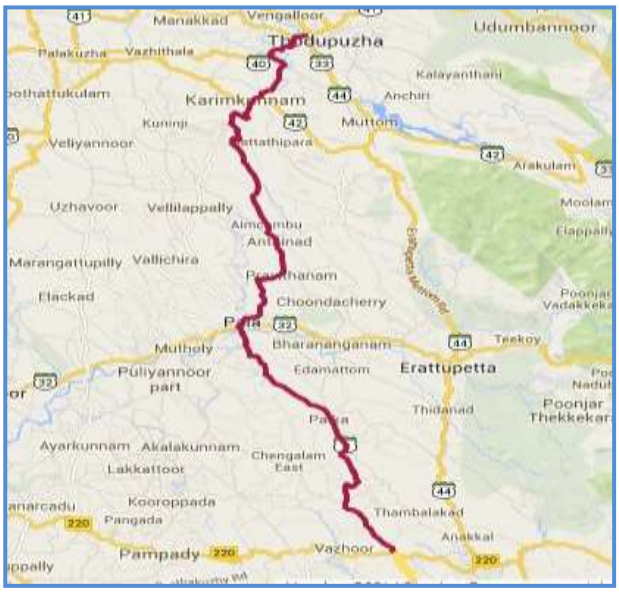
(Work completed and hence previous month Progress Report is provided)

Scope of work (46.363 km)

Minor Bridge reconstruction - 1 no.

Culvert:

Reconstruction	-	109 nos.
Widening	-	44nos.
New Construction	-	7 nos.
Drain	-	65 km
Foot Path	-	
Solar Street Light	-	



Contract details:

Letter of Acceptance date	::	04.02.2014
Agreement date	::	05.05.2014
Name of Contractor	::	M/s GHV-EKK (JV)
Contract price	::	Rs. 227,13,73,548
Notice to Commence	::	10.06.2014
Total Length	::	46.363 km
Contract Period	::	30 months
Completion date	::	09.12.2016
Defect Liability Period	::	365 days
1st Milestone	::	10 km
2nd Milestone	::	25 km
3rd Milestone	::	Completion of full stretch & Thodupuzha Bypass

7.1 Physical Progress:

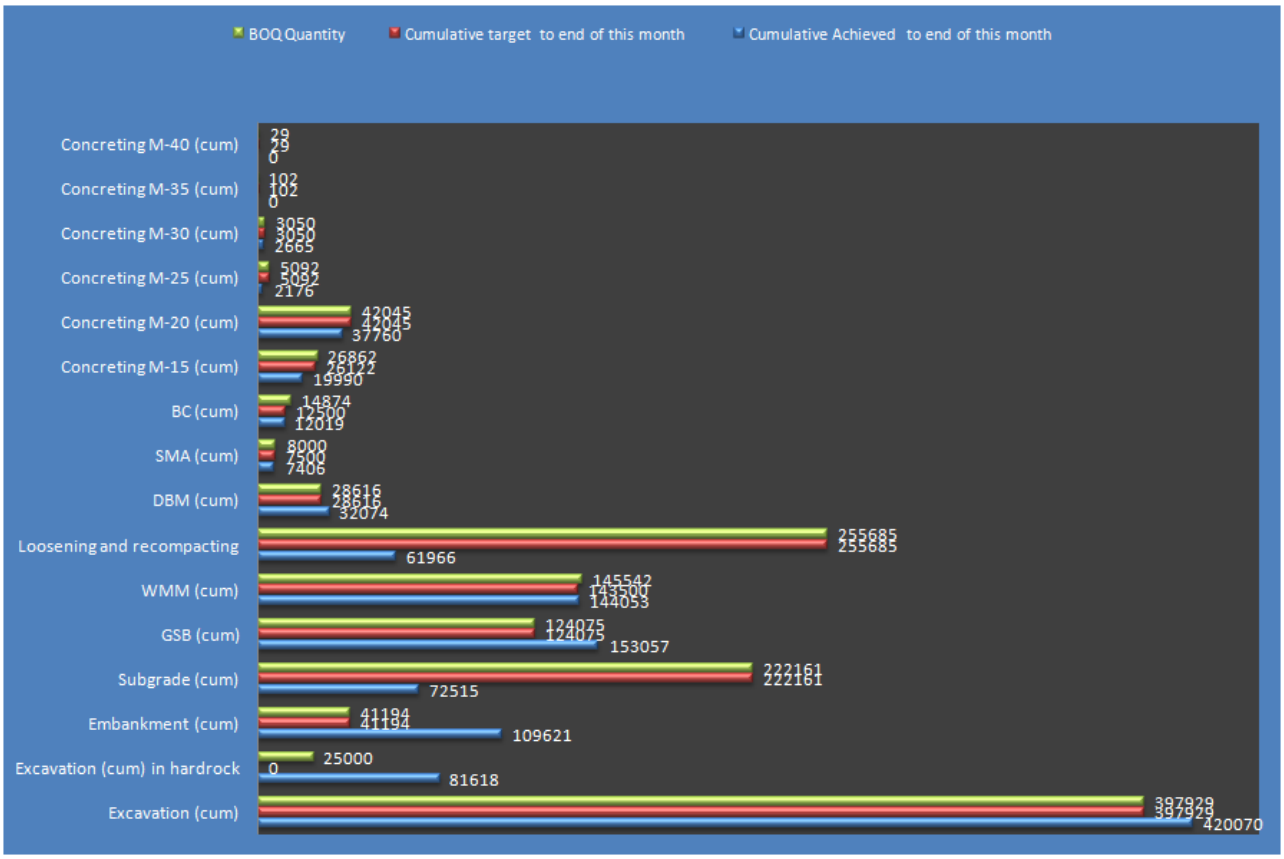
Summary of progress for major items is as follows:

Milestone	I (85+000 to 95+000)		II (84+000 to 85+000) Bypass 2.57 km (106+000to 117+430)*		III (95+000 to 106+000)* (117+430 to 131+015)	
Length in km	10.000		15.000		24.585	
Side	LHS	RHS	LHS	RHS	LHS	RHS
GSB completed in km	10.00	10.00	15.00	15.00	23.60	23.60
WMM completed in km	10.00	10.00	15.00	15.00	23.50	23.50
DBM completed in km	10.00	10.00	15.00	15.00	23.50	23.50
SMA completed in km	NIL	NIL	5.94	5.94	10.49	11.67
BC completed in km	10.00	10.00	9.06	9.06	12.37	12.37
CD works completed in No.'s	20/20		43/43		79/79	

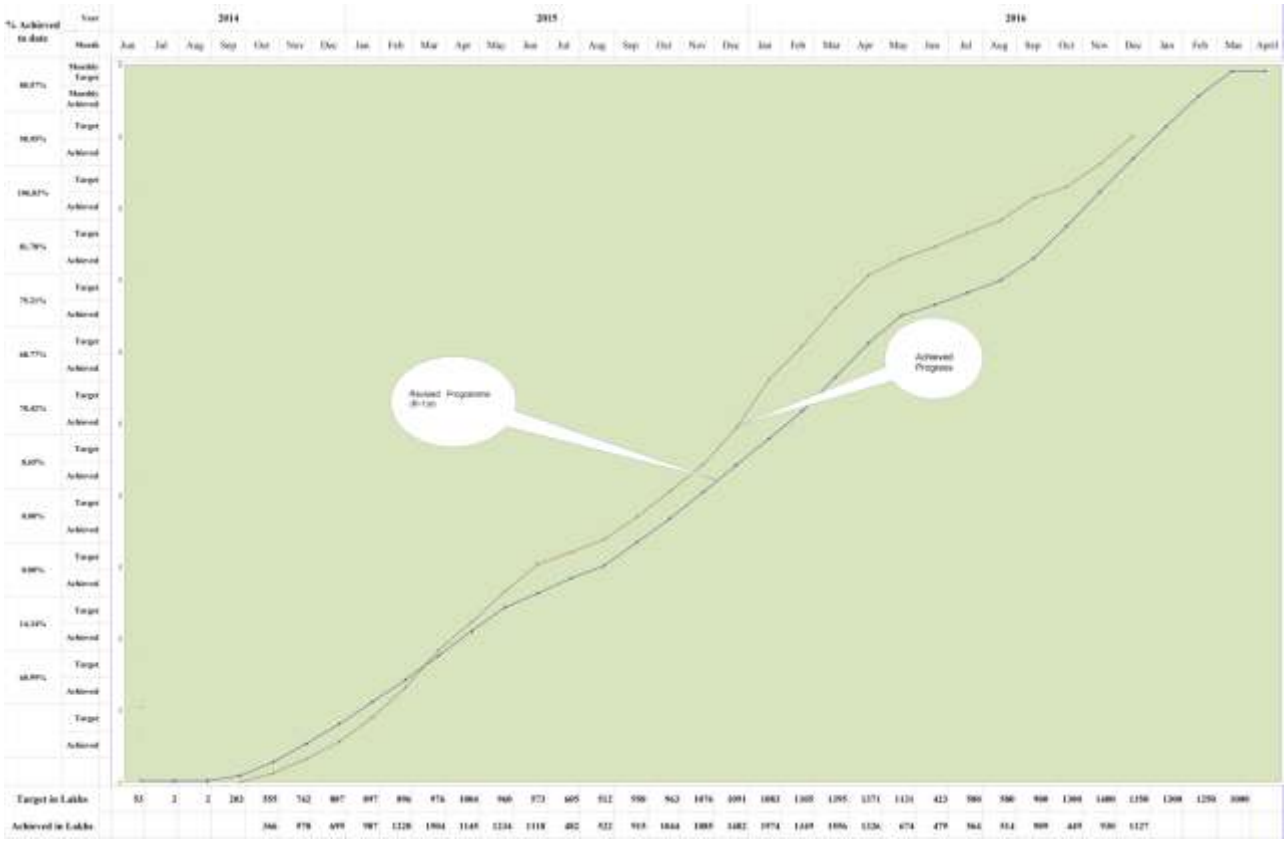
Work progress considering the contract price:

Up to previous quarter		This quarter		Cumulative (till end of this quarter)	
Target	Achieved	Target	Achieved	Target	Achieved (gross)
98.84%	114.28%	5.94%	4.96%	103.80%	119.63%

7.2 Bar Chart of Physical Progress:



7.3 S-Curve



7.4 Schedule of Cross Drainage Works

S. No.	Work Description	Total No	(85+000 to 95+000) 10 Km				(84+000 to 85+000) Bypass 2.57 km (95+000 to 106+400) 15				(106+400 to 117+430) (117+430 to 131+015) 24.615			
			Scope	Work in Progress	Half completed	Full completed	Scope	Work in Progress	Half completed	Full completed	Scope	Work in Progress	Half completed	Full completed
1	Pipe culvert	32	6	0	0	6	7	0	0	7	19	0	0	19
2	Precast box culvert	79	12	0	0	12	16	0	0	16	51	0	0	51
3	Box Culvert cast-in-situ	18	1	0	0	1	5	0	0	5	12	0	0	12
4	Box culvert widening	7	1	0	0	1	4	0	0	4	2	0	0	2
5	Cast-in-situ New	2	0	0	0	0	0	0	0	0	2	0	0	2
6	Box culvert retained	4	0	0	0	0	3	0	0	3	1	0	0	1
	Total For each	142	20	0	0	20	35	0	0	35	87	0	0	87

S. No.	Work Description	Scope in No.s	Upto Previous		Current Month		Upto Date		Targeted For April 2016
			Targeted	Achieved	Targeted	Achieved	Targeted	Achieved	
1	Pipe culvert	32	32	32	0	0	32	32	0
2	Precast box culvert	79	79	79	0	0	79	79	0
3	Box Culvert cast-in-situ	18	18	18	0	0	18	18	0
4	Box culvert widening	7	7	7	0	0	7	7	0
5	Cast-in-situ New	2	2	2	0	0	2	2	0
6	Box culvert retained	4	4	4	0	0	4	4	0
	Total For each	142	142	142	0	0	142	142	0

7.5 Implementation of EMP

B.	Physical Progress Report					
S. No.	**Enhancement/ Mitigation Measures**	**Physical target / (Achieved) (No's.)**	**Units carried over from previous month**	**Units started in reporting month**	**Units completed in reporting month**	**Units carried over to next month**
			(a)	**(b)**	**(c)**	**(d)**
1.	Noise Barrier	19/ (7)	1	0	0	1
2.	Hand pumps	6/(6)	0	1	1	0
3.	Bus Shelter	35	17	0	0	17
4.	Sign Boards	1445/(889)	0	47	47	0
5.	Preserving and landscaping the cultural properties like shrines and hyundi	7/(2)	0	0	0	0
6.	Constructing new well	3/(1)	0	1	0	1
7.	Providing new water taps	33	0	0	0	0
8.	Parking space for auto rickshaws, cars and jeep	**Quantity not estimated**				
9.	Landscaping of type C Oxbow lands	28/(2)	2	2	0	4
10.	Planting trees along road side	864/(584)	0	0	224	224
11.	Planting trees on inner side of sound insulating wall	440/(83)	0	0	0	0
12.	Providing 1.2 m high fencing under via duct	**Quantity not estimated**	0	0	0	0
13.	Concrete flooring with slope drains and oil interceptors	3/(1)	0	0	0	0
14	Water Sprinkling	1800 hrs /(1162 Approx.)	0	0	90	0
15	Air Quality Monitoring	36/(34)	0	0	0	0
16	Water Quality Monitoring	30/ (27)	0	0	0	0

C.	Details of Sites for Project Ancillary Facilities				
S. No.	**Type of Camp/Site**	**Cumulative No of sites opened**	**No of sites operational**	**Cumulative No of sites redeveloped**	**Cumulative No of sites Closed***
1.	Construction Camp	2	2	0	0
2.	Labour Camp	2	2	0	0
3.	Quarry & Stone crusher unit	1	1	0	0
4.	Borrow Area	0	0	0	0
5.	Debris Disposal Site	0	0	0	0
6.	Water Sources	3	3	0	0

7.6 Payment to contractor

Payment up to December 2016 is Rs. 210.16 crore

7.7 Photographs

Oxbow land turfing was in progress at Ch:91+100 (LHS)

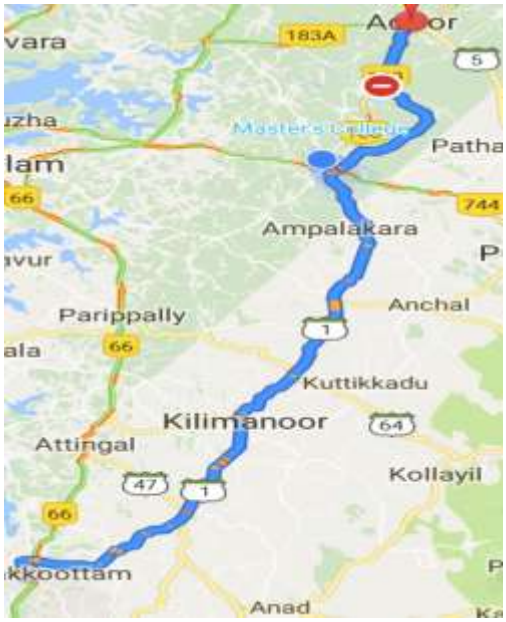
Information Board installed in Pala town

LED Solar street light funtionality monitored

Rumble strips and go slow markings done

10 Model Safe Corridor Demonstration Project

[MC ROAD - KAZHAKKOOTTAM – ADOOR 82 KM]



Project Name	KSTP-II – MC Road - Safe Corridor Demonstration Project – BC- Overlay & Road Safety Works from Kazhakoottam to Adoor (0/000 to 12/600 (Bye pass) and from 25/250 to 93/000)
Name of Contractor	M/s GHV-EKK (JV), Second Floor, Municipal building, Perumbavoor, Ekm, Kerala
Agreement No & Date	Agreement. No. 276/KSTP/PMT/PWD /2016 dated 05/12/2016 (Contract. No. KSTP/ PMT/BCO&RS)
Commencement Date	28th December 2016
Time of Completion	16 months
Milestone -I	Kazhakoottam to Ayoor Marthoma College (0/000 to 12/600 (Bye pass) and from 25/250 to 53/000) – 40.35 Km - 9 months
Milestone-II	Ayoor Marthoma College to Adoor(53/000 to 93/000) – 38.3 Km - 7 months
Contract Amount	Rs 146,67,38,745/-

8.1 Physical Progress:

BC overlay for 66.05 Km road (Thycaud to Adoor)

Installing of Addl. S afety mesures like Sign boards, guard stone, crash barrier etc

Widening of Chadayamangalam bridge at Ch: 50/900

Rehabilitation of Enathu and Ayoor bridge

Road markings, studs and other safety works

Side protection works-like retaining walls

Improvements to major and minor junctions (17 Junction).

(Junction improvement at the existing junctions viz Kattaikonam, Thycaud, Venjaramoodu, Karette, Kilimanoor, Nilamel, Chadayamangalam, Ayoor, Jn of Kollam –Ayoor road, Valakom, Karikom, Kottarakara, Kalayapuram, Puthoormukku, Enathu, Nellimoottilpadi and Adoor By pass start jn)

8.2 Pre-construction Activities

Quality Control Lab, and Casting yard

Quality control lab set-up, only CTM & sieves were provided

Casting yard area identified at Vayackal

Plant and Equipment

HOT MIX PLANT -01(Kilimanoor) Erection work completed, trial mix to be taken
RMC PLANT -01(Polikode) – Started functioning.

Mix Design status

Concrete Mix Designs –Source approval given for cement, steel, bitumen, crash barrier, Admixtures, bitumen emulsion, road safety items – concrete mix design for M15, M20, M25, M35, M40 approved
GSB mix design – Approved provisionally
WMM Mix designs - Approved provisionally
DBM & BC Mix Designs – Approved provisionally

8.3 Details of works

Sl No	Description	Details of works carried out
1	Drain cleaning	Drain cleaning works are 85% completed except junctions in the stretch from Ch: 0/000 (Thycaud) and 12/600 (Vetturoad) &Ch: 25/250 (Thycaud) and 93/000 (Adoor).
2	Culvert Cleaning	1504 m completed in the entire stretch
3	Clearing and grubbing	Clearing and grubbing works completed in the stretch from Ch: 25/250 and 93/000
4	Drain construction works Construction of drain in progress at following locations As per DPR - 6274 mtr Drain completed – 2725 mtr	1. Link 72 – Ch: 7/300 to 7/450 RHS. 75 m completed
		2. Nilamel Puthuserry – Ch: 45/772 to 45/898
		3. Arattukadavu, Chadayamangalam (LHS) – 51/841 – 52/168
		4. Arattukadavu, Chadayamangalam (RHS) – 51/620 – 51/838
		5. Akamon – 55/211 to 54/472 (RHS)
		6. Kampancode – 55/850 – 55/981 (LHS)
		7. Kampancode – 56/115 – 56/416 (LHS)
		8. Kampancode Jn – 56/660 – 56/980 - LHS
		9. Policode - 58/660 – 59/120 (LHS)
		10. Valakom – 60/760 – 61/062 (LHS) – Completed except 5m for electric post shifting – electric post shifted
		11. Valakom – 61/870 to 62/600 RHS
		12. Sadanandapuram - 65/442 to 65/600
		13. Pentacostal Jn – Ch: 70/330 to 70/800 RHS
		14 a) Inchakkadu – 77/000 LHS & RHS – Completed except 3 m approach b) Inchakkadu – 76/150 LHS
		15. Kalayapuram – 79/100 LHS – Work in progress
		16. Kalayapuram near KSEB office – 81/000 LHS- work in progress
		17. Vadakkadathukavu – 88/650 RHS

5	Retaining wall works Construction of retaining wall are in progress at following locations	1. Porunthamon – Ch: 35/570 to 35/700 - Total length 128 m – Work in progress
		2. Puthoormukku – Ch: 80/000 - Total length 95 m - not completed
		3. Kilivayal – Ch: 87/000 - Total length 100 m – In progress
		4. Adoor Bypass – Ch: 90/380 – work in progress – 280 m completed
6	Culvert works As per DPR – 10 Nos Completed – 1 No Ongoing - 5 Nos	1. Velavoor – Ch: 1/270 - Earth work for half portion started
		2. Ch: 7/400 – Half portion raft completed
		3. Ch: 10/070 – Half portion raft completed
		4. Nilamel (Ch: 44/910) – Half portion completed
		5. Near Silpa Hotel Ayoor – 53/505 – completed.
		6. Vadakkadathukavu-88/650 –Completed
7	Bridges	
1)	Enathu Bridge –	Rehabilitation work in progress (Variation)
2)	Ayoor Bridge – Rehabilitation works	Jungles cleared at abutments, piers and approaches
3)	Widening of Chadayamangalam Bridge	LHS upto slab completed. RHS Rubble packing completed. River training works going on
8	Establishing TBMs	Establishment of TBM from 25/250 to 93/000 completed. Checked and approved
9	Cross section details	Cross section details submitted from 25/000 to 35/000 and 45/000 to 93/000 of which 45/000 to 57/000 approved, 83/500 to 93/000 returned for correction and the balance under scrutiny. 35/000 to 45/000 is submitted on 14.08.2017 – under scrutiny
10	Pot hole measurements	List containing pothole locations submitted on 03.03.2017 for the Ch: 0/000 to 12/600 and 25/250 to 93/000
		Limited to BOQ and approved.
11	Erection of Crash Barrier As per BOQ – 15015 m Completed – 1642.50	1. Velavoor – Ch: 1/365 RHS
		2. Thycode – Ch: 0/300 LHS
		3. Keezhayikonam Ch: 29/500 LHS
		4. Keezhayikonam Kurisadi 31/250 -LHS
		5. Pulimath Ch: 34/350 LHS
		6. Kilimanoor Ch: 38/750 RHS
		7. Kuravankuzhy Ch: 40/000
		8. Vazhodu Ch: 43/000
		9. Polikode – Ch: 59/000 RHS

		10. Valakom Ch: 60/000 RHS
		11. Kottarakara Ch: 73/000 RHS
		12. Puthoormukku Ch: 79/000 – LHS & RHS
		13. Kalayapuram Ch: 80/000 LHS
		14. Kalayapuaram Ch: 81/000 LHS
12	FDR Areas-	Verified at site and approved
13	Footpath	Foot path locations were verified and approved.
14	LED Street light	Foundation details submitted
15	Bus Bay/Bus shelter	List of locations for Bus bay/Bus shelter submitted and approved.

8.3.1 Rehabilitation of Enath Bridge AT Ch: 83/000

Sl No	Description	Remarks
1	Pile , Pile cap, Pier & Pier cap works for P2 & P3 piers	Completed
2	Bearing changing	Completed
3	Strip seal for expansion joint	Completed
4	Chipping of top bituminous surface & leveling of deck slab	Completed
5	Slab/Kerb work, tiles over foot path	Completed
6	Micro concreting & Epoxy grouting for A1 P1 span	Completed
7	P4 pier guniting works	Completed
8	Well protection works of P1	To be done
9	Membrane coating & BC overlay over deck slab	Completed
10	Elastomeric membrane painting for bridge	In progress
11	Removal of steel frame for temporary support	Completed
12	Working platform removal	Completed
13	Dismantling old bridge pile cap (British)	To be done

Completed and inaugurated and allowed for traffic

8.4 Key plant & equipment mobilized at end of reported period

Sl No.	Machinery Description	Unit	Mobilised to site till date	Shortfall if any	Condition Working Broken down	Date mobilized
Production Units						
1	Batching Plant/hr(18 Cum/Hr)	No	1		Working	
2	Batching Plant/hr(30 Cum/Hr)	No	1		Working	
3	Hot Mix Plant Mini 160 TPH	No	2		Working	
Rollers, Pavers, Graders and Dumpers						
1	Transit Mixer	No	4		Working	
2	Paver with sensor	No				
3	Roller PTR (24T)	No				
4	Soil Compactor (15T)	No				
5	Tandem Roller (2.7 T)	No				
6	Grader	No				
Loaders, Dozers, Excavators and Dumpers						
1	JCB 3DX /0.3 cum	No	4		Working	
2	Dumper 8 cum	No	2		Working	
3	Dumper 15 cum	No	2		Working	
4	Water Tanker (12KL)	No	1		Working	
5	Hydra Crane (12T)	No	1		Working	
6	Platform Lorry	No	1		Working	
Concreting Equipment						
1	Needle vibrator(20mm)	No	2		Working	
2	Needle vibrator (40mm)	No	6		Working	
3	Needle vibrator (60mm)	No	2		Working	
4	Water Pump (5hp)	No	5		Working	
5	Bar bending meachine	No	1		Working	
6	Steel Cutting meachine	No	2		Working	
Auxiliary equipment						
1	LMV	No	8		Working	
2	Mini Bus	No	1		Working	

11. S-Curve

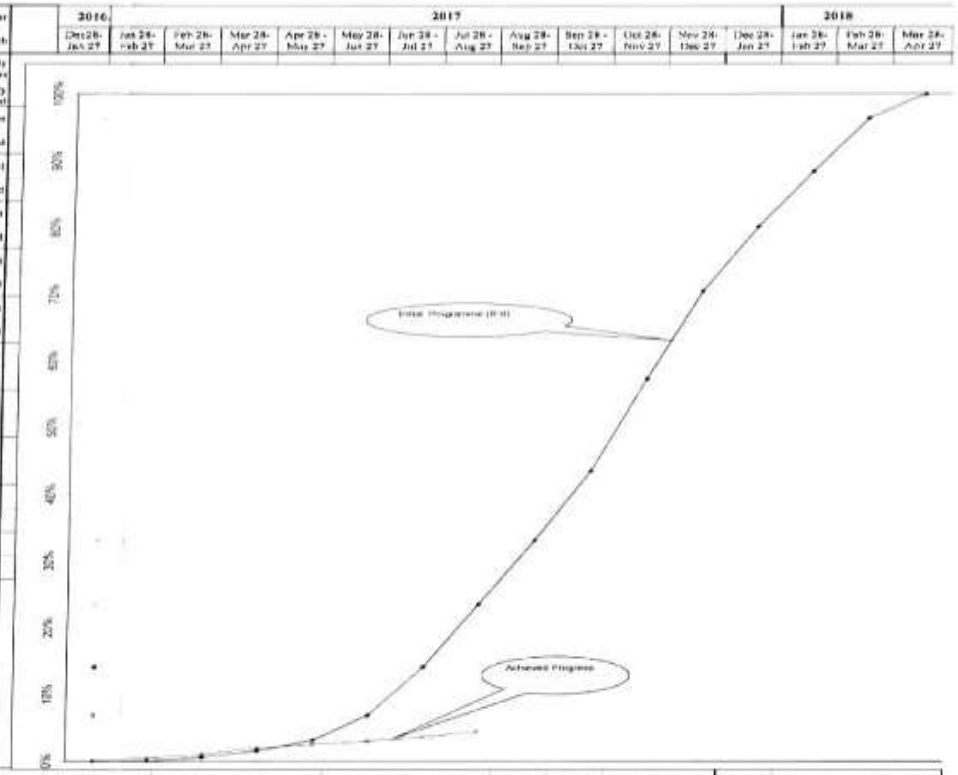
Progress Schedule and S-Curve for KSTP Adoor - Kazhakoottam

Name of the Engineer : KSTP

Name of the Contractor : GHV : KKK (JV)

Contract Amount : Rs. 1,466,738,745

Bill No	Item	Contract Provision	Achieved till Last Month	Achieved this Month	Total Achieved to date	% Achieved to date	Year / Month
1	Site Clearance & Earth Work	15,542,225	3,396,420	318,876	3,715,296	23.90%	Monthly Target / Monthly Achieved
2	Sub Base & Hard Shoulders(Non Bituminous)	25,075,700	131,287	157,460	308,741	1.23%	Target / Achieved
3	Correction of Defects & cleaning/ Repair Works	19,607,200	19,772,574		19,772,574	100.84%	Target / Achieved
4	Base & Surface course (Bituminous)	443,475,103					Target / Achieved
5	Masonary , Concrete Works & Steel	226,864,020	21,143,691	5,906,985	27,050,676	11.92%	Target / Achieved
6	Rehabilitation Of bridges	7,037,300					Target / Achieved
7	Day Works	534,300					Target / Achieved
8	Road Safty	486,101,315	5,847,795	4,921,060	10,768,855	1.44%	Target / Achieved
9	Work Zone	3,880,000	41,200	20,000	61,200	1.58%	Target / Achieved
10	Shifting of Electric Poles	5,000,000	350,000	10,000	405,000	8.00%	Target / Achieved
11	Maintaince for year 1 (After D.L.P)	8,500,000					Target / Achieved
12	Maintaince for year 2	5,500,000					Target / Achieved
12	Maintaince for year 3	20,000,000					Target / Achieved
12	Maintaince for year 4	22,000,000					Target / Achieved
13	Maintaince for year 5	24,000,000					Target / Achieved
	Total Amount	1,466,738,745	50,702,961	11,374,381	62,077,342	4.42%	Target in Lakhs / Achieved in Lakhs
15	Monthly						Target in Percentage / Achieved in Percentage
16	Cumulative						Target in Percentage / Achieved in Percentage



12. Contract Package VIII

Upgradation of Road from Punalur to Ponkunnam

Work has to be arranged under PPP mode (Modified Annuity). DPR submitted by M/s CDM Smith Associates is under review. The Transaction Advisory has been selected and assignment commenced. The Transaction Advisory is M/s L&T Ramboll in JV with M/s Fortress. The review of DPR and RFQ, RFP and Financial modal are completed. Bidding documents were placed before the Steering Committee and endorsed. The Government had expressed willingness to include the project in the Infrastructure Investment Fund being mobilized. Government has further informed that a "line item" in the State Budget will also be included. The pre-qualification bids were published and eight bids received. The pre-qualification of eight bidders has been approved by the World Bank and Steering Committee. The RFP to the bidders will be forwarded to the bidders on receipt approval to the document from the World Bank.

13. Contract Package VII

Upgradation of Road from Perumbilavu – Pattambi - Perintalmanna

Horizontal alignment finalized and boundary stone planted for land acquisition. The original proposal was to upgrade the project under EPC mode. But due to the delay anticipated in acquiring the land invoking the provision of the new LA Act for which rules are being finalized by the Government, it has been decided to provide a modest level of improvement to the surface. It is also proposed to make use of the savings due to the change in the improvement proposals for providing overlay to the SCDP road. Accordingly proposals have been submitted to the Government and to the Bank after obtaining approval of the Steering Committee on 28th July 2014. The work has been awarded. Due to a case before the Lok Ayukt filed by another contractor (bidder), the work was held up earlier and this is now ordered by the court in favour of the Department. The notice to commence issued and work has been completed. The total length completed is 18 km of BC work and the payment is Rs. 8.10 crore.

14. Road Safety Component – Current Status

Road Safety Capacity Building and Program Management Project

The focus of Road Safety Program Comprises of the following tasks:

To strengthen the capacity of Kerala Road Safety Authority and Road Safety Cell of PWD to introduce Sustainable International Best Practice in designing, implementing and Evaluation of Road Safety.

Development of Safe Corridor Demonstration Project (SCDP) by implementing the Multi-sectoral interventions to demonstrate the effectiveness of Road Safety Best Practices.

The Kazhakkoottam – Thaikod – Kottarakara – Adoor Corridor (80 km) improved during KSTP-I is identified for this purpose having high density of traffic

To replicate the lessons learned from the Safe Corridor Demonstration Project to develop another 10 safe corridors across the State through local partnerships using the challenge fund and the matching fund from the KRSA

Road Safety Capacity Building of the institutions responsible for managing Road Safety in the State.

The KSTP appointed M/s VicRoads, Australia, an internationally experienced consultant to support in implementing the above programs. The consultant has conducted stakeholders meetings and trained the Engineers and others in designing various Road Safety interventions in the SCDP. The bid has been approved by the Steering Committee and the works awarded. The overlay works and Road Safety interventions are clubbed. The work commenced and in progress. The proposals for enhancing the existing facilities in the Kottarakara, Adoor, Kesavapuram and Government Medical Collage, Trivandrum are under consideration now.

The proposal for strengthening the Kerala Road Safety Authority has been accepted by the Executive Committee and the actions for procuring specialists, to various positions was initiated. 33 nos. of applications received are evaluated and 22 applicants shortlisted. The Final Evaluation (interview) of the candidates was held in the presence of the KRSA authorities and selection of four out of five TSG members done. The appointment orders will be issued by end September 2017 by the Kerala Road Safety Authority. The advertisement to select one member is being published.

Traffic counters were procured and installed at five locations, one in NH and four in location in the project roads. These counters shall be utilized for planning of future road geometrics requirements, capacity analysis, seasonal variations, daily variations of traffic volume during festivals etc.,

The KSTP has entrusted the consultant to take actions for the procurement of Market Research firms. The market research would support Development of the publicity and education programs, including future campaigns. Establishing benchmarks on

knowledge, attitudes, perception of road safety issues and self-reported behaviors of road users for monitoring the impact of future road safety activities and effectively support the task of the Road Safety Capacity Building and Program Management Consultant. The firms are in place and the activities are on.

The project proposals for utilizing the challenge fund is awaited from the KRSA. This was agreed in a meeting held in the room of the Secretary to Government, Transport.

15. Institutional Strengthening Components – Current Status

Road Sector Modernization

Under this Component, KSTP have already arranged and completed studies and DPR preparation for Road Rehabilitation Projects, Strategic Option Studies for improving MDRs (newly taken over from Panchyat), Design of Green Building for KSTP and PWD Head Quarters, Review of IT system in PWD and other small studies with Bank's approval. The amount spent is Rs. 4.70 crore.

Further, we have streamlined the activities under the Road Sector Modernization in the Institutional Strengthening component considering, the current priorities of the State, in lieu of Strategic Road Network Program which include:

New Consultancy assignment for which ToR have been prepared

Public Information and Management System

Strengthening Kerala Highway Research Institute for Development in to a Centre of Excellence for Road Safety and Asset Management – Stage I

Capacity Building on Right to Fair Compensation and Transparent Compensation and R&R Act 2013

The ToR for PIMS was prepared in consultation with the World Bank Representative and the PWD IT Cell M/s C-DAC, a research agency in this field has expressed interest to undertake the task. The final ToR is being processed to World Bank for review and approval for Single Source Procurement.

Bidding process already in progress (evaluation completed) for the following consultancy services.

Selection of consultant for Road User Satisfaction Survey

Selection of consultant for Community Participatory Road Safety and User Engagement

The RFP for these assignments are also prepared. The RFP for the assignment Sl.No. 2 is being forwarded to Bank for review.

15. Public Information Cell:

The Public Information Cell, PWD now functions all working days in two shifts, morning 9.30 to evening 7.30. PI Cell received all PWD related complaints like Roads and Bridges. National Highway, Building, KSTP, Road Fund Board.

Total calls received for the month of August	-	463
PWD related complaints received	-	216
Thiruvananthapuram	-	39
Kollam	-	14
Pathanamthitta	-	13
Alappuzha	-	20
Kottayam	-	15
Idukki	-	10
Ernakulam	-	27
Thrissur	-	09
Palakkad	-	11
Malappuram	-	24
Kozhikode	-	14
Wayanad	-	04
Kannur	-	06
Kasaragod	-	10
Total	**-**	**216**

16. Payment to the consultants as on end June 2017:

M/s Egis India JV	-	Rs. 301213458
M/s MSV International	-	Rs. 46741766
M/s VicRoads	-	Rs. 85560520
M/s L&T Ramboll (TA)	-	Rs. 3041450

17. Meetings, Site visits & Inspection

Package – I

Workshop was conducted at Thiruvananthapuram with World Bank delegates, KSTP Officials, Contractors and CSC on 23rd August 2017.

Environmental Engineer, KSTP visited the Project site on 11th August 2017.

Secretary (PWD), Project Director (KSTP) and Team leader (CSC) inspected the Project site on 01st August 2017.

Package – II

World Bank delegates inspected the project site on 21st August 2017 along with KSTP officials.

Workshop was conducted at Thiruvananthapuram with World Bank delegates, KSTP Officials, Contractors and CSC on 23rd August 2017.

Environmental Engineer, KSTP visited the Project site on 10th August 2017.

Secretary (PWD), Project Director (KSTP) and Team leader (CSC) inspected the Project site on 01st August 2017.

Package – III A

Progress review meeting held on 11th August-2017 at RE office, Kuthuparamba.

Safety meeting conducted at RE office ,Kuthuparamba on 11th August-2017.

World bank mission visited the site on 22nd August-2017.

Project Director,KSTP and Secretary, PWD Visited the site with Team Leader on 1st August-2017.

Environmental Engineer from PMT Visited the site on 9th August-2017

Package – IIIB

World Bank team inspected the Project site on 22nd August 2017 and conducted work shop at Thiruvananthapuram on 23rd August 2017 with KSTP officials, Contractor and Consultant.

Environmental Engineer, KSTP visited the Project site on 09th August 2017.

Secretary (PWD), Project Director (KSTP) and Team leader (CSC) inspected the Project site on 01st August 2017.

Package-IV

Review meeting held on 28 06 2017

Mobilization advance first and second installment has been paid to the Contractor based on their application.

IPC-20 for the works executed up to the end of 15th June 2017 has been certified

Package-V

Progress review meetings held on 24th August 2017 at PMT, KSTP Thiruvananthapuram

18. Social Safeguard

KSTP II Grievance Management Report (1st Jan 2013 – 31st July 2017)

Serial No.	Nature of Grievance	Petitions received		Total cases settled on 31.07.2017	Outcome/ Action Taken
		Jan 2013-Mar 2017	Apr 2017 July 2017		
1	2	3	4	5	6
1	Land Acquisition/ Alignment change	13	0	12	10 settled through participatory interaction between KSTP officials and PAPs. Two cases were settled by the High Court and one case pending judgment.
2	Inadequate compensation of land/ Category change of the land	3	1	4	Category changes effected after re-examination by the Revenue authorities and made payments.
3	LAR Cases	262	61	307	16 cases pending in the Sub Courts
4	Variation in the extent of land	7	0	7	Resurvey done in all and difference found only in 2 cases which were adequately compensated in the award.
5	Acquisition of missed structure/ Part/Full	11	0	10	Valuation of 10 missed out structures taken and compensation paid. Remaining one is referred to GRC.
6	Inadequate compensation for structure	3	0	3	Rechecked the valuation at site in the presence of the PAP and convinced the veracity.

Serial No.	Nature of Grievance	Petitions received		Total cases settled on 31.07.2017	Outcome/ Action Taken
		Jan 2013-Mar 2017	Apr 2017 July 2017		
1	2	3	4	5	6
7	Provision of retaining wall to protect structure	120	19	125	Retaining wall provided to protect 125 structures and the remaining 14 will be done as the work progresses
8	Protection of well	75	2	69	69 wells have been protected by diverting drains and by providing concrete slabs/covers as required at each site. Work in 8 cases pending
9	Conversion of part valuation of structure to full or vice versa	3	0	3	Changes effected as requested by the PAP and payment released
10	Inadequacy of R&R assistance	201	0	201	All cases settled in GRC and payment released.
11	Extension of time limit for demolition	12	0	11	The stay granted by the High Court in 1 case is yet to be vacated.

19. Land Acquisition Status

Sl. No	Name of road & Length (km)	Land proposed for Acquisition (Ha)	Land Acquired (Ha)	Land Pending Acquisition (Hectare)	Present position/ Reasons for delay
1	Kasargode – Kanhangad (24.00)	2.9177	2.9177	0	NA
2	Pilathara – Pappinssery (21.00)	7.3057	7.3057	0	NA
3	Thalasery – Valuvapara (53.78)	25.0312	24.9367	0.0634 (0.25%)	SIA completed and 11(1) notified
4	Chengannur – Ettumanoor (47.00)	11.1815	11.1815	0	The issue with Postal Department sorted out. Structure being demolished
5	Ettumanoor – Muvattupuzha (40.90)	15.6197	14.3973	1.2224 (7.83%)	1.2224 Ha land from seven land owners is under the process of the new Act RFCTLARR. Hence overlay within existing width of 300 meters is done. SLEC for acquisitions in other on locations

					will be held shortly
4A	Thiruvalla Bypass (1.2)	5.5105	5.2616	0.2489 (4.51%)	Four properties pending. Resurvey requested and awaiting action
6	Ponkunnam – Thodupuzha (50.10)	26,7401	26,7165	0.0236 (0.09%)	WP(C)3134/15 High Court stay prevailing in one case
7	Punalur – Ponkunnam (82.12)	26.6518	26.6518	0	NA