National Highway Authority of India

(Ministry of Road Transport & Highways)

PATEL SETHIYAHOPU - CHOLOPURAM HIGHWAY PRIVATE LIMITED

Four laning of Sethiyahopu - Cholopuram from Km. 65.960 to Km. 116.440 section of NH-45C in the state of Tamil Nadu under NHDP Phase-IV on Hybrid Annuity Mode.

INDEPENDENT ENGINEER

M/s. Theme Engineering Services Pvt. Ltd

MONTHLY PROGRESS REPORT

MARCH 2020

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Executive Summary

The old National Highway (NH -45C) runs through the state of Tamil Nadu. The project road is part of the 168 km long Vikravandi to Thanjavur section of the existing National Highway 45C (NH-45C). Recently MORTH has amended the number and Length of the National Highways. The old NH 12 in the state of Tamil Nadu has become the part of the New National Highway 36. It links Chennai with Thanjavur and is 418 km long.

The Sethiyahopu to Cholopuram section of NH-45C is an important link to connect Metropolitan city of Chennai to religious and tourist places of Cholopuram, Thanjavur, kumbakonam, Puducherry. The project is also expected to provide improved connectivity to other religious places & other major cities like Rameswaram, Madurai, Tiruchirappalli, etc. The Project stretches passing through the 03 nos. of districts of Cuddalore, Ariyalur and Thanjavur.

Project Synopsis

The Government of India had entrusted to the National Highway Authority of India (NHAI) the development, maintenance and management of National Highway No. 45C including the section from km 65.960 to Km 116.440 (approx. 50.480 Km). The Authority had resolved to augment for four Laning of Sethiyahopu - Cholopuram from Km 65.960 to Km 116.440 section of NH - 45C in the State of Tamil Nadu under NHDP Phase-IV on design, build, operate and transfer (the "DBOT Annuity" or "Hybrid Annuity") basis.

The scope of work will broadly include rehabilitation, upgradation and widening of the existing carriageway to four - lane standards with construction of new pavement, rehabilitation of existing pavement, construction and/or rehabilitation of major and minor bridges, culverts, road intersections, interchanges, drains etc. Including those prescribed in the Concession Agreement and its Schedule and the operation and maintenance itself. The map of project road is given in Figures below. The details of habitations are given in table - 01.

Figure 1: Project Location Map

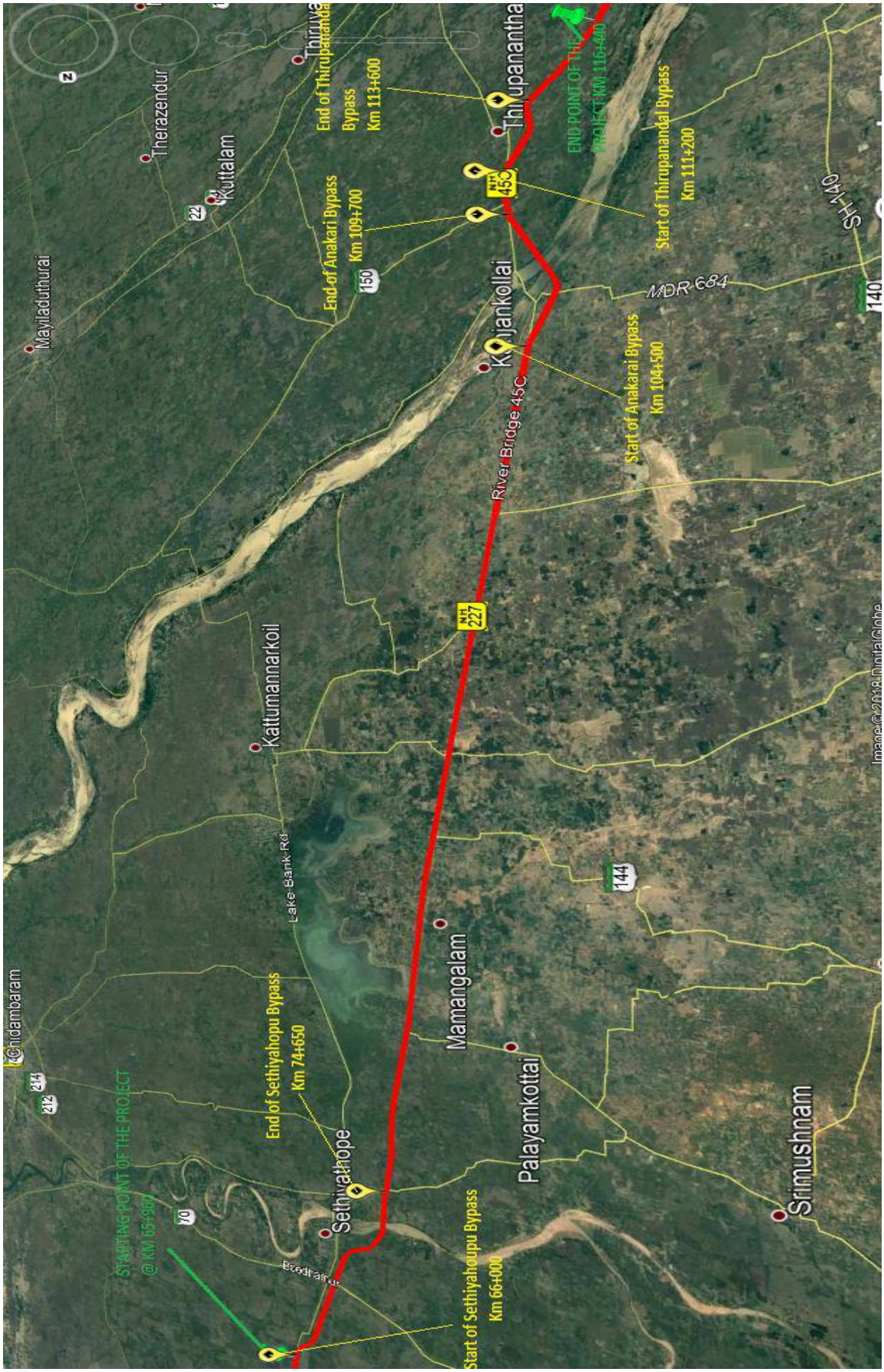
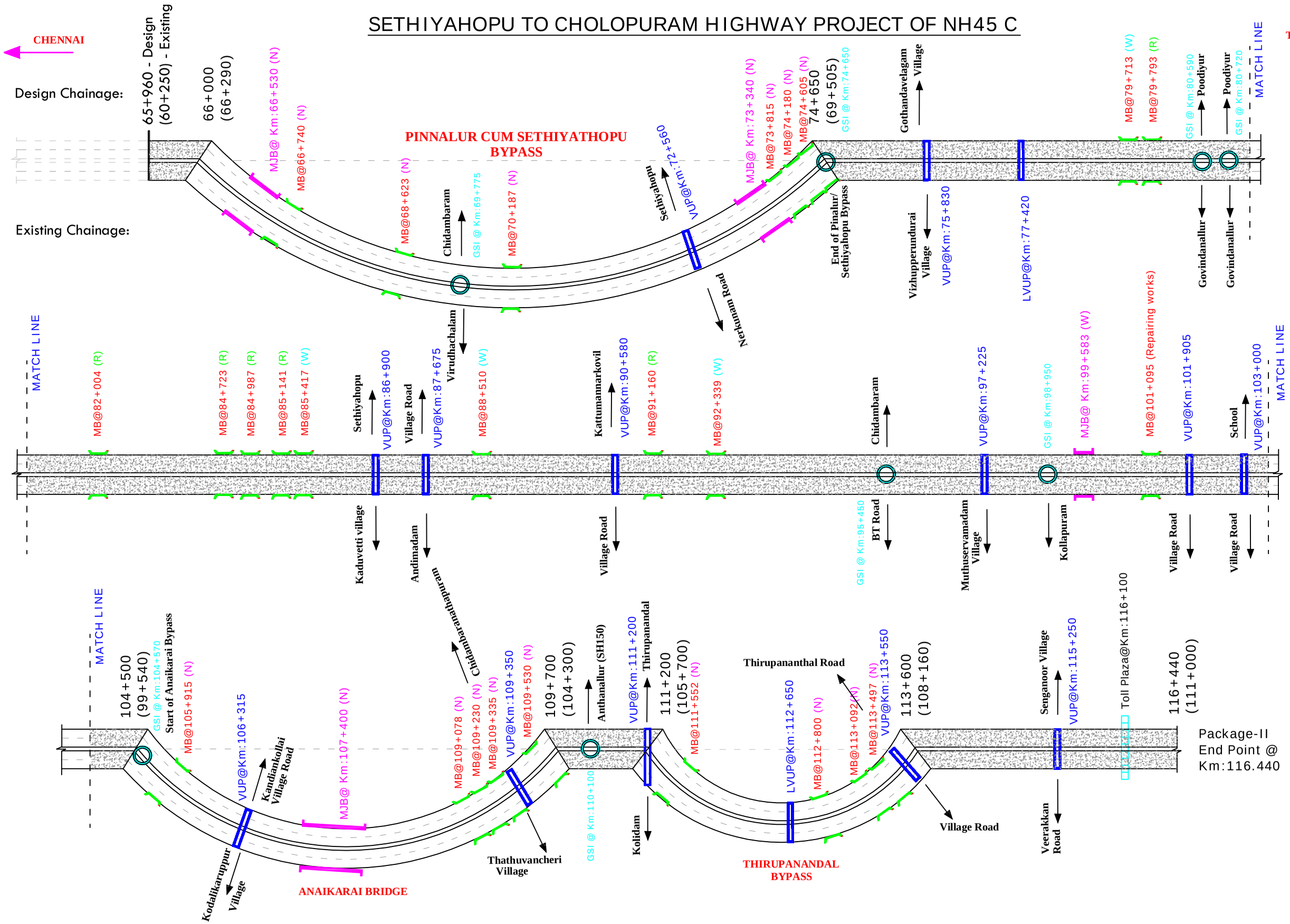


Figure 2: Project Alignment Map

SETHIYAHOPU TO CHOLOPURAM HIGHWAY PROJECT OF NH45 C



Pinnalur /Sethiyathopu Bypass Km:66+000 to 74+650			
Sl No	Description	Unit	Quantity
1.	Culvert	Nos.	05
2.	Minor Bridge	Nos.	06
3.	Major Bridge	Nos.	02
4.	VUP/LVUP	Nos.	01
5.	Grade Separator	Nos.	02

Widening of Existing Road Km:74+650 to 104+500			
Sl No	Description	Unit	Quantity
1.	Culvert	Nos.	29
2.	Minor Bridge	Nos.	10
3.	Major Bridge	Nos.	01
4.	VUP/LVUP	Nos.	08
5.	Grade Separator	Nos.	04

Anaikarai Bypass Km:104+500 to 109+700			
Sl No	Description	Unit	Quantity
1.	Culvert	Nos.	12
2.	Minor Bridge	Nos.	05
3.	Major Bridge	Nos.	01
4.	VUP/LVUP	Nos.	02
5.	Grade Separator	Nos.	01

Widening of Existing Road Km:109+700 to 111+200			
Sl No	Description	Unit	Quantity
1.	Culvert	Nos.	6
2.	Minor Bridge	Nos.	-
3.	Major Bridge	Nos.	-
4.	VUP/LVUP	Nos.	01
5.	Grade Separator	Nos.	01

Thirupanandal Bypass Km:111+200 to 113+600			
Sl No	Description	Unit	Quantity
1.	Culvert	Nos.	-
2.	Minor Bridge	Nos.	04
3.	Major Bridge	Nos.	-
4.	VUP/LVUP	Nos.	02
5.	Grade Separator	Nos.	-

Widening of Existing Road Km:113+600 to 116+440			
Sl No	Description	Unit	Quantity
1.	Culvert	Nos.	08
2.	Minor Bridge	Nos.	-
3.	Major Bridge	Nos.	-
4.	VUP/LVUP	Nos.	01
5.	Toll Plaza	Nos.	01

LEGENT:

- Major Bridge(MJB)
- Minor Bridge(MB)
- Grade Separated Structure
- Toll Plaza
- Vehicle Under Pass (LVUP/VUP)
- Reconstruction of Existing Road
- Bypass/Newconstruction

Salient Features of Project:

Sl No	Description	Unit	Scope
1.	Total Length of Project	Km	50.480
2.	Length of Widening Portion	Km	34.230
3.	Length of Bypass	Km	16.250
4.	Length of service/Slip Road	Km	27.100
5.	Culverts		
	Box Culvert	Nos.	53

Sl No	Description	Unit	Scope
	Slab Culvert	Nos.	07
6.	Minor Bridge	Nos.	25
7.	Major Bridge	Nos.	04
8.	VUP/LVUP	Nos.	15
9.	Grade Separated Structure	Nos.	08
10.	Toll Plaza	Nos.	01

Sl No	Description	Unit	Scope
11.	Minor Intersection	Nos.	100
12.	Major Intersection	Nos.	07
13.	Bus Bays and Shelters	Nos.	09

Drawing Title

Strip Plan - Sethiyahopu to Cholopuram Highway Project

Date.	Project No.
31-08-2018	PSCHP/NHAI/TN/001

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Table - 1.1: Details of Project Alignments

Existing and Proposed Alignments							
Sl. no.	Existing Chainage (Km)		Design Chainage (Km)		LENGTH (Km)	TCS Type	Remarks
	From	To	From	To			
1	60.250	Bypass	65.960	69.460	3.500	Type-A-3 (Fig 2.4 of the manual)	Bypass
2	Bypass	Bypass	69.460	70.090	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
3	Bypass	Bypass	70.090	72.350	2.260	Type-A-3 (Fig 2.4 of the manual)	Bypass
4	Bypass	Bypass	72.350	72.775	0.425	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
5	Bypass	Bypass	72.775	74.335	1.560	Type-A-3 (Fig 2.4 of the manual)	Bypass
6	Bypass	69.820	74.335	74.960	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
7	69.820	70.375	74.960	75.520	0.560	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
8	70.375	71.010	75.520	76.150	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
9	71.010	71.855	76.150	76.900	0.750	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
10	71.855	72.170	76.900	77.220	0.320	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
11	72.170	72.570	77.220	77.620	0.400	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
12	72.570	72.800	77.620	77.850	0.230	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
13	72.800	73.230	77.850	78.300	0.450	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
14	73.230	75.105	78.300	80.150	1.850	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
15	75.105	76.080	80.150	81.120	0.970	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
16	76.080	76.460	81.120	81.500	0.380	TCS-1	Concentric Widening
17	76.460	77.000	81.500	82.240	0.740	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
18	77.000	78.115	82.240	83.150	0.910	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
19	78.115	79.110	83.150	84.150	1.000	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
20	79.110	79.510	84.150	84.550	0.400	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
21	79.510	80.610	84.550	85.650	1.100	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
22	80.610	81.555	85.650	86.580	0.930	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
23	81.555	82.170	86.580	87.210	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	

24	82.170	82.320	87.210	87.360	0.150	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
25	82.320	82.910	87.360	87.990	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
26	82.910	83.180	87.990	88.265	0.275	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
27	83.180	83.660	88.265	88.745	0.480	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
28	83.660	85.220	88.745	90.265	1.520	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
29	85.220	85.850	90.265	90.895	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
30	85.850	86.555	90.895	91.600	0.705	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
31	86.555	87.015	91.600	92.050	0.450	TCS-1	Concentric Widening
32	87.015	87.525	92.050	92.560	0.510	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
33	87.525	90.000	92.560	95.035	2.475	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
34	90.000	90.830	95.035	95.865	0.830	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
35	90.830	91.350	95.865	96.400	0.535	Type-B (Fig 2.6 of the manual) with both side service road	Concentric Widening
36	91.350	91.970	96.400	96.910	0.510	TCS-1	Concentric Widening
37	91.970	92.460	96.910	97.535	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
38	92.460	93.550	97.535	98.535	1.000	TCS-1	Concentric Widening
39	93.550	94.370	98.535	99.335	0.800	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
39A	94.370	94.875	99.335	99.840	0.505	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
40	94.875	95.350	99.840	100.300	0.460	Type-B (Fig 2.6 of the manual) with both side service road	
41	95.350	96.630	100.300	101.590	1.290	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
42	96.630	97.260	101.590	102.225	0.635	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
43	97.260	97.720	102.225	102.685	0.460	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
44	97.720	98.360	102.685	103.315	0.630	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
45	98.360	99.190	103.315	104.160	0.845	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
46	99.190	Bypass	104.160	104.990	0.830	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
47	Bypass	Bypass	104.990	106.000	1.010	Type-A-3 (Fig 2.4 of the manual)	Bypass

48	Bypass	Bypass	106.000	106.625	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
49	Bypass	Bypass	106.625	109.035	2.410	Type-A-3 (Fig 2.4 of the manual)	Bypass
50	Bypass	104.260	109.035	109.660	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
51	104.260	105.015	109.660	110.515	0.855	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
52	105.015	105.390	110.515	110.890	0.375	Type-B (Fig 2.6 of the manual) with both side service road	Eccentric Widening
53	105.390	Bypass	110.890	111.515	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
54	Bypass	Bypass	111.515	112.430	0.915	Type-A-3 (Fig 2.4 of the manual)	Bypass
55	Bypass	Bypass	112.430	112.840	0.410	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
56	Bypass	Bypass	112.840	113.225	0.385	Type-A-3 (Fig 2.4 of the manual)	Bypass
57	Bypass	108.410	113.225	113.850	0.625	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
58	108.410	109.395	113.850	114.835	0.985	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening
59	109.395	110.220	114.835	115.660	0.825	Figure 7.8- Grade separator and its approaches with RE wall and both side 5.5 m wide Slip road	
60	110.220	111.000	115.660	116.440	0.780	Type-A-3 (Fig 2.4 of the manual)	Eccentric Widening

1.1. Project Overview

Name of Work	Four Laning of Sethiyahopu-Cholopuram from Km. 65.960 to Km.116.440 of NH-45C under NHDP-IV on Hybrid Annuity Mode Basis.
Name of Employer	National Highways Authority of India (NHAI) G-5 & 6, Sector-10, Dwarka, New Delhi -110075
Name of Concessionaire	Patel Sethiyahopu – Cholopuram Highway Pvt Ltd, Patel House, Beside Prakruti Resorts, Channi Road, Vadodara. Gujarat– 391740 Tel: +91-265 277 6678 Fax: +91-265 277 7878
Independent Engineer	M/s. Theme Engineering Services Pvt. Ltd, S.F B1&B2, gateway Apartments, koranattu Karuppur, Kumbakonam – 612501.
EPC Contractor	M/s. Patel Infrastructure Limited, Patel House, Beside Prakruti Resorts, Channi Road,Vadodara Gujarat– 391740, Tel: +91-265 277 6678 Fax: +91-265 277 7878
Design Consultant	CTL Global Services Pvt. Ltd. 101, Ist Floor, Krishna Chambers, HAL, Airport Road, Bangalore-560017
Senior Lender	Punjab National Bank, Large Corporate Branch, Neelkamal Building, Opp. Sales India, Ashram Road, Ahmedabad - 380009
Lenders Independent Engineers	Sharul Techno-Financial Consultancy Services Pvt. Ltd., 403, Aspire Tower 5, Amanora Park Town, Hadapsar, Pune - 411028.
Length of Road (Design Length)	50.480 Kms
Total Bid Cost	Rs. 1461.00 Crores (as per concession agreement)
Date of Concession Agreement	November 9, 2017
Concession Period	17 Years (Construction Period 2 Years from Appointed date, Operation period 15 years from COD)
Appointed Date	16.08.2018
Construction Period	2 years from Appointed date
Completion Date	15.08.2020
Maintenance Period	15 years from COD

1.2. Salient Project Features

Besides the construction of new carriageways and widening and strengthening of existing carriageways, the following table summaries the major elements of the project construction:

4 - Lane Divided Carriage Way	50.48 Km.
Service Road/ Slip Road	26.595 Km
Major Bridge	04 Nos.
Minor Bridge	25 Nos.
Grade Separate Intersection	08 Nos.
Vehicular Underpass	13 Nos.
Light Vehicular Underpass	2 Nos.
Culverts	60 Nos.
Major Intersections	07 Nos.
Minor Intersections	100 Nos.
Bus Bays	09 Nos.
Toll Plaza	01 Nos.

1.3. Contractual Project Milestones

Following is a listing of the Key Project Milestones:

Mile Stone	Description	Target Date	Revised Target date as per recommended IEOT
Mile Stone-I	Concessionaire shall expended not less than 20 % of the Total capital cost and shall have commenced construction of the project and achieved 20% of physical progress on 214th day from the Appointed Date.	18th March 2019	22th Sep 2019
Mile Stone-II	Concessionaire shall expended not less than 35% of the Total capital cost and shall have commenced construction of the project and achieved 35% of physical progress on 334th day from the Appointed Date.	16th July 2019	20th Jan 2020
Mile Stone-III	Concessionaire shall expended not less than 75 % of the Total capital cost and shall have commenced construction of the project and achieved 75% of physical progress on 584th day from the Appointed Date.	22nd March 2020	26th Sep 2020
Scheduled Completion	Concessionaire shall have completed Project on 730th day from the Appointed Date.	15th August 2020	19th Feb 2021

1.4. Payment milestone during Construction Period

Payment Mile Stone	Eligibility Criteria	Payment Amount (Rs.)
Mile Stone-I	On Achievement of 10% of Physical Progress	116.88 Crs.
Mile Stone-II	On Achievement of 30% of Physical Progress	116.88 Crs.
Mile Stone-III	On Achievement of 50% of Physical Progress	116.88 Crs.
Mile Stone-IV	On Achievement of 75% of Physical Progress	116.88 Crs.
Mile Stone-V	On Achievement of 90% of Physical Progress	116.88 Crs.

1.5. Permits & Approvals

Sr. No.	Details	Authority	Current Status	Remarks
1	Extraction of Boulders from Quarries	Dist. Mining Officer	Obtained	PIL (EPC Contractor) have executed an agreement with Mr. Thiru V. Sekar for supply of boulders that is having a valid license for extraction of boulders for the quarry at Padalur Village, Perambalur District.
2	Installation of Crusher	Village Panchayat Head	Obtained	
3	-----D O------	Pollution Control Board	Obtained	
4	Use of Explosives	District Collector	Obtained	
5	Labour License	Labour Commissioner	Obtained	
6	Environmental Clearance		NA	

Sr. No.	Details	Authority	Current Status	Remarks
7	Trees Cutting Permission	Forest department through NHAI	Obtained	Work in Progress
8	Electric Poles Shifting	Tamil Nadu Electricity Board	Obtained	Work in Progress
9	Water Pipes Shifting	Tamilnadu Water Supply and Drainage Board	Obtained	Work in Progress
10	Drawing Water from river/ reservoir		NA	

2. Right of Way Status

2.1. Land Acquisition

As per the Schedule – A of Concession Agreement, the Proposed Right of Way (ROW) is of 45 & 60 meters as per table below.

Table 2.1-1: Details of proposed ROW as per Schedule-A

	Design Chainage (Km)	Design Length (Km)	Width (m)	Remarks
Full Right of Way (full width)				
Stretch	65.960 to 75.150	9.190	60.00	Within 15 days of date of Agreement.
Stretch	75.150 to 82.380	7.230	45.00	
Stretch	82.380 to 83.080	0.700	60.00	
Stretch	83.080 to 84.050	0.970	45.00	
Stretch	84.050 to 86.440	2.390	60.00	
Stretch	86.440 to 87.660	1.220	52.50	
Stretch	87.660 to 91.730	4.070	45.00	
Stretch	91.730 to 93.730	2.000	52.50	
Stretch	93.730 to 95.900	2.170	45.00	
Stretch	95.900 to 99.700	3.800	60.00	
Stretch	99.700 to 104.500	4.800	30.00	
Stretch	104.500 to 109.700	5.200	60.00	
Stretch	109.700 to 110.980	1.280	30.00	
Stretch	110.980 to 113.700	2.720	60.00	
Stretch	113.700 to 116.440	2.740	30.00	
Total Length		**50.480**		

Balance Right of way (width)				
	Design Chainage (Km)	Design Length (Km)	Width (m)	Within 90(Ninety) days of the Appointed date
Stretch	099.700 to 104.500	4.800	15.00	
Stretch	109.700 to 110.980	1.280	15.00	
Stretch	113.700 to 116.400	2.740	15.00	

Besides this, the Authority has to acquire additional land at Toll plaza location, Bus bays, Turning radius at Major junctions.

Table 2.1-2: Status of Land Acquisition as per Site Condition.

Sl. No.	Description	Unit	Present Status	Remarks
A)	**Total Length of the Project Highway**	**Km**	**50.48**	
1	Use of Existing Road Portion	Km	34.23	
2	Proposed Bypass / Realignment portion	Km	16.25	
B)	**Hindered Length**			
1.	Hindrance towards existing building, payment pending NOC from PWD/WRO, teak trees etc.,	Km	8.270	
2.	Hindrance due to Electrical Lines	Km	1.050	
3.	Hindrance due to Rural Water Supply	Km	19.500	
4.	Net Hindered Length (both Side)	Km	29.4	
C)	Total Project Length (both Side)	Km	100.96	
D)	**% Hindered Length**	**%**	**29.12%**	

The details of land acquisition status and available hindrances are produced on a strip chart under section 04.

The status of compensation disbursed is as below: -

Table 2.1-3:Compensation disbursement for land

SL. No.	Name of the District	Total No. of Land cases	Amount paid (in Nos.)	Balance to be Paid (in Nos.)	Remarks
1	Cuddalore	710	591	119	
2	Ariyalur	355	302	53	
3	Thanjavur	102	94	8	
	Total in Nos.	1167	987	180	
		Total in %	84.58%	15.42%	

Table 2.1-4 - Compensation disbursement for Structures

Sl. No.	Name of the District	Total No. of structures	Amount paid (in Nos.)	Balance to be Paid (in Nos.)	Remarks
1	Cuddalore	383	325	58	
2	Ariyalur	359	331	28	
3	Thanjavur	153	98	55	
	Total in Nos.	895	754	141	
		Total in %	84.25%	15.75%	

 Details of Stretches Under Hindrance towards existing building, payment pending NOC from PWD/WRO, teak trees etc.:

S. No	Chainage		Length (km)	Net Affected Length (Km)	Side	Remarks
	From	To				
1	66.100	66.260	0.16	0.16	BHS	Obstruction of Veeranam Pipe Line
2	68.550	68.620	0.07	0.07	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
3	68.620	68.740	0.12	0.12	BHS	For Delay in NOC from PWD/WRO
4	72.450	72.600	0.15	0.15	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
5	72.600	72.700	0.10	0.10	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
6	72.800	73.100	0.30	0.30	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
7	73.900	74.100	0.20	0.20	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners

8	76.300	76.500	0.20	0.20	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
9	77.200	77.600	0.40	0.40	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
10	78.420	80.100	1.68	0.84	RHS	Permission pending for removal of Teak wood trees from Forest Department.
11	80.100	81.150	1.05	1.05	BHS	RE Wall Location: Fully buildup area, payment made to all owners and not accepting to vacate. Need police force and requested DRO in this regards.
12	83.400	84.280	0.88	0.88	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
13	85.800	86.200	0.40	0.40	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
14	86.400	86.800	0.40	0.40	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
15	86.900	87.000	0.10	0.10	BHS	RE Wall Location: - Diversion Issues RHS - 01 unauthorised building, 01 trees to be removed. LHS - 01 building unpaid and Electric lines to be removed.
16	87.500	88.200	0.70	0.70	BHS	RE Wall Location: - Diversion ProblemsRHS - 01 unauthorised building, 01 Temple,.LHS - Electric Lines to be removed.
17	95.050	95.850	0.80	0.80	BHS	RE Wall Location: RHS - Police station arch, House compound wall, 01 building, 01 Temple, LHS - School compound wall, 02 building under revaluation, 01 trees and 14 nos of commercial building(shops) & EB poles to be removed.
18	98.500	99.400	0.90	0.90	BHS	RE Wall Location: RHS - 01 transformer, 01 Temple, 02 unpaid building, 07 shops to be removed. EB lines to be removed. LHS - 02 building compound wall, school compound wall, 02 shops to be removed.
19	113.600	113.850	0.25	0.25	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners
20	114.400	114.650	0.25	0.25	BHS	Land handed over on Appointed date but hindered due to disputes in compensation disbursement protests by Landowners.
	Total Hindrances (in Km)			8.27		

Table 2.1.6 - Hindrance Photographs								
Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
	240	Veeranam Pipe Line	65+960	66+200	Veeranam Pipe Line	240		
			68+600		Sluice Gate (2 Nos)	40		
	150	HT Line Crossing	70+030	70+200				
			70+700		Building			
	550	Agricuture Land & Trees	71+000	71+550				
		Teek Farm, Pump Set & 5 Poles	71+250					
		Bore Well	71+300					
		Borewell	71+550		Borewell			
		Pump Set	72+200					Damaged
	100	Veera mudaiyaan natham Village	72+450	72+550	Veera mudaiyaan natham Village	100		
	10	Hand Pump	72+550		Hand Pump	10		
	50	Pump Set & Trees	72+700					
			72+850		Pump Set, Bore Well & Trees			
			72+900		Bore & Pump Set			

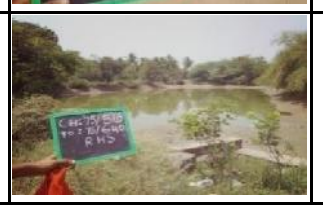
Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Bore & Pump Set	72+950					
			73+400		HT Line Tower	20		
			73+450		Bore Well, Pump Set & Tree EB Pole	50		
			74+500		Bore Well			
		Telephone Poles	74+710	74+850	Telephone Poles			2 - Telephone Pole
		Temple, Hand Pump,	74+710					
		Hut	75+210					
		Huts	75+270	75+350	Huts			
		Flag Poles	75+390					
			75+520		Huts			
			75+560		Huts			
			75+565	75+640	Pond			
		Building	75+640					
			75+650		Temple			

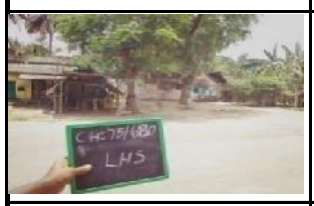
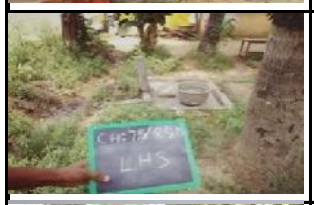
Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			75+660		Water Tap			
		Building	75+680					
			75+700		OFC			
		Bore Well & Water Tank	75+700					
		Kothanda vilagam Village	75+700	76+200	Kothanda vilagam Village			
		Hand Pump	75+710					
		Water Tap	75+810					
		Street Light	75+840					
		Flag Pole	75+840		Existing Culvert			
		Water Tap	75+880					
		Bore Well & Water Tank	76+025					
		Pump Set	76+260					
			76+600		Temple			
			76+695		OFC & Compound Wall			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			76+800	77+300	Telephone Pole			3 nos
			76+850		OFC			
			76+940		Bore & Water Tank			
		Buildings	76+980		Buildings			
			77+060		Bore & Water Tank			
			77+080	77+190	School Compound Wall			
		Building	77+100	77+300				
			77+220		Building			
			77+240		OFC			
			77+280		Compound Wall			
	300	Buildings	77+300	77+600	Buildings	300		
		Flag Pole	77+390	77+420				4 Nos
		Hand Pump	77+505					
		Telephone Pole	77+390	77+510				3 Nos

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Hand Pump	77+590					
			77+700		OFC			
		Building	77+730					
			77+760		Water Tank & Motor Room			
		Water Tap	77+975					
			78+120		OFC			
			78+390		EB Pole, Bore Well			
			78+725		Transformer			
			79+080		OFC			
		Hand Pump	79+105					
		Existing Culvert	79+110					
			79+220		Flag Pole			
		Water Tank & Motor Room	79+240					
			79+260		OFC			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			79+565		OFC			
		Hut	79+955					
	400	EB Pole, Water Tap, Trees, Telephone Pole	80+000	80+500	EB Pole, Water Tap, Trees, Telephone Pole	400		
		Water Tank, Motor Room, Hand Pump & Existing Culvert	80+120					
			80+125		Temple			
			80+170		Existing Culvert			
			80+190		OFC			
			80+300	80+390	Pond			
		Transformer	80+340					
		Flag Poles	80+530	80+570	Flag Poles			6nos
			80+710		Existing Culvert			
		Bore Well	80+740					
			80+900		OFC			
			81+325	81+360	Existing Culvert & Compound Wall			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Pond	81+360	81+460				
		OFC & Temple	81+445					
			81+585		OFC			
		Transformer	81+715					
			82+875		Existing Culvert			
			82+890		OFC			
		Existing Culvert	82+975					
	450	Water Tap	83+000	83+500	Water Tap	450		Tap - 6
			83+060		OFC			
		Existing Culvert	83+205					
		OFC	83+265					
			83+310		OFC			
		Flag Post	83+385					
			83+425		Transformer			25

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
	450	EB Pole, Water Tap, Trees, Telephone Pole	83+500	84+000	EB Pole, Water Tap, Trees, Telephone Pole	450		Pole - 13, Tap - 37, Tree - 239
			83+615		Temple			
			83+625		OFC			
		EB, Transformer	83+850					
			83+890		Flag Poles			4 nos
			83+935		Water Tank			
			83+995		Hand Pump			
		Temple & Well	84+070					
			84+110		OFC & Flag Pole			
			84+280		Transformer			
		Transformer	84+480					
			84+560		Flag & Ex Culvert			Pole 2 Nos
			84+650		OFC			
			84+920		OFC			

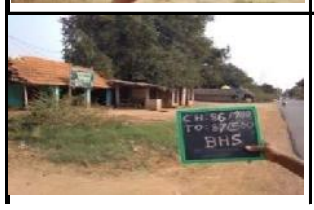
Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Building	84+930	84+980				
		Hut	85+045					
			85+060		EB, Transformer			
			85+090		OFC			
		Transformer	85+865					
		Building	85+910					
		Hut	85+930					
			85+955		Temple			
			86+280		Temple			
			86+350		Bore Well			
		Temple	86+390					
			86+585		Motor Room			
		Buildings	86+000	86+700	Buildings			
	700	Building & Huts	86+700	87+500	Building & Huts	700		

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			86+720		Flag Pole			
			86+830		OFC, Transformer			
		Transformer	86+915					
			86+985		OFC			
		Existing Culvert	87+080					
			87+155		OFC			
		Transformer	87+330					
			87+360		OFC			
	400	EB Pole, Tree, Tap, Telephone Pole	87+500	88+000	EB Pole, Tree, Tap, Telephone Pole	400		EB - 24, Tree - 163, Tap - 13, T Pole - 5
		Buildings & Huts	87+500	88+000	Buildings & Huts			
		Temple	87+500					
			87+640		OFC			
			87+670		Water Tank, Motor Room			
			87+690		Temple			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			87+735		Flag Pole			
			87+835		Water Tank			
			87+990		OFC			
			88+225		Transformer			
		House	88+500	89+000	House			
			88+910		Temple			
		Existing Culvert	88+965					
	450	water Tap, Telephone Pole	89+000	89+500	water Tap, Telephone Pole	450		Tap - 15, T Pole - 5, Tree - 195
		Flag Post Pedestal	89+110					
			89+355		Temple			
		Water Tank	89+515					
	400	EB Pole, Water Tap, House	90+000	90+500	EB Pole, Water Tap, House	400		EB - 34, Tap - 4
			90+180		Transformer			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			90+195		OFC			
			90+230		Transformer			
			90+325		Temple			
			90+375		Existing Culvert			
	400	EB Pole, Telephone Pole, Water Tap	90+500	91+000	EB Pole, Telephone Pole, Water Tap	400		EB - 14, Tap - 5, T. Pole 7
			90+560		OFC			
			90+610		Water Tank			
			90+830	90+860	Pond			
			91+080		OFC			
			91+480		OFC			
	450	EB Pole, Water Tap, Telephone Pole, Trees	91+500	92+000	EB Pole, Water Tap, Telephone Pole, Trees	450		
			91+600		OFC			
			91+730		OFC			
			91+780		Temple			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Pond	91+780	91+860				
	700	EB Pole, Water Tap, Telephone Pole	92+000	93+000	EB Pole, Water Tap, Telephone Pole	700		EB - 16, Tap - 10, T, T Pole - 7
		Temple	92+135					
			92+300	92+380	Water Pipe Crossing			
			92+390		OFC			
		Temple	92+455					
			92+570		Temple			
			92+600		OFC			2 Nos
			92+770		OFC			2 Nos
		OFC	92+995					
	750	EB Pole, Water Tap, Tree	93+000	94+000	EB Pole, Water Tap, Tree	750		EB - 44, Tape - 14, Tree - 270
			93+045		OFC			
			93+115		Transformer			
			93+200		OFC			

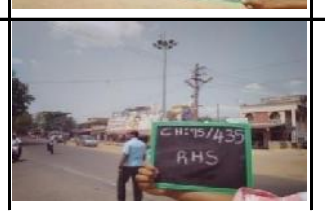
Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			93+360		OFC			
			93+660		OFC			
			93+930		Hand Pump			
			93+975		OFC			
		TEMPLE	94+440					
			94+530		OFC			
			94+780		OFC, Transformer			
		Pond, Pipe Line	94+830	94+900				
	450	EB Pole, Tape, Telephone Pole	95+000	95+500	EB Pole, Tape, Telephone Pole	450		EB - 16, T Pole - , Tap 5
			95+130	95+230	Compound Wall			
			95+210		Telephone Panel, Water Tank With Well			
			95+255		Police Station ArcH			
			95+290		OFC			
			95+435		Street Light			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
	400	EB Pole, Tape, Telephone Pole	95+500	96+000	EB Pole, Tape, Telephone Pole	400		EB - 25, T Pole - 7, Tap - 6,
			95+570		Temple			
		Pond	95+950					
	400	EB Pole, Tape, Telephone Pole	96+000	96+500	EB Pole, Tape, Telephone Pole	400		EB - 39, T Pole - 5,Tap - 6,
			96+120		OFC			
			96+150		Transformer			
			96+480		Transformer			
	450	EB Pole, Tape, Telephone Pole	96+500	97+000	EB Pole, Tape, Telephone Pole	450		EB - 16, T Pole - 3,
			97+195		OFC			
			97+395		OFC			
			97+390	97+500	Pond			
	300	EB Pole, Tape, Telephone Pole	97+500	98+000	EB Pole, Tape, Telephone Pole	300		EB - 16,Tap - 5,
		Temple	97+520					
			97+600		OFC			

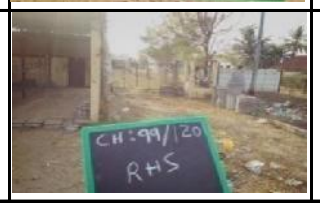
Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			97+680		Motor Room With Bore			
	350	EB Pole, Tape, Telephone Pole	98+500	99+000	EB Pole, Tape, Telephone Pole	350		EB - 19, T Pole - 3
			98+620		Transformer			
		OFC	98+635		Temple			
		Water Tank with Bore	98+735					
		OFC	98+825					
	750	EB Pole, Tree, Tape, Telephone Pole	99+000	100+000	EB Pole, Tree, Tape, Telephone Pole	750		EB - 47, T Pole - 4, Tap - 5, Tree 118
			99+120		Temple			
		Motor Room With Bore	99+150					
			99+160		Transformer			
			99+195		Temple With Water Tank			
		OFC	99+300					
		OFC	99+490					
	650	EB Pole, Tree, Tape, Telephone Pole	100+000	101+000	EB Pole, Tree, Tape, Telephone Pole	650		EB - 32, Tap - 12, Tree 210, T Pole - 3

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Transformer	100+150					
			100+195		Bore Well			
			100+200		OFC			
		OFC	100+320					
		Pond	100+350					
		Motor Room With Tank	100+390					
			100+475		Water Tank			
		OFC	100+600					
		OFC	100+670					
		OFC	100+720					
		OFC	100+740					
		Pond	100+740	100+820				
	650	EB Pole, Tree, Tape, Telephone Pole	101+000	102+000	EB Pole, Tree, Tape, Telephone Pole	650		EB - 42, T Pole - 5, Tap - 6 Tree 100
			101+005		OFC			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		OFC	101+125					
			101+120	101+300	Pond			
		OFC	101+330					
			101+480		Hand Pump			
			101+805		OFC			
		Transformer	101+835					
	750	EB Pole, Tree, Tape, Telephone Pole	102+000	103+000	EB Pole, Tree, Tape, Telephone Pole	750		EB - 30, T Pole - 2, Tap - 13, Tree 110
		OFC	102+100					
			102+240		Temple			
			102+365		Transformer			
		OFC	102+390					
		OFC	102+435					
		OFC	102+575					
		OFC	102+730					

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
		Schooh Arch	102+960					
	800	Tape, Telephone Pole	103+000	104+000	Tape, Telephone Pole	800		T Pole - 2, Tap - 13
		OFC	103+025					
		Pond	103+090	103+300				
		OFC	103+530					
			103+590		Temple			
		OFC & Flag Pole	103+720					
		Pond	103+775	103+815				
			103+860	103+910	Pond			
		Pond	103+935	104+250				
		Existing Irrigation Sluice	103+990					
	400	EB Pole, Tree	104+000	104+500	EB Pole, Tree	400		EB - 4 , Tree - 3
		House	104+500		House			
	350	EB Pole, Tree, Tape	104+500	105+200	EB Pole, Tree, Tape	350		Tree - 21, EB - 23, Tap - 3

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
	500	EB Pole, Tree, Tape	105+200	105+900	EB Pole, Tree, Tape	500		Tree - 42, EB - 4, Tap - 4
			105+850		Motor Room			
	750	EB Pole, Tree, Tape	105+900	106+900	EB Pole, Tree, Tape	750		Tree - 100, EB - 1, Tap - 7
			105+920		Well			
		Motor Room	106+900					
	1150	EB Pole, Tree, Tape	107+900	109+700	EB Pole, Tree, Tape	1150		Tree - 94, EB - 9, Tap - 6
	1350	Tape	109+700	111+200	Tape	1350		Tap - 18
		OFC	109+705					
		OFC	109+710					
			109+720		Motor Room			
			109+985		Water Pipe			
		OFC	110+330					
		Water Tank	110+450					
			110+725		OFC			

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			110+740		Motor Room with well			
	1750	EB Pole, Tree, Tape	111+200	113+500	EB Pole, Tree, Tape	1750		Tree - 460, EB -23,Tap - 12
		OFC	111+230		OFC			
			111+450		Motor Room With Bore			
		Gate Valve	111+500					
		Motor Room With Bore	111+600					
			111+680		Motor Room With Bore			
		Motor Room With Bore	112+300					
			112+310		House & Hand Pump			
			112+390		Motor Room With Bore			
			113+220		Motor Room With Bore			
			113+250		House			
			113+330		Motor Room With Bore			
	750	EB Pole, Telephone Pole, Tape	113+500	114+600	EB Pole, Telephone Pole, Tape	750		Tree - 280, EB -38, T Pole - 9. Tap - 6

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			113+670	113+720	Sub Station			
			113+700		HT Line Crossing			
			114+060		Flag Pole			
			114+090		Flag Pole, Water Tank			
		HT Line	114+130					
		Transformer	114+460					
		Water Tank	114+450					
		Water Tank	114+495					
		OFC	114+520		Temple			
		Pond	114+540	114+580				
	650	EB Pole, Telephone Pole, Tree, Tape	114+600	115+600	EB Pole, Telephone Pole, Tree, Tape	650		Tree - 80, EB -18, Tap - 2
		Hand Pump	114+610					
		Transformer	114+950					
		Transformer	115+210					

Photo	Obstruction Length (m)	LHS -Type of Hindrance	Chainage		RHS -Type of Hindrance	Obstruction Length (m)	Photo	Remarks
			From	To				
			115+230		Flag Pole			5 Nos
	700	Telephone Pole, Tape	115+600	116+440	Telephone Pole, Tape	700		EB -26, T Pole - 2 Tap - 16
			115+650		Motor Room			
		OFC	115+820					
		Transformer	115+970					
		OFC	116+095					
		OFC	116+170					
		Hand Pump	116+200					
		Water Tank & Motor Room	116+210					
		OFC	116+275					
		OFC	116+410					
			116+560		Flag Pole			
		House	115+600	116+440	House			

2.2. Removal of Religious Structures

The following structures coming within the ROW are to be demolished

Table 2.2-1: Status of Removal of Religious structures

Sl No.	Name of the District	Total No. Of structures	Removed as on Date (in Nos.)	Balance (in Nos.)
1	Cuddalore	10	3	7
2	Ariyalur	10	1	9
3	Thanjavur	2	1	1
	Total in Nos.	**22**	**5**	**17**

2.3. Shifting of Utilities and Electrical HT/LT Lines

To proceed with the project construction, several utilities are required to be shifted under the supervision of the respective authorities. These include a water supply line, hand pumps, overhead water tanks, besides Electrical lines, as shown in the table below.

Table 2.3-1: Status of sanction of Estimates - Relocation of RWS Pipe line

Sr. No.	Name of the District	Chainages			Total Number of Estimates	Remarks
		From	To	Length in Km		
1	Cuddalore	65+960	86+440	20.48	25	Work in Progress
2	Ariyalur	86+440	106+860	20.42	46	
3	Thanjavur	106+860	116+440	9.58	4	

Table 2.3-2: Status of sanction of Estimates - Electrical Lines Relocation

Sr. No	Name of the District	Chainages			Number of Estimates	Present Status	Remarks
		From	To	Length in Km			
1	Cuddalore	65+960	86+440	20.48	10	Estimate Approved	Supervision charges are paid and work in progress
2	Ariyalur	86+440	106+860	20.42	5	Estimate Approved	
3	Thanjavur	106+860	116+440	9.58	5	Estimate Approved	
4	Cuddalore& Thanjavur	Km:70+020, Km:73+470 and Km:113+720			3	Estimate Approved	Supervision Charges paid

Estimates for shifting of the above Electric lines have been prepared. The estimated cost is Rs. 17.45 Crores.

Estimates have been done for the shifting of the water supply pipeline & related items mentioned above. The final amount of Rs.15.87 Crores sanctioned by RO, NHAI, Madurai.

Table 2.3-3: Status of Utility Relocation

Sl. No.	Authority	Description	Unit	Total Length/ Nos.	Work done	Balance	Remarks
1	BDO & EE,TWAD	Water Supply Pipe Line	Kms.	72.695	24.650	48.045	Work in progress
2	BDO of Concern Union	Hand Pump/Pump Room with Bore well	Nos.	24	14	10	
3	BDO of Concern Union	Over Head Tank	Nos.	15	11 Nos Completed	4	
4	TNEB	Electrical Lines	Kms.	6.83	5.78	1.05	

2.4. Tree felling

Table 2.4-1: Status of Tree felling

Sl.No.	Name of the District	Chainages			Effected Length in Kms.	Completed as on Date	Balance as on Date	Balance no. of Trees	Remarks
		From	To	Length in Km					
1	Cuddalore	65+960	86+440	20.48	6.535	6.535	0	0	In addition of 123 nos of teak wood trees to be removed and Permission of the same is awaited from DFO, Cuddalore.
2	Ariyalur	86+440	106+860	20.42	8.385	8.385	0	0	
3	Thanjavur	106+860	116+440	9.58	2.515	2.515	0	0	
Total				50.48	17.435	17.435	0	0	

3. Progress Briefing – Contractor Activities

3.1. Pre-construction Activities

Detailed Design & Drawings

The Plan and Profile, as well as the Pavement Designs for the entire 50.48 km project length has been completed and reviewed by the Independent Engineer (IE). Construction Methodology, QA & QC procedures submitted to the IE has been reviewed and accepted.

Table 3.1-1: Status of Design and Drawings-Highway

Sl No.	Description	Unit	Total Scope as per Sch.-B As per Sch. B	Design submitted	Drawing Approved
1	Pavement Design	Km	50.48	50.48	50.48
2	Plan & Profile	Km	50.48	50.48	50.48
3	Typical Cross Sections	Type	7	7	7
4	Major Intersections	No	07	-	-
5	Minor Intersections	No	100	-	-
6	Toll Plaza (Typical Details)	No	01	-	-
7	Service Roads	No	26.595	26.595	26.595

Table 3.1-2 : Status of Design and Drawings –Structures

Sr. No	Description	Unit	Total Scope As per Sch. B	Design Submitted	Drawing Approved
1	Major Bridges	No	04	04	03
2	Minor Bridges	No	25	25	25
3	Grade Separated Intersection	No	08	08	08
4	VUP/LVUP	No	15	15	12
5	Box /Slab Culvert	No	60	60	60

4. Physical Progress of Work

4.1. Physical Progress of Work:

The Progress of the Major Works carried out at the Site in the Month of March 2020 is as follows.

CUMMULATIVE STATEMENT

For Main Carriageway

Sr. No.	Description	Total Length of Highway Excluding Toll Plaza (in. Km.)	Progress up to Previous Month (in Km)	Progress during this Month (In Km.)	Cumulative Progress Achieved up to this Month (In Km)	In Progress (In Km.)	Balance Length to be Completed	Cumulative % of Progress Achieved
1	Clearing and Grubbing							
	LHS	47.28	36.12	2.00	38.12	0	9.16	80.63%
	RHS	47.28	34.03	2.00	36.03	0	11.25	76.21%
2	Embankment							
	LHS	47.28	16.50	4.00	20.50	5.15	26.78	43.36%
	RHS	47.28	10.08	3.80	13.88	7.42	33.40	29.36%
3	Sub grade							
	LHS	47.28	14.07	4.40	18.47	1.35	28.81	39.07%
	RHS	47.28	7.83	3.50	11.33	1.50	35.95	23.96%
4	GSB/ Cement Treated Base							
	LHS	47.28	10.50	1.94	12.44	2.35	34.84	26.31%
	RHS	47.28	4.66	2.15	6.81	1.45	40.47	14.40%
5	Wet Mix Macadam							
	LHS	47.28	9.72	1.50	11.22	0	36.06	23.73%
	RHS	47.28	4.07	1.67	5.74	0	41.54	12.14%
6	Dense Bitumen Macadam							
	LHS	47.28	8.38	0.50	8.88	0	38.40	18.78%
	RHS	47.28	3.96	1.00	4.96	0	42.32	10.49%
7	Bituminous Concrete							
	LHS	47.28	0	0	0	0	47.28	0.00%
	RHS	47.28	0	0	0	0	47.28	0.00%

For Service Road

Sr. No.	Description	Total Length of Service Road (Km.)	Progress up to Previous Month (in Km)	Progress during this Month (In Km.)	Cumulative Progress Achieved up to this Month (In Km)	In Progress (In Km.)	Balance Length to be Completed	Cumulative % of Progress Achieved
1	Embankment	53.19	5.008	0.272	5.28	2.23	47.91	9.93%
2	Sub grade	53.19	3.50	0.40	3.90	0.60	49.29	7.33%
3	GSB/ Cement Treated Base	53.19	0.50	0.30	0.80	0.20	52.39	1.50%
4	Wet Mix Macadam	53.19	0.00	0	0.00	0.00	53.19	0.00%
5	Dense Bitumen Macadam	53.19	0.00	0	0.00	0.00	53.19	0.00%
6	Bituminous Concrete	53.19	0.00	0	0.00	0.00	53.19	0.00%

Structure Work

Sr. No.	Type of Structure	Total No. of Structures	Nos. of Structures		
			Completed	In Progress	Balance to be taken up
1	Culvert	60	18	26	16
2	Light Vehicular Underpass	2	0.5	0.5	1
3	Vehicular Underpass	13	0	12	1
4	Minor Bridges	25	8	12	5
5	Major Bridge	4	0	4	0
6	Flyover	8	0	7	1

The Physical Progress of the Project up to March 2020 as per Approved Schedule G is as follows:-

Component	Item Description	Unit	Planned in Scope (As per Scope of Work)	Cost Weightage in Component (%)	Progress till Date	% Physical Progress
1	2	3	4	5	6	7
Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures (but excluding service roads)	A- Widening and strengthening of existing road					
	(1) Earthwork up to top of the sub-grade	Km	66.96	9.517%	22.80	3.241%
	(2) Granular work (sub-base, base, shoulders)	Km				
	(a) GSB/ Cement Treated Base	Km	65.52	3.373%	19.25	0.991%
	(b) WMM/ Cement Treated Base	Km	65.52	4.046%	16.96	1.047%
	(3) Shoulders	Km	17.65	0.112%		
	(4) Bituminous work	Km				
	(a) DBM	Km	65.52	3.344%	13.84	0.706%
	(b) BC	Km	65.52	3.023%		
	(5) Rigid Pavement					
	(6) Widening and repair of culverts	Nos.	16	0.440%	4.00	0.110%
	(7) Widening and repair of minor bridges	Nos.	4	0.959%	2.50	0.599%
	B- New realignment/bypass					
	(1) Earthwork up to top of the sub-grade	Km	28.68	6.437%	7.00	1.571%
	(2) Granular work (sub-base, base, shoulders)					
	(a) GSB/ Cement Treated Base	Km	28.68	1.615%		
	(b) WMM/ Cement Treated Base	Km	28.68	1.436%		
	(3) Shoulders	Km	24.63	0.112%		
	(4) Bituminous work					
	(a) DBM	Km	28.68	1.279%		
	(b) BC	Km	28.68	1.158%		
	(5) Rigid Pavement					
	C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments, bypasses:					

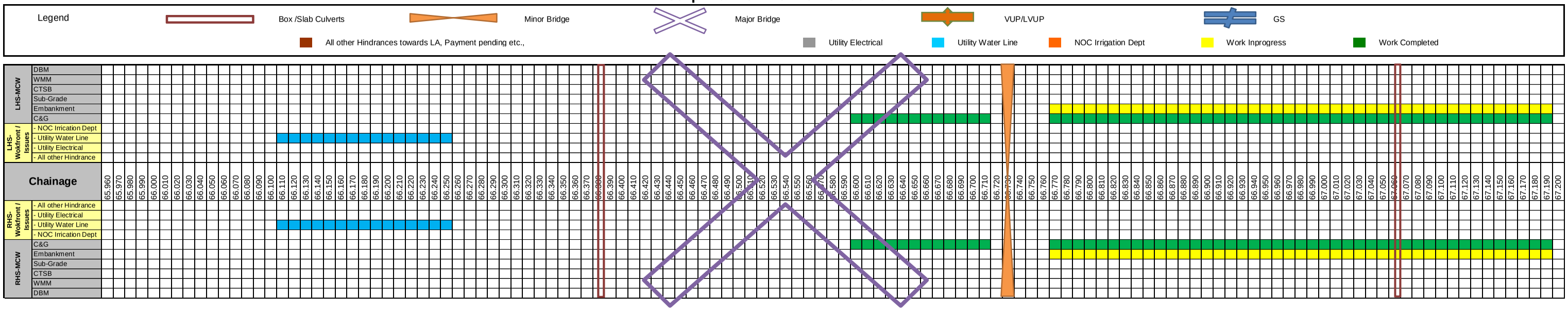
	(1) Culverts	Nos.	44	2.070%	13.60	0.640%
	(2) Minor bridges					
	(a) Foundation	Nos.	58	3.953%	31.00	2.113%
	(b) Substructure	Nos.	134	2.623%	73.00	1.429%
	(c) Superstructure (including crash barrier etc. complete)	Nos.	50	1.559%	20.00	0.624%
	(3) Cattle/Pedestrian underpasses					
	(a) Foundation	Nos.				
	(b) Substructure	Nos.				
	(c) Superstructure (including crash barrier etc. complete)	Nos.				
	(4) Pedestrian overpasses					
	(a) Foundation	Nos.				
	(b) Substructure	Nos.				
	(c) Superstructure (including crash barrier etc. complete)	Nos.				
	(5) Grade separated structures					
	(a) Underpass (13 VUP, 2 LVUP)					
	(i) Foundation	Nos.	56	2.574%	33.00	1.517%
	(ii) Substructure	Nos.	60	0.751%	23.00	0.288%
	(iii) Superstructure (including crash barrier etc. complete)	Nos.	30	1.289%	1.00	0.043%
	(b) Overpass					
	(i) Foundation					
	(ii) Substructure					
	(iii) Superstructure (including crash barrier etc. complete)					
	(c) Flyover					
	(i) Foundation	Nos.	36	2.426%	18.00	1.213%
	(ii) Substructure	Nos.	36	0.470%	17.00	0.222%
	(iii) Superstructure (including crash barrier etc. complete)	Nos.	20	1.244%		
	(d) Foot over Bridge					
Major Bridge works and ROB/RUB	A- Widening and repairs of Major Bridges					
	(1) Foundation					
	(a) Open Foundation					
	(b) Pile Foundation/ Well Foundation					
	(2) Sub-structure					
	(3) Super-structure (including crash barriers etc. complete)					
	C- New Major Bridges					
	(1) Foundation					
	(a) Open Foundation					
	(b) Pile Foundation/ Well Foundation	Nos.				
	(i) Piles	Nos.	556	7.018%	476.00	6.008%
	(ii) Pile Cap	Nos.	84	2.681%	36.00	1.149%
	(2) Sub-structure	Nos.	84	4.576%	25.00	1.362%

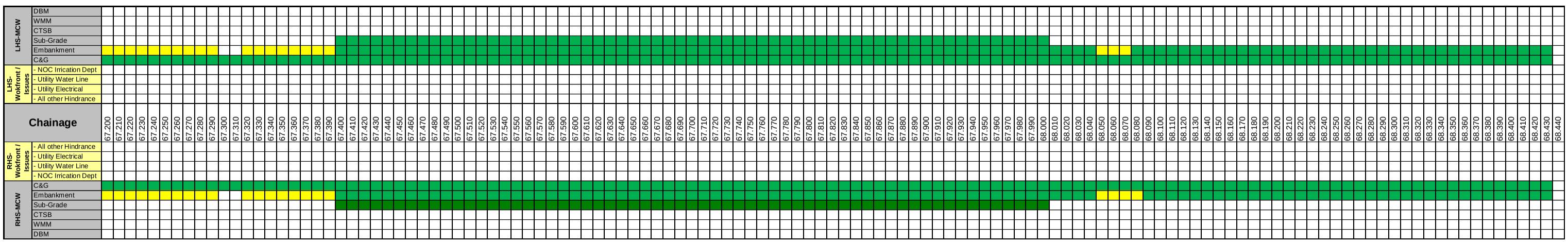
	(3) Super-structure (including crash barriers etc. complete)	Nos.	0	0.00%		
	(i) For MJB at Km. 107+400					
	(a) Casting of Superstructure (Box Segement)	Nos.	666	1.450%	270.00	0.588%
	(b) Erection of Superstructure (Box Segement)	Nos.	666	1.050%		
	(i) For other Major Bridges					
	(a) Super-structure (including crash barriers etc. complete)	Nos.	37	2.500%		
	D- New rail-road bridges					
	(a) ROB					
	(1) Foundation	Nos.				
	(2) Sub-structure	Nos.				
	(3) Super-structure (including crash barriers etc. complete)	Nos.				
	(b) RUB					
	(1) Foundation	Nos.				
	(2) Sub-structure	Nos.				
	(3) Super-structure (including crash barriers etc. complete)	Nos.				
Structures (elevated sections, reinforced earth)	A- Elevated Structures					
	(1) Foundation	Nos.				
	(2) Sub-structure	Nos.				
	(3) Super-structure (including crash barriers etc.	Nos.				
	B- Reinforced earth Wall (includes Approaches of ROB, Underpasses, Overpasses,Flyover etc)	Sqm	196027	7.604%	28020	1.087%
Other Works	(i) Service roads/ Slip Roads	Km	53.19	4.690%		
	(ii) Toll Plaza	Nos.	1	1.821%		
	(iii) Road side drains	Km	28.85	5.429%	3.92	0.738%
	(iv) Road signs, markings, km stones, safety devices,					
	(a) Road signs, markings, km stones, ...	Km	100.96	2.558%		
	(b) Concrete Crash Barrier/ W-Beam Crash Barrier in Road work	Km				
	(i) Concrete Crash Barrier	Km	26.5	1.179%		
	(ii) W-Beam Crash Barrier	Km	10.03	0.788%		
	(v) Project facilities					
	(a) Bus Bays	No.	18	0.009%		
	(b) Truck Lay-byes	No.				
	(c) Rest areas	No.				
	(vi)Repairs to bridges/structures	Nos.				
	(vii) Road side plantation	Km	23.66	0.451%		
	(viii) Protection works					
	(a) Boulder pitching on slopes	Km	10.03	0.218%		
	(b) Toe/Retaining wall	Km	10.03			
	(x) Miscellaneous	Ls.	100%	0.164%	0.055%	0.055%
	Total			100.00%		27.340%

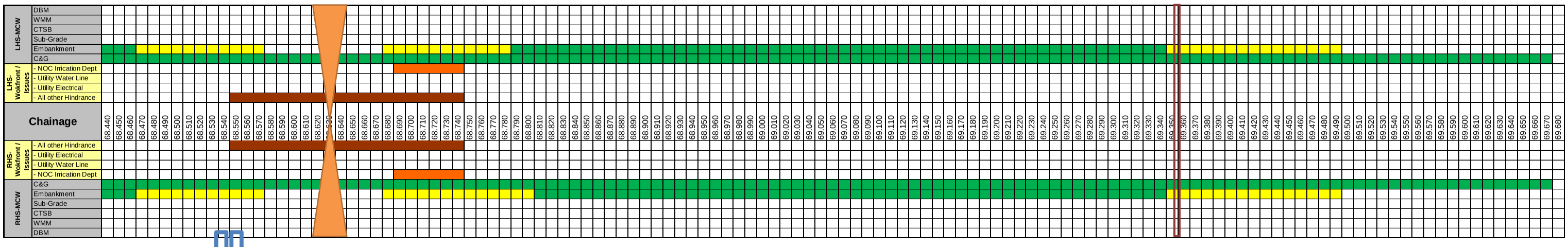
Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

Strip Plan for MCW on 31-03-2020







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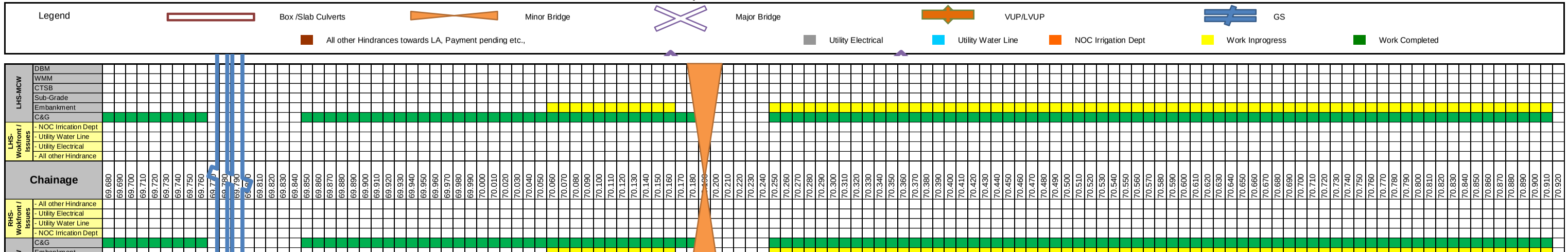

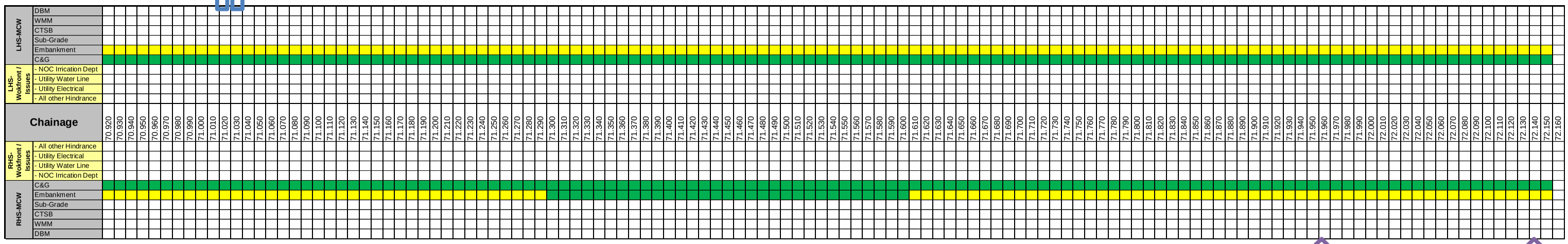

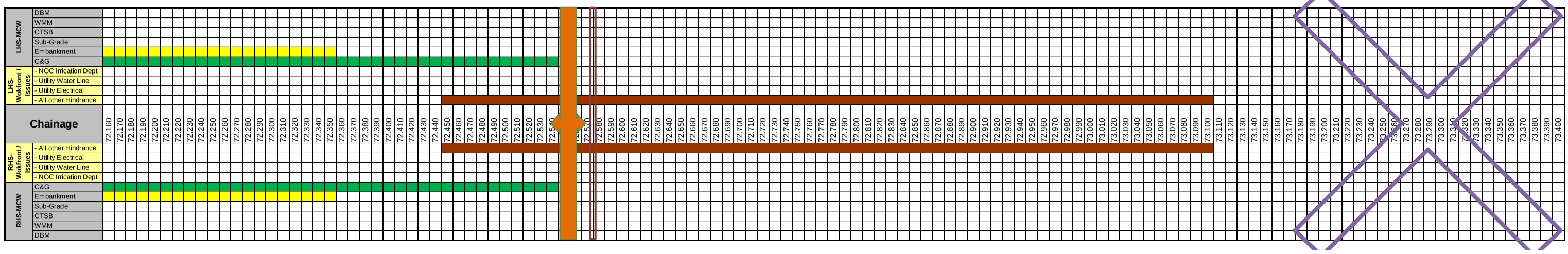

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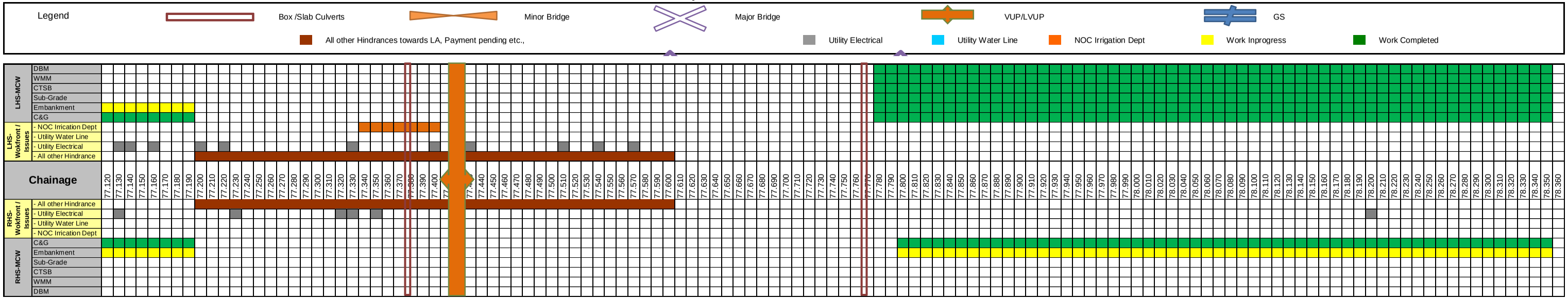

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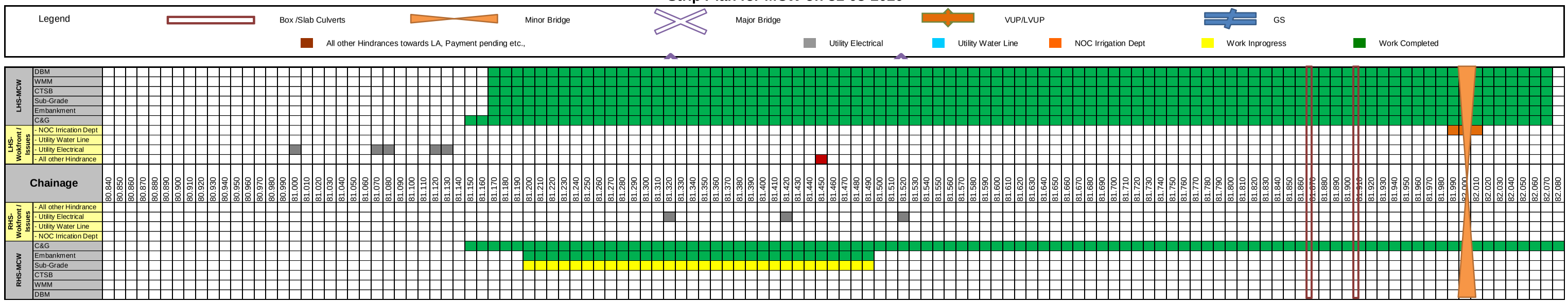

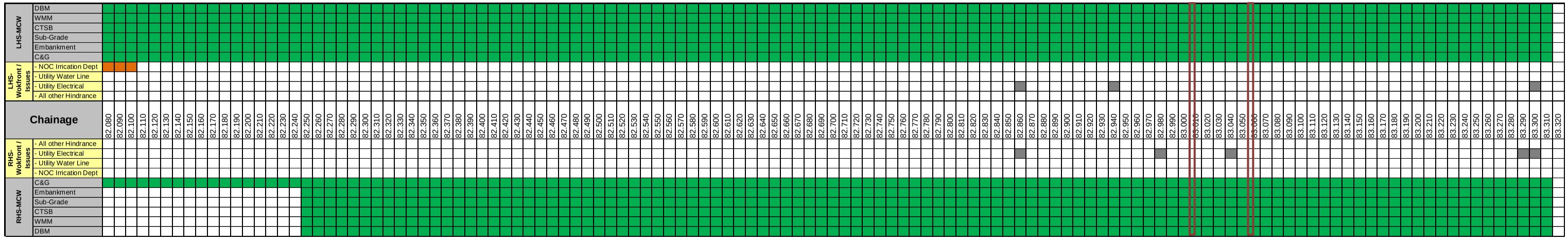

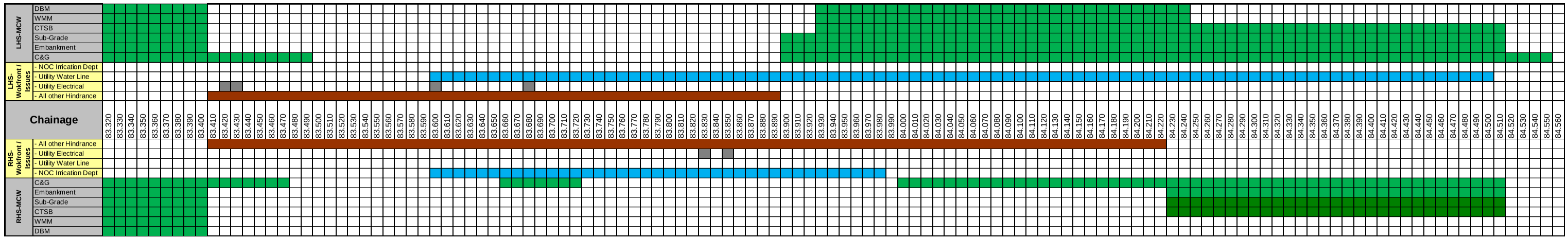

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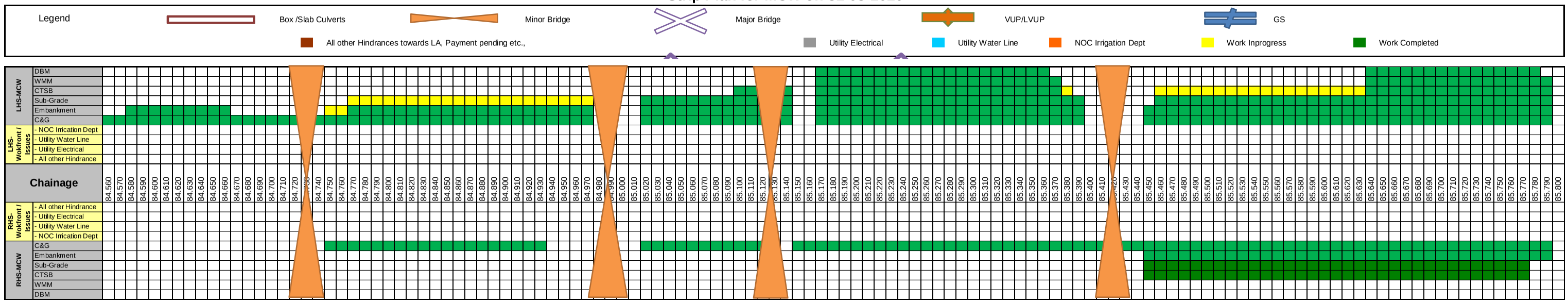

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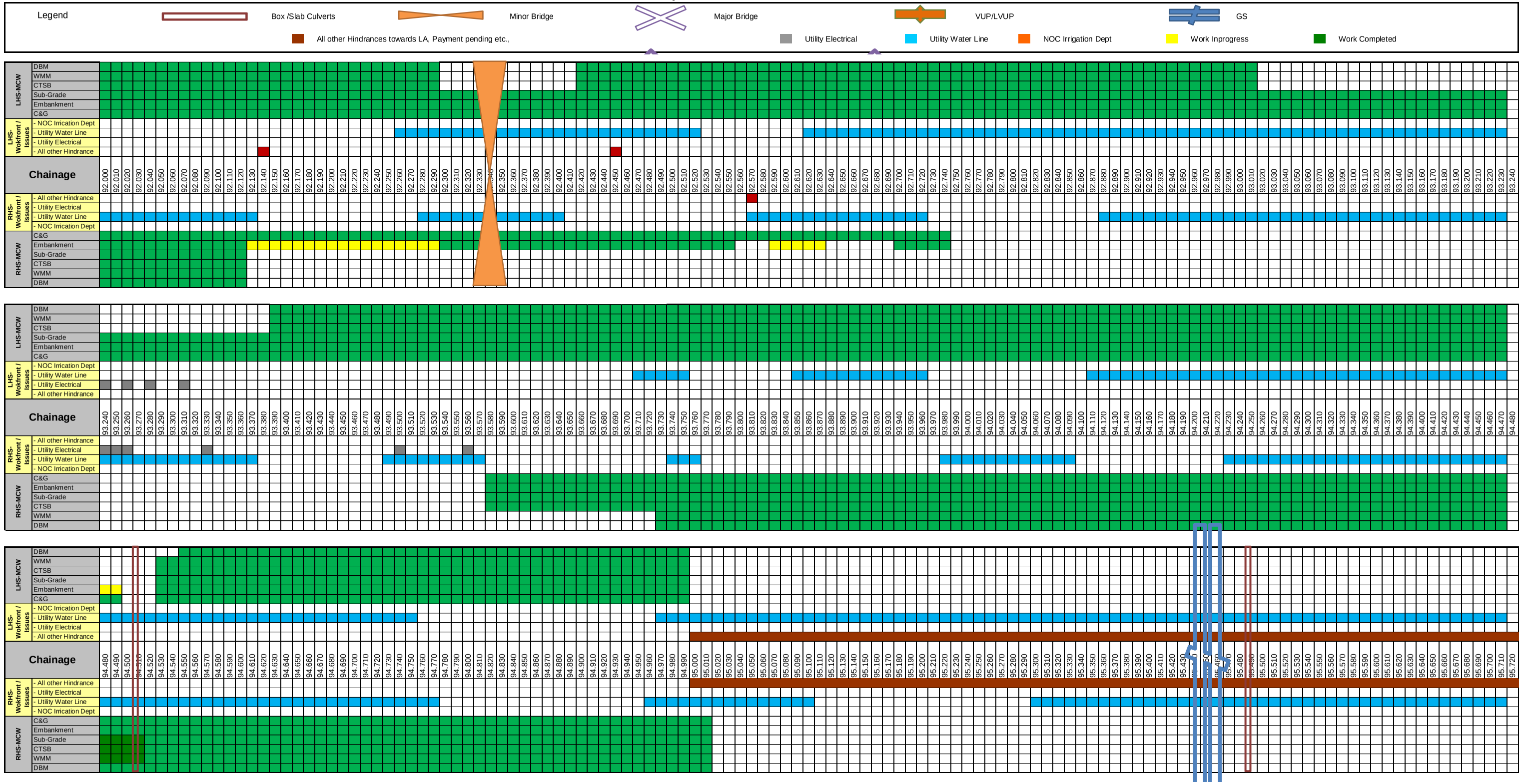

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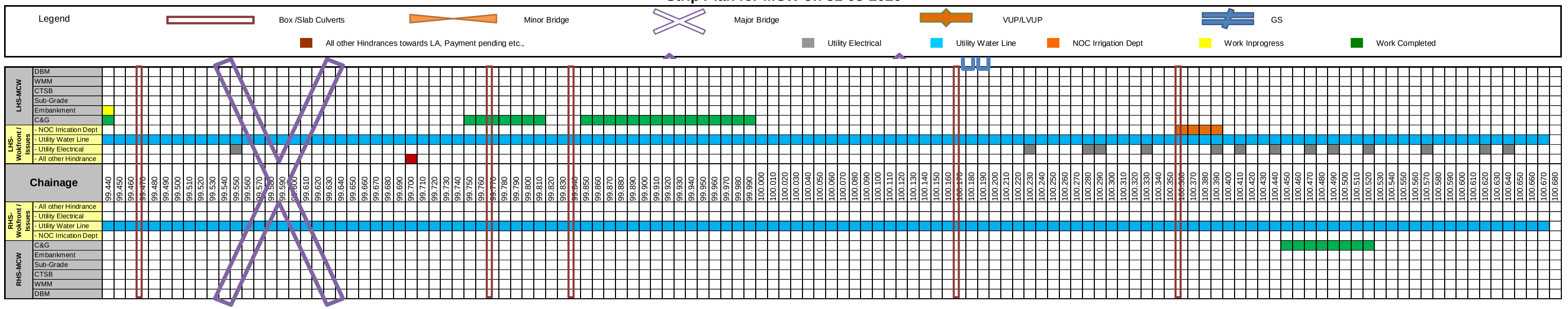

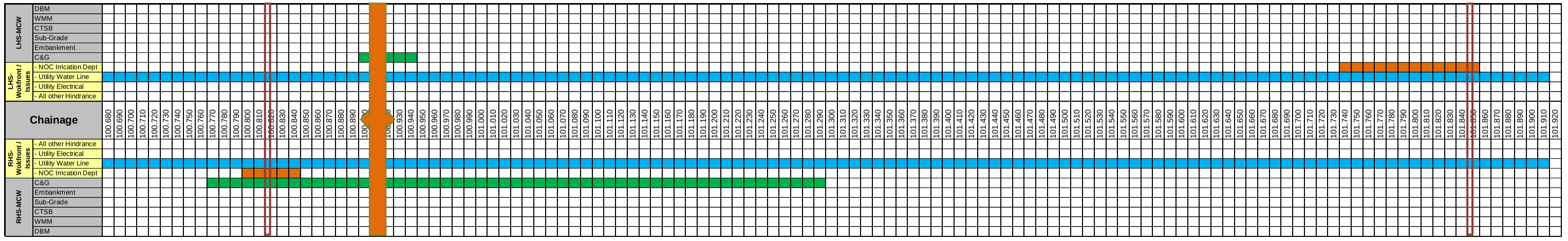

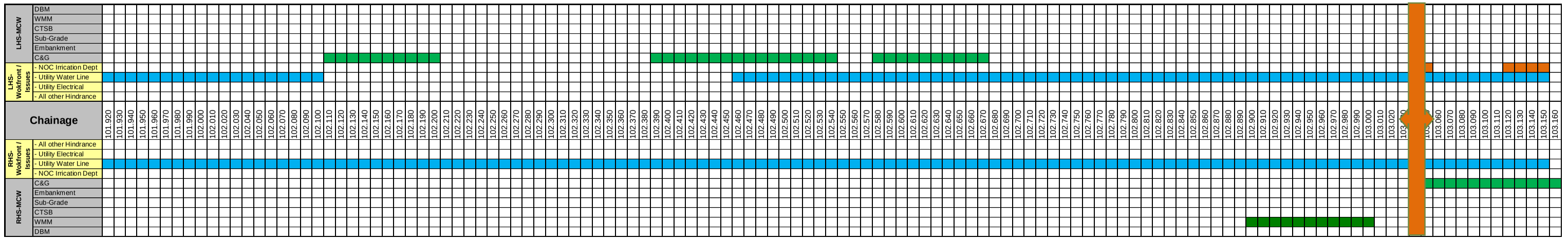

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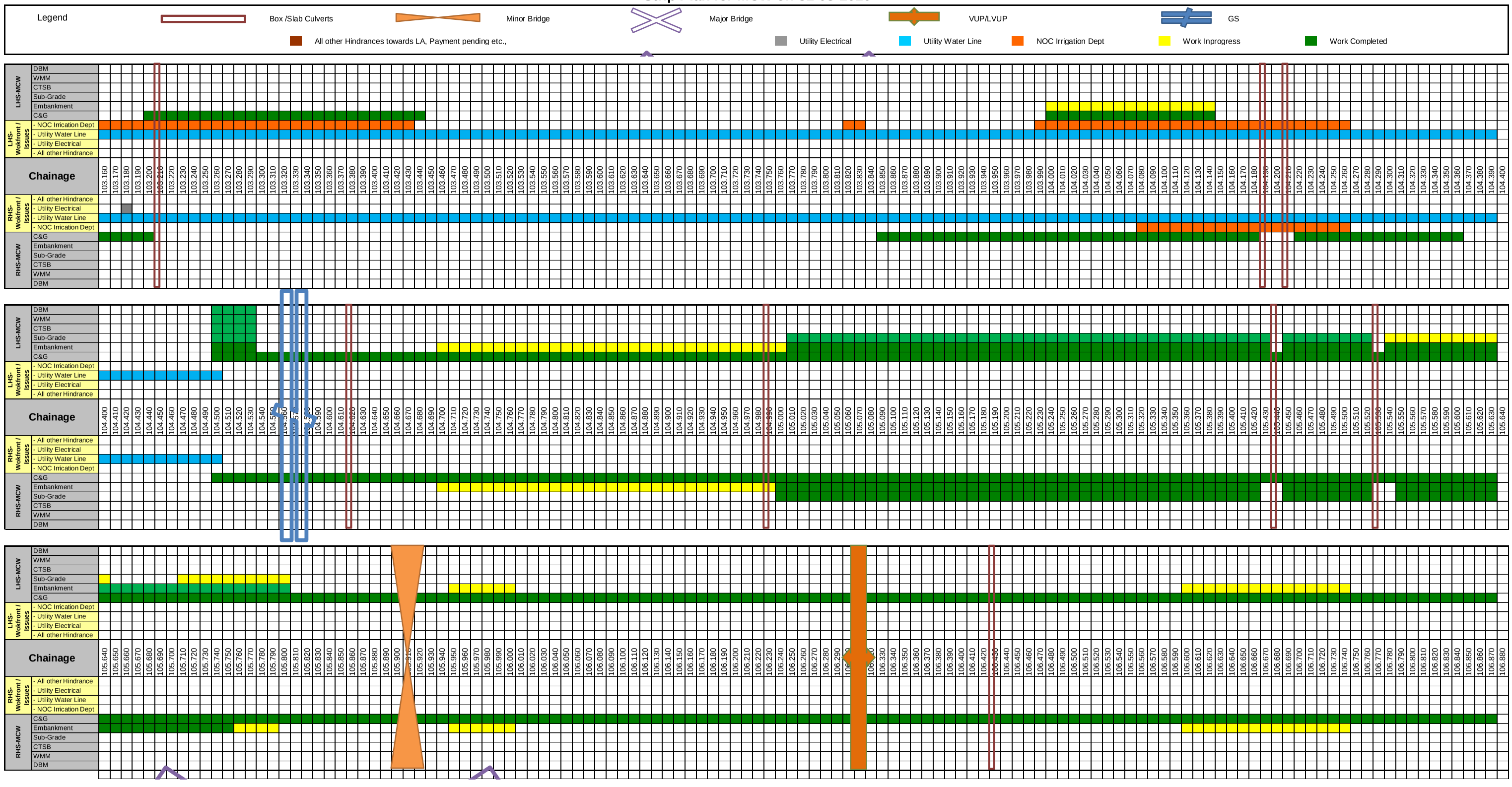

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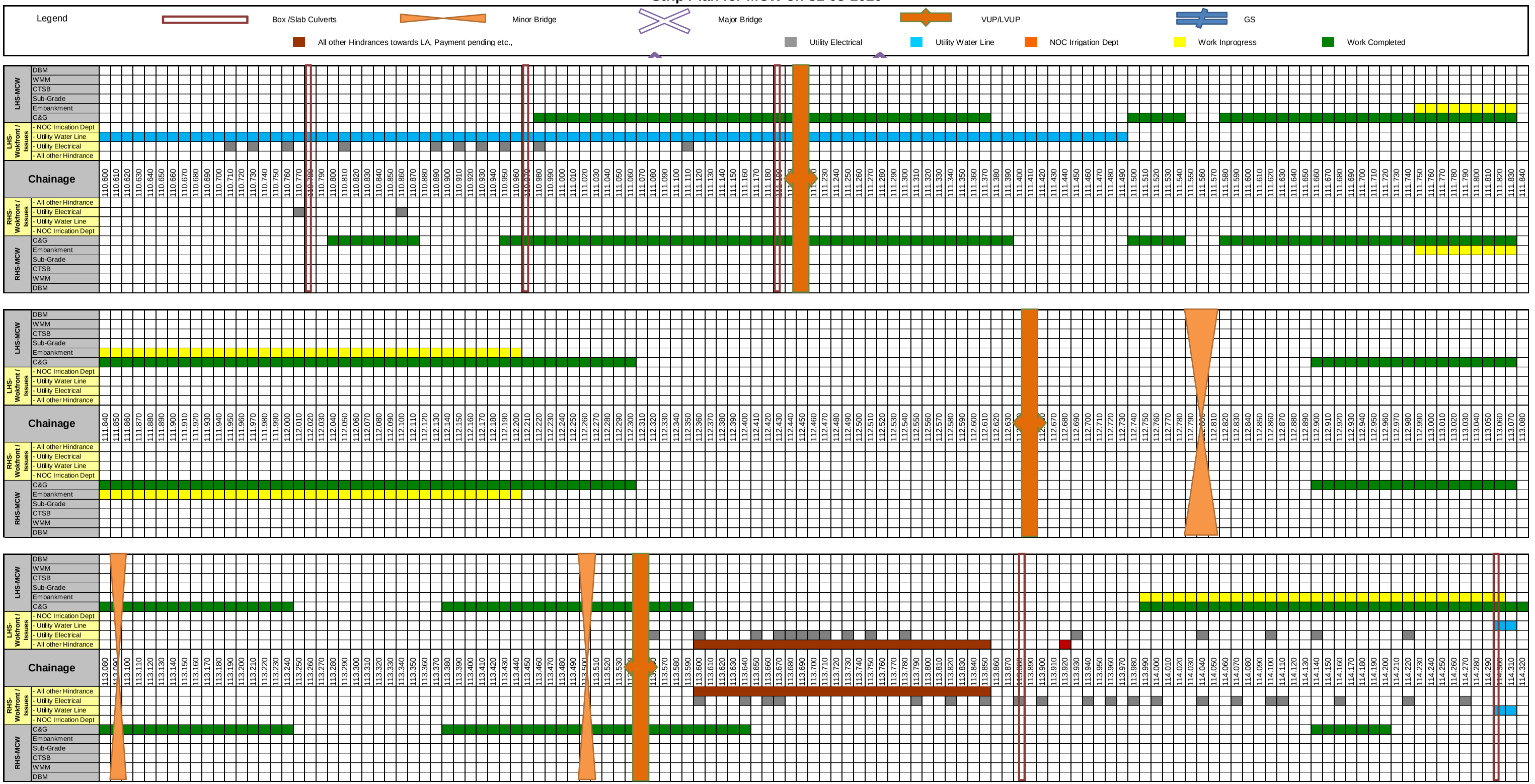

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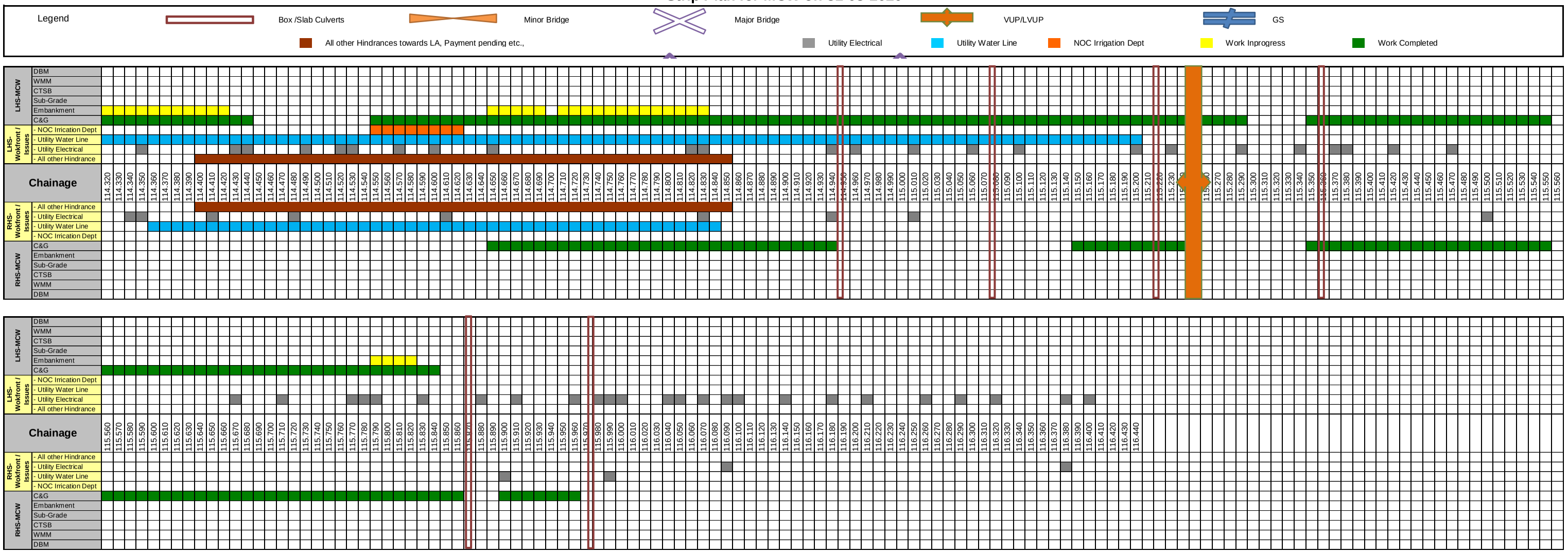
Sethiyahopu - Cholopuram Road Projects

Strip Plan for MCW on 31-03-2020



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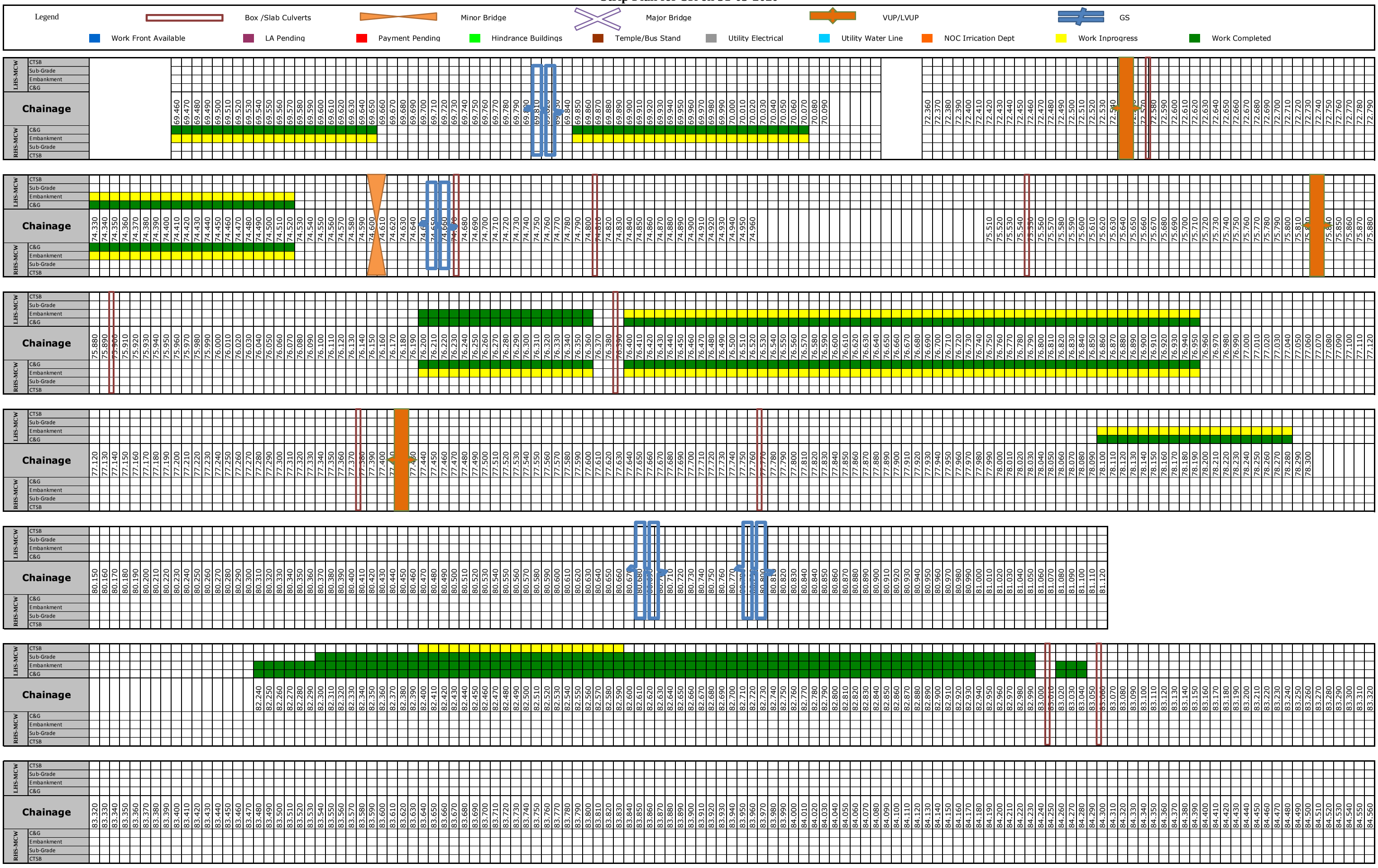
Sethiyahopu - Cholopuram Road Projects

Strip Plan for SR on 31-03-2020



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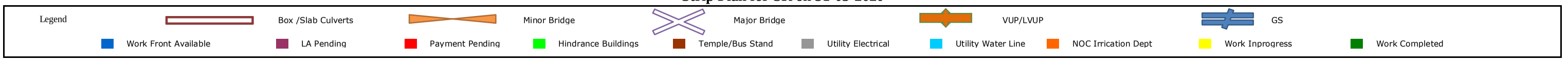
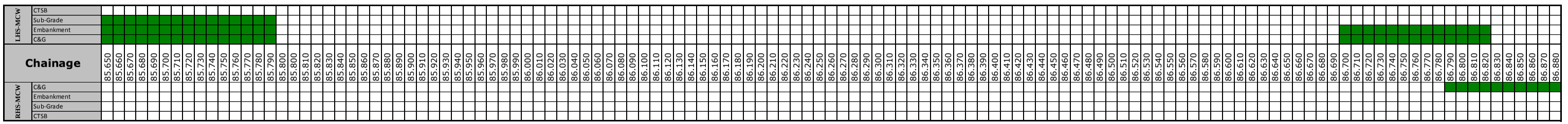
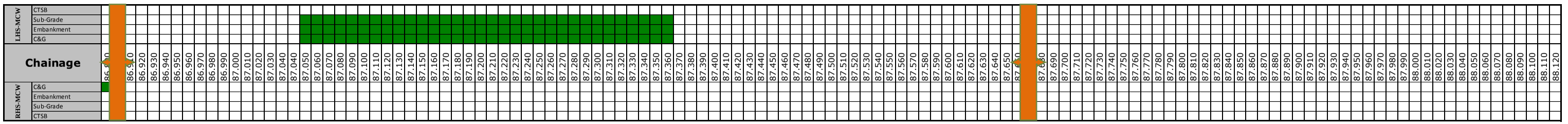
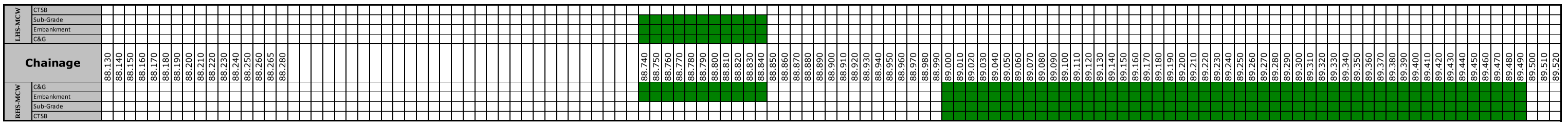
Sethiyahopu - Cholopuram Road Projects

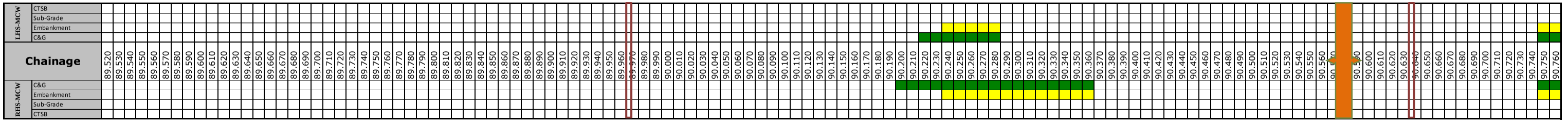
Strip Plan for SR on 31-03-2020

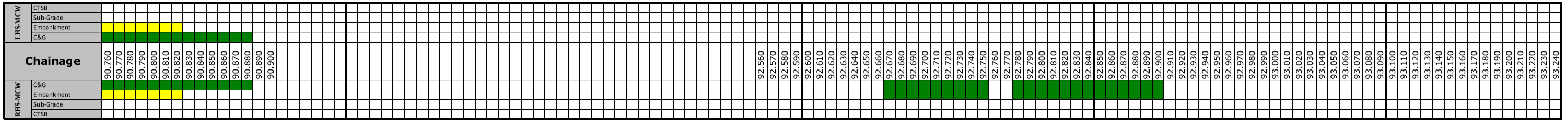


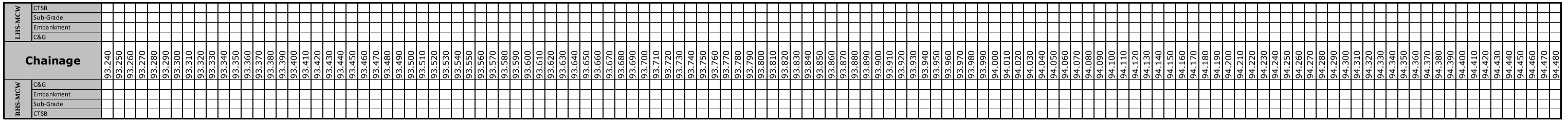


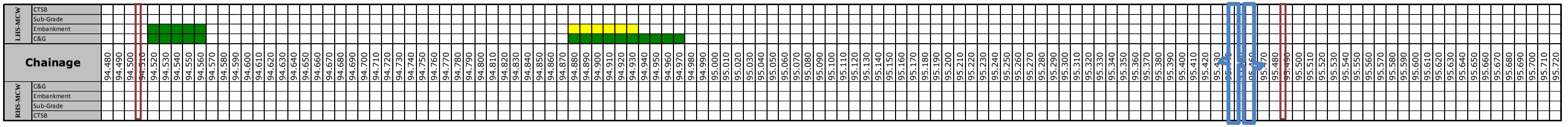












Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

Strip Plan for SR on 31-03-2020

Legend

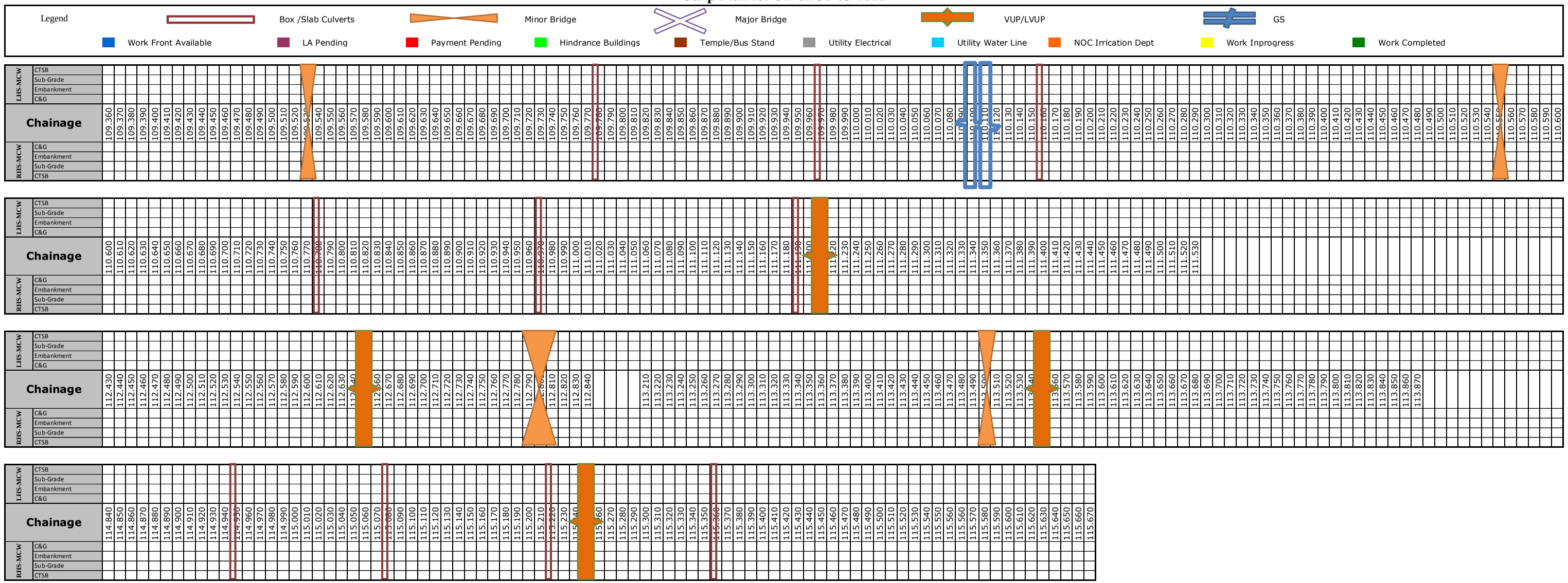
Box /Slab Culverts | Minor Bridge | Major Bridge | VUP/LVUP | GS

Work Front Available | LA Pending | Payment Pending | Hindrance Buildings | Temple/Bus Stand | Utility Electrical | Utility Water Line | NOC Irrication Dept | Work Inprogress | Work Completed

Four Laning of Sethiyahopu - Cholopuram from Km.65.960 to Km.116.440 Section of NH45C in the state of Tamil Nadu Under NHDP Phase-IV on Hybrid Annuity Mode

Sethiyahopu - Cholopuram Road Projects

Strip Plan for SR on 31-03-2020



SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF BOX CULVERTS ON EXISTING ROAD - MCW

Completed | In Progress

Status Upto	31.03.2020						LHS							RHS						
Sr. No.	As Approved by IE	Design Chainage As per CA		Number and Length of Spans (m)	Remarks	Type of Structure	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work
1	74+675	74.670	EXISTING	1 x 3.0m x 2.0m	New Construction	BOX CULVERT														
2	74+800	74.808	EXISTING	1 x 1.20m	Reconstruction	BOX CULVERT														
3	75+558	75.555	EXISTING	1x3.0m	Reconstruction	BOX CULVERT														
4	75+902	75.897	EXISTING	1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
5	76+390	76.387	EXISTING	1 x 3.0m	Reconstruction	BOX CULVERT														
6	77+382	77.379	EXISTING	1 x 4.0m	Reconstruction	BOX CULVERT														
7	77+766	77.764	EXISTING	1 x 2.0m	Widening	BOX CULVERT														
8	81+868	81.867	EXISTING	1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
9	81+913	81.910	EXISTING	1 x 1.95m x 1.0m	Widening	BOX CULVERT														
10	83+012	83.007	EXISTING	2 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
11	83+065	83.062	EXISTING	1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
12	89+973	89.969	EXISTING	4 x 0.75m	Widening	BOX CULVERT														
13	90+640	90.637	EXISTING	1 x 1.20m	Reconstruction	BOX CULVERT														
14	94+509	94.509	EXISTING	1 x 3.6m x 1.6m	Widening	BOX CULVERT														
15	95+495	95.490	EXISTING	1 x 1.2m x 0.9m	Reconstruction	BOX CULVERT														
16	95+794	95.787	EXISTING	1 x 1.20m	Reconstruction	BOX CULVERT														
17	96+511	96.505	EXISTING	1 x 5.0m	Reconstruction	BOX CULVERT														
18	97+530	97.534	EXISTING	1x2.0m	Reconstruction	BOX CULVERT														
19	97+742	97.738	EXISTING	1 x 3.0m x 1.0m	Widening	BOX CULVERT														
20	99+471	99.467	EXISTING	1 x 3.0m x 4.0m	Repair & Widening	BOX CULVERT														
21	99+776	99.769	EXISTING	1 x 2.0m x 2.0m	Repair & Widening	BOX CULVERT														
22	99+840	99.838	EXISTING	1 x 1.5m x 1.5m	Repair & Widening	BOX CULVERT														
23	100+177	100.173	EXISTING	1 x 1m	Repair & Widening	BOX CULVERT														
24	100+364	100.358	EXISTING	1 x 10m	Repair & Widening	BOX CULVERT														
25	100+823	100.817	EXISTING	1 x 3.5m x 2.5m	Repair & Widening	BOX CULVERT														
26	101+851	101.851	EXISTING	1 x 1.5m x 1.5m	Repair & Reconstruction	BOX CULVERT														
27	103+220	103.214	EXISTING	1 x 4.0m x 2.5m	Repair & Reconstruction	BOX CULVERT														
28	104+197	104.190	EXISTING	1 x 1.0m	Repair & Reconstruction	BOX CULVERT														
29	104+215	104.208	EXISTING	1 x 1.0m	Reconstruction	BOX CULVERT														
30	109+786	109.779	EXISTING	1 x 1.0m	Repair & Reconstruction	BOX CULVERT														
31	109+975	109.967	EXISTING	1 x 2.0m x 1.7m	Repair & Reconstruction	BOX CULVERT														
32	110+167	110.160	EXISTING	2 x 1.0m	Repair & Reconstruction	BOX CULVERT														
33	110+795	110.785	EXISTING	1 x 1.2m x 2.0m	Repair & Widening	BOX CULVERT														
34	110+980	110.971	EXISTING	1 x 1.5m x 2.0m	Repair & Reconstruction	BOX CULVERT														
35	113+897	113.885	EXISTING	1 x 1.0m	Repair & Widening	BOX CULVERT														
36	114+313	114.300	EXISTING	1 x 1.0m	Repair & Widening	BOX CULVERT														
37	114+703	114.703	EXISTING			BOX CULVERT														
38	114+954	114.952	EXISTING	1 x 1.0m	Repair & Reconstruction	BOX CULVERT														
39	115+097	115.087	EXISTING	2 x 1.0m	Repair & Reconstruction	BOX CULVERT														
40	115+232	115.221	EXISTING	1 x 2.0m x 2.0m	Repair & Reconstruction	BOX CULVERT														
41	115+381	115.368	EXISTING	1 x 2.0m	Repair & Reconstruction	BOX CULVERT														
42	115+884	115.872	EXISTING	2 x 1.0m	Repair & Widening	BOX CULVERT														
43	115+978	115.978	EXISTING	1 x 2.0m x 2.0m	Repair & Widening	BOX CULVERT														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF BOX CULVERTS ON EXISTING ROAD - SERVICE ROAD

Completed | In Progress

Status Upto	31.03.2020						LHS							RHS						
Sr. No.	As Approved by IE	Design Chainage As per CA		Number and Length of Spans (m)	Remarks	Type of Structure	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work
1	74+675	74.670	EXISTING	1 x 3.0m x 2.0m	New Construction	BOX CULVERT														
2	74+800	74.808	EXISTING	1 x 1.20m	Reconstruction	PIPE CULVERT														
3	75+558	75.555	EXISTING	1x3.0m	Reconstruction	BOX CULVERT														
4	75+902	75.897	EXISTING	1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
5	76+390	76.387	EXISTING	1 x 3.0m	Reconstruction	BOX CULVERT														
6	77+382	77.379	EXISTING	1 x 4.0m	Reconstruction	BOX CULVERT														
7	77+766	77.764	EXISTING	1 x 2.0m	Widening	BOX CULVERT														
8	83+012	83.007	EXISTING	2 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
9	83+065	83.062	EXISTING	1 x 2.0m x 2.0m	Reconstruction	BOX CULVERT														
10	89+973	89.969	EXISTING	4 x 0.75m	Widening	PIPE CULVERT														
11	90+640	90.637	EXISTING	1 x 1.20m	Reconstruction	PIPE CULVERT														
12	94+509	94.509	EXISTING	1 x 3.6m x 1.6m	Widening	BOX CULVERT														
13	95+495	95.490	EXISTING	1 x 1.2m x 0.9m	Reconstruction	BOX CULVERT														
14	95+794	95.787	EXISTING	1 x 1.20m	Reconstruction	PIPE CULVERT														
15	96+511	96.505	EXISTING	1 x 5.0m	Reconstruction	BOX CULVERT														
16	97+530	97.534	EXISTING	1x2.0m	Reconstruction	BOX CULVERT														
17	99+776	99.769	EXISTING	1 x 2.0m x 2.0m	Repair & Widening	BOX CULVERT														
18	99+840	99.838	EXISTING	1 x 1.5m x 1.5m	Repair & Widening	BOX CULVERT														
19	100+177	100.173	EXISTING	1 x 1m	Repair & Widening	PIPE CULVERT														
20	100+364	100.358	EXISTING	1 x 10m	Repair & Widening	BOX CULVERT														
21	101+851	101.851	EXISTING	1 x 1.5m x 1.5m	Repair & Reconstruction	BOX CULVERT														
22	103+220	103.214	EXISTING	1 x 4.0m x 2.5m	Repair & Reconstruction	BOX CULVERT														
23	104+197	104.190	EXISTING	1 x 1.0m	Repair & Reconstruction	PIPE CULVERT														
24	104+215	104.208	EXISTING	1 x 1.0m	Reconstruction	PIPE CULVERT														
25	109+786	109.779	EXISTING	1 x 1.0m	Repair & Reconstruction	PIPE CULVERT														
26	109+975	109.967	EXISTING	1 x 2.0m x 1.7m	Repair & Reconstruction	BOX CULVERT														
27	110+167	110.160	EXISTING	2 x 1.0m	Repair & Reconstruction	PIPE CULVERT														
28	110+795	110.785	EXISTING	1 x 1.2m x 2.0m	Repair & Widening	BOX CULVERT														
29	110+980	110.971	EXISTING	1 x 1.5m x 2.0m	Repair & Reconstruction	BOX CULVERT														
30	113+897	113.885	EXISTING	1 x 1.0m	Repair & Widening	PIPE CULVERT														
31	114+313	114.300	EXISTING	1 x 1.0m	Repair & Widening	PIPE CULVERT														
32	114+954	114.952	EXISTING	1 x 1.0m	Repair & Reconstruction	PIPE CULVERT														
33	115+097	115.087	EXISTING	2 x 1.0m	Repair & Reconstruction	PIPE CULVERT														
34	115+232	115.221	EXISTING	1 x 2.0m x 2.0m	Repair & Reconstruction	BOX CULVERT														
35	115+381	115.368	EXISTING	1 x 2.0m	Repair & Reconstruction	BOX CULVERT														
36	115+884	115.872	EXISTING	2 x 1.0m	Repair & Widening	PIPE CULVERT														
37	115+978	115.978	EXISTING	1 x 2.0m x 2.0m	Repair & Widening	BOX CULVERT														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF BOX CULVERTS ON BYPASS - MCW

Completed | In Progress

Status Upto	31.03.2020					LHS							RHS						
Sr. No.	As Approved by IE	Design Chainage As per CA		Number and Length of Spans (m)	Type of Structure	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work
1	66+357	66.383	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
2	67+068	67.068	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
3	69+357	69.357	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
4	72+570	72.578	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
5	73+755	73.755	BYPASS	1x1.2.0mx2.0m	PIPE CULVERT														
6	104+622	104.618	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
7	104+998	104.992	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
8	105+440	105.440	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
9	105+536	105.525	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
10	106+442	106.432	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
11	108+002	107.994	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
12	108+080	108.070	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
13	108+225	108.225	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
14	108+345	108.334	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
15	108+441	108.441	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
16	108+540	108.500	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
17	108+767	108.767	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
18	111+205	111.196	BYPASS	1 x 1.0m	PIPE CULVERT														
19	111+452	111.452	BYPASS		PIPE CULVERT														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF BOX CULVERTS ON BYPASS - SERVICE ROAD							Completed								In Progress						
Status Upto	31.03.2020					LHS							RHS								
Sr. No.	As Approved by IE	Design Chainage As per CA		Number and Length of Spans (m)	Type of Structure	Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work
1	72+570	72.578	BYPASS	1 x 3.0m x 2.0m	BOX CULVERT														
2	104+622	104.618	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
3	104+998	104.992	BYPASS	1 x 4.0m x 2.0m	BOX CULVERT														
4	106+442	106.432	BYPASS	1 x 2.0m x 2.0m	BOX CULVERT														
5	111+205	111.196	BYPASS	1 x 1.0m	PIPE CULVERT														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF MNB-BOX - MCW						Completed							In Progress						
Status Upto	31.03.2020					LHS							RHS						
Sr. No.	As Approved by IE	Design Chainage As per CA	Number and Length of Spans (m)	Type of Structure		Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work
1	79+716	79.715	1 x 12.50m	MNBB	Widening														
2	79+795	79.795	2 x 12.50m	MNBB	Re-Const.														
3	82+007	82.006	2 x 12.50m	MNBB	Widening														
4	85+144	85.144	2 x 12.50m	MNBB	Re-Const.														
5	85+435	85.432	1 x 12.50m	MNBB	Widening														
6	88+513	88.513	1 x 12.50m	MNBB	Widening														
7	91+164	91.165	2 x 12.50m	MNBB	Re-Const.														
8	92+343	92.342	1 x 12.50m	MNBB	Widening														
9	101+101	101.100		MNBB	EXISTING														
10	66+757	66.730	2 x 12.5m	MNBB	BYPASS														
11	68+644	68.650	2 x 12.5m	MNBB	BYPASS														
12	74+173	74.175	2 x 12.5m	MNBB	BYPASS														
13	74+605	74.600	2 x 12.5m	MNBB	BYPASS														
14	105+915	105.915	2 x 12.5m	MNBB	BYPASS														
15	109+090	109.088	2 x 12.5m	MNBB	BYPASS														
16	109+195	109.208	2 x 12.5m	MNBB	BYPASS														
17	109+365	109.365	2 x 12.5m	MNBB	BYPASS														
18	109+540	109.540	2 x 12.5m	MNBB	BYPASS														
19	111+563	111.565	2 x 12.5m	MNBB	BYPASS														
20	112+807	112.807	1 x 25m	MNBB	BYPASS														
21	113+100	113.100	2 x 12.5m	MNBB	BYPASS														
22	113+505	113.505	2 x 12.5m	MNBB	BYPASS														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF MNB-BOX - SERVICE ROAD							Completed							In Progress						
Status Upto	31.03.2020					LHS							RHS							
Sr. No.	As Approved by IE	Design Chainage As per CA	Number and Length of Spans (m)	Type of Structure		Protection Work	Slab	Wall	Raft	PCC	Granular Filling	Excavation	Excavation	Granular Filling	PCC	Raft	Wall	Slab	Protection Work
1	74+605	74.600	2 x 12.5m	MNBB	BYPASS														
2	105+915	105.915	2 x 12.5m	MNBB	BYPASS														
3	109+090	109.088	2 x 12.5m	MNBB	BYPASS														
4	109+195	109.208	2 x 12.5m	MNBB	BYPASS														
5	109+365	109.365	2 x 12.5m	MNBB	BYPASS														
6	109+540	109.540	2 x 12.5m	MNBB	BYPASS														
7	111+563	111.565	2 x 12.5m	MNBB	BYPASS														
8	112+807	112.807	1 x 25m	MNBB	BYPASS														
9	113+100	113.100	2 x 12.5m	MNBB	BYPASS														
10	113+505	113.505	2 x 12.5m	MNBB	BYPASS														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF LVUP						Completed							In Progress					
Status Upto	31.03.2020				LHS						RHS							
Sr. No.	As Approved by IE	Number and Length of Spans (m)	Type of Structure		Protection Work	Slab	Wall	Raft	PCC	Excavation	Excavation	PCC	Raft	Wall	Slab	Protection Work
1	77+420	1X10.5	LVUP	EXISTING												
2	112+643	1X10.5	LVUP	BYPASS												

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF MNB (>15m Span)					Completed								In Progress							
Status upto	31.03.2020				LHS								RHS							
Sr. No.	MNB at Chainage	Span			Crash Barrier	Slab	Girder	Piercap /Abtcap	Pier/Abt	Open Foundation	PCC	Excavation	Excavation	PCC	Open Foundation	Pier/Abt	Piercap /Abtcap	Girder	Slab	Crash Barrier
1	70+185	2 x 20	BYPASS	A1																
				P1																
				A2																
2	73+815	1 x 15	BYPASS	A1																
				A2																
3	84+725	1 x 15	EXISTING	A1																
				A2																
4	84+987	2 x 15	EXISTING	A1																
				P1																
				A2																

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF MJB

Completed

In Progress

MJB at Chainage 66+530 (8x30) - BYPASS

Status Upto 31.03.2020	LHS/LSR							RHS/RSR						
	Crash Barrier	Slab	Girder Casting	Pier Cap/Abt	Pier/Abt	Pile Cap	Pile	Pile	Pile Cap	Pier/Abt	Pier Cap/Abt	Girder Casting	Slab	Crash Barrier
A1														
P1														
P2														
P3														
P4														
P5														
P6														
P7														
A2														

MJB at Chainage 73+340 (9x30) - BYPASS

Completed

In Progress

Status Upto 31.03.2020	LHS/LSR							RHS/LSR						
	Crash Barrier	Slab	Girder Casting	Pier Cap/Abt	Pier/Abt	Pile Cap	Pile	Pile	Pile Cap	Pier/Abt	Pier Cap/Abt	Girder Casting	Slab	Crash Barrier
A1														
P1														
P2														
P3														
P4														
P5														
P6														
P7														
P8														
A2														

MJB at Chainage 99+583 (3x25) - EXISTING ROAD

Completed
In Progress

Status Upto 31.03.2020	LHS/LSR							RHS/LSR						
	Crash Barrier	Slab	Girder Casting	Pier Cap/Abt	Pier/Abt	Pile Cap	Pile	Pile	Pile Cap	Pier/Abt	Pier Cap/Abt	Girder Casting	Slab	Crash Barrier
A1														
P1														
P2														
A2														

MJB at Chainage 107+400 - BYPASS

Completed
In Progress

Status Upto 31.03.2020	LHS/LSR							RHS/LSR						
	Crash Barrier	Slab	Girder Casting	Pier Cap/Abt	Pier/Abt	Pile Cap	Pile	Pile	Pile Cap	Pier/Abt	Pier Cap/Abt	Girder Casting	Slab	Crash Barrier
A1														
P1														
P2														
P3														
P4														
P5														
P6														
P7														
P8														
P9														
P10														
P11														
P12														
P13														
P14														
P15														
P16														
P17														
P18														
P19														
A2														

SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF FLYOVER					Completed									In Progress							
Status upto	31.03.2020				LHS									RHS							
Sr.No.	FO at Chainage	Span			Crash Barrier	Slab	Girder Casting	Piercap /Abtcap	Abt Shaft	Pile Cap	PCC	Pile		Pile	PCC	Pile Cap	Abt Shaft	Piercap /Abtcap	Girder Casting	Slab	Crash Barrier
1	69+785	1x30	BYPASS	A1																	
				A2																	
2	74+655	1x30	BYPASS+EXISTING	A1																	
				A2																	
3	80+556	1x30	EXISTING	A1																	
				A2																	
4	80+720	1x30	EXISTING	A1																	
				A2																	
5	95+455	2x30	EXISTING	A1																	
				P1																	
				A2																	
6	98+950	2x30	EXISTING	A1																	
				P1																	
				A2																	
7	104+570	1x30	BYPASS	A1																	
				A2																	
8	110+110	1x30	EXISTING	A1																	
				A2																	

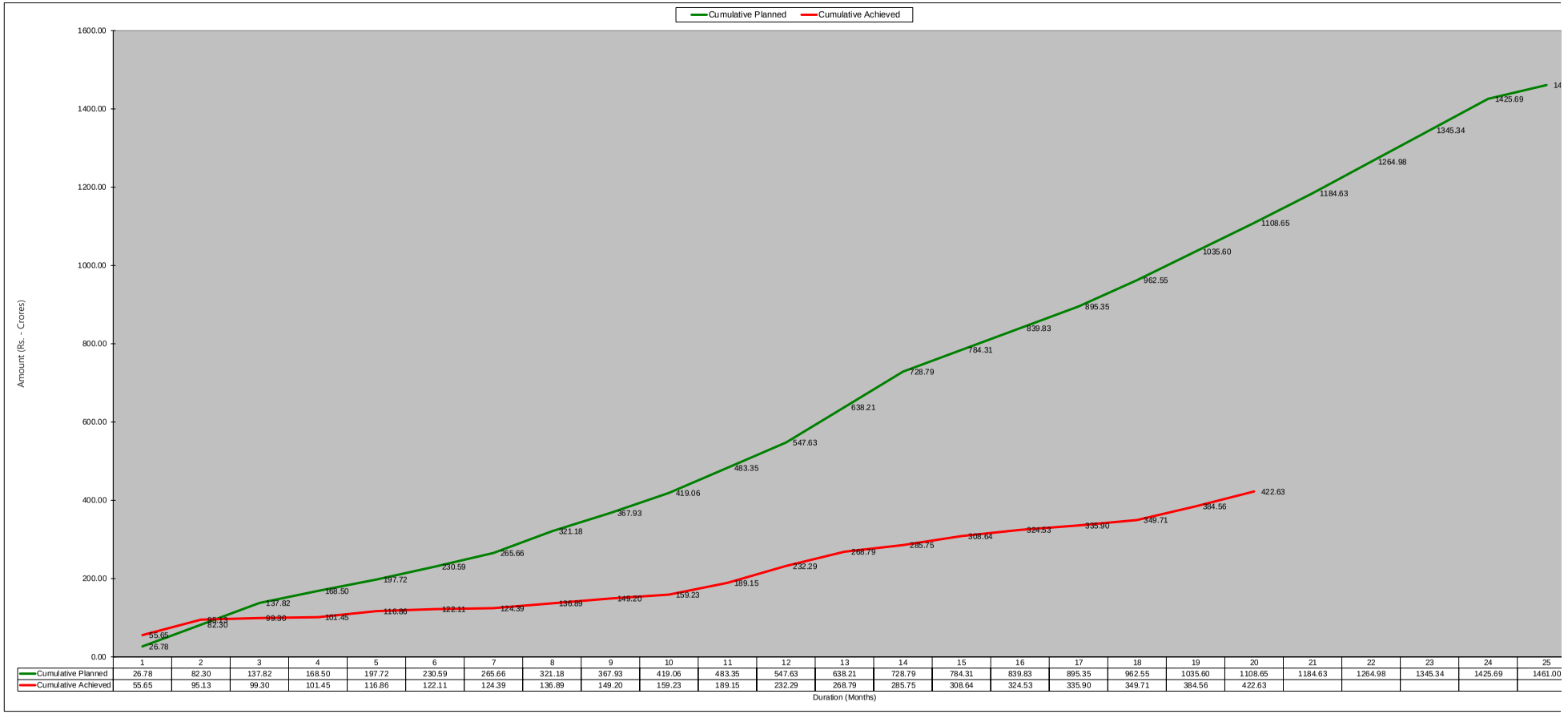
SETHIYAHOPU CHOLOPURAM PROJECT - STATUS OF VUP					Completed									In Progress								
Status upto	31.03.2020				LHS									RHS								
SR.NO.	VUP at Chainage	Span			Crash Barrier	Slab	Girder Launching	Girder Casting	Piercap /Abtcap	Abt Shaft	Pile Cap	PCC	Pile	Pile	PCC	Pile Cap	Abt Shaft	Piercap /Abtcap	Girder Casting	Girder Launching	Slab	Crash Barrier
1	72+545	1x25	BYPASS	A1																		
				A2																		
2	75+830	1x25	EXISTING	A1																		
				A2																		
3	86+900	1x25	EXISTING	A1																		
				A2																		
4	87+670	1x25	EXISTING	A1																		
				A2																		
5	90+580	1x25	EXISTING	A1																		
				A2																		
6	97+225	1x25	EXISTING	A1																		
				A2																		
7	101+910	1x25	EXISTING	A1																		
				A2																		
8	102+975	1x25	EXISTING	A1																		
				A2																		
9	106+318	1x25	BYPASS	A1																		
				A2																		
10	109+350	1x25	BYPASS	A1																		
				A2																		
11	111+235	1x25	BYPASS+EXISTING	A1																		
				A2																		
12	113+550	1x25	BYPASS+EXISTING	A1																		
				A2																		
13	115+258	1x25	EXISTING	A1																		
				A2																		

Figure 3a: Financial Progress - Planned vs Achieved - S Curve

Figure 3b: Physical Progress - Planned vs Achieved - S Curve

Four Laning of Sethiyahopu - Cholopuram from Km. 65.960 to 116.440 Section of NH45C in the state of Tamilnadu under NHDP-IV on Hybrid Annuity Mode

Fig. 03a- Financial Progress (S-Curve)

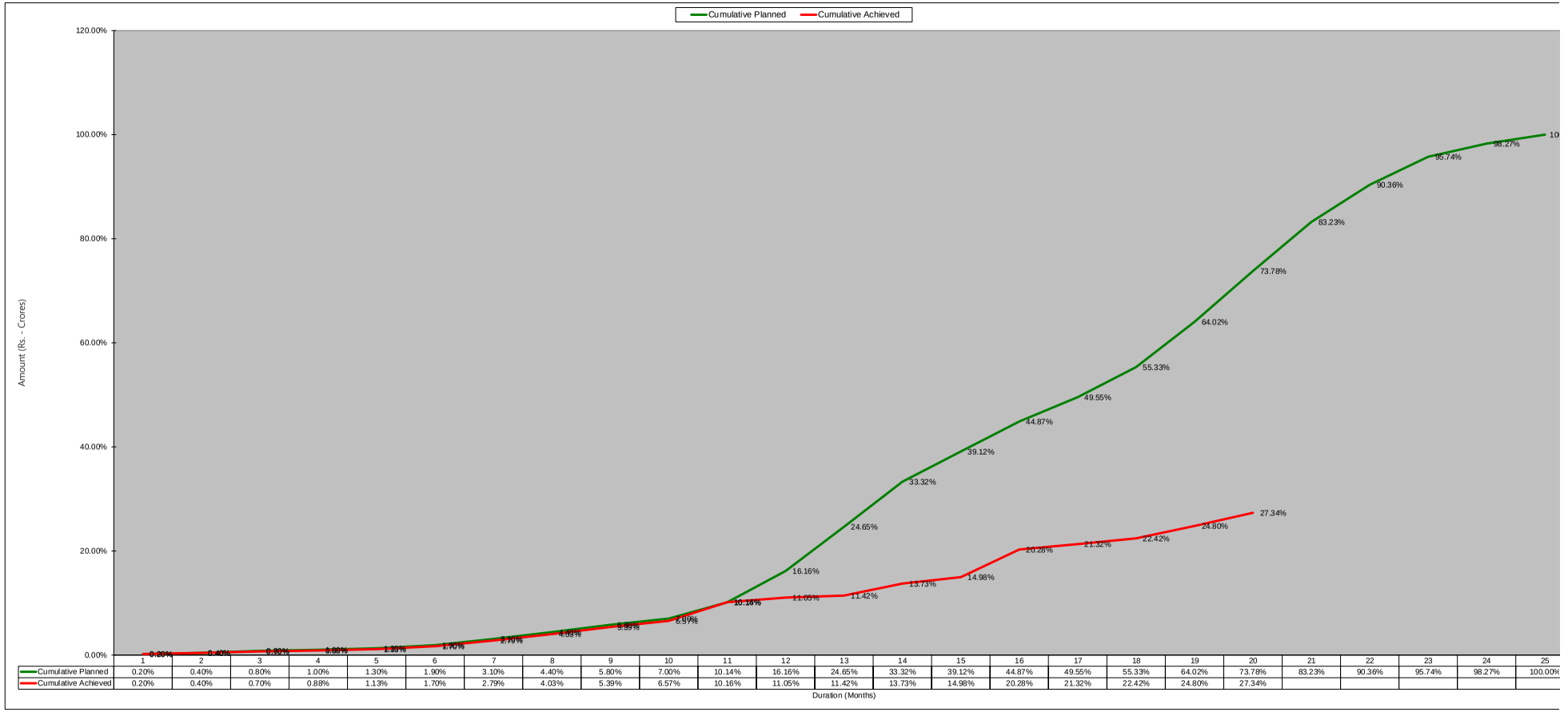


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Cumulative Planned	26.78	82.30	137.82	168.50	197.72	230.59	265.66	321.18	367.93	419.06	483.35	547.63	638.21	728.79	784.31	839.83	895.35	962.55	1035.60	1108.65	1184.63	1264.98	1345.34	1425.69	1461.00
Cumulative Achieved	55.65	95.13	99.30	101.45	116.86	122.11	124.39	136.89	149.20	159.23	189.15	232.29	268.79	285.75	308.64	324.53	335.90	349.71	384.56	422.63					

	Schedule	2019																	2020							
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	Monthly Planned	26.78	55.52	55.52	30.68	29.22	32.87	35.06	55.52	46.75	51.14	64.28	64.28	90.58	90.58	55.52	55.52	55.52	67.21	73.05	73.05	75.97	80.36	80.36	80.36	35.31
	MonthlyAchieved	55.65	39.48	4.17	2.15	15.41	5.26	2.27	12.50	12.31	10.03	29.92	43.15	36.50	16.96	22.89	15.89	11.36	13.81	34.85	38.07					
	Cumulative Planned	26.78	82.30	137.82	168.50	197.72	230.59	265.66	321.18	367.93	419.06	483.35	547.63	638.21	728.79	784.31	839.83	895.35	962.55	1035.60	1108.65	1184.63	1264.98	1345.34	1425.69	1461.(
	Cumulative Achieved	55.65	95.13	99.30	101.45	116.86	122.11	124.39	136.89	149.20	159.23	189.15	232.29	268.79	285.75	308.64	324.53	335.90	349.71	384.56	422.63					
	Monthly Planned (%)	1.8%	3.8%	3.8%	2.1%	2.0%	2.3%	2.4%	3.8%	3.2%	3.5%	4.4%	4.4%	6.2%	6.2%	3.8%	3.8%	3.8%	4.6%	5.0%	5.0%	5.2%	5.5%	5.5%	5.5%	2.4%
	Monthly Achieved (%)	3.8%	2.7%	0.3%	0.1%	1.1%	0.4%	0.2%	0.9%	0.8%	0.7%	2.0%	3.0%	2.5%	1.2%	1.6%	1.1%	0.8%	0.9%	2.4%	2.6%					
	Cumulative Planned (%)	1.8%	5.6%	9.4%	11.5%	13.5%	15.8%	18.2%	22.0%	25.2%	28.7%	33.1%	37.5%	43.7%	49.9%	53.7%	57.5%	61.3%	65.9%	70.9%	75.9%	81.1%	86.6%	92.1%	97.6%	100.0
	Cumulative Achieved (%)	3.8%	6.5%	6.8%	6.9%	8.0%	8.4%	8.5%	9.4%	10.2%	10.9%	12.9%	15.9%	18.4%	19.6%	21.1%	22.2%	23.0%	23.9%	26.3%	28.9%					

Four Laning of Sethiyahopu - Cholopuram from Km. 65.960 to 116.440 Section of NH45C in the state of Tamilnadu under NHDP-IV on Hybrid Annuity Mode

Fig. 03b- Physical Progress (S-Curve)



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Cumulative Planned	0.20%	0.40%	0.80%	1.00%	1.30%	1.90%	3.10%	4.40%	5.80%	7.00%	10.14%	16.16%	24.65%	33.32%	39.12%	44.87%	49.55%	55.33%	64.02%	73.78%	83.23%	90.36%	95.74%	98.27%	100.00%
Cumulative Achieved	0.20%	0.40%	0.70%	0.88%	1.13%	1.70%	2.79%	4.03%	5.39%	6.57%	10.16%	11.05%	11.42%	13.73%	14.98%	20.28%	21.32%	22.42%	24.80%	27.34%					

	Schedule	2019																		2020							
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	Monthly Planned	0.20%	0.20%	0.40%	0.20%	0.30%	0.60%	1.20%	1.30%	1.40%	1.20%	3.14%	6.02%	8.49%	8.67%	5.80%	5.75%	4.68%	5.78%	8.69%	9.76%	9.45%	7.13%	5.38%	2.53%	1.73%
	MonthlyAchieved	0.20%	0.20%	0.30%	0.18%	0.25%	0.57%	1.09%	1.24%	1.36%	1.18%	3.59%	0.89%	0.37%	2.31%	1.25%	5.30%	1.04%	1.10%	2.38%	2.54%					
	Cumulative Planned	0.20%	0.40%	0.80%	1.00%	1.30%	1.90%	3.10%	4.40%	5.80%	7.00%	10.14%	16.16%	24.65%	33.32%	39.12%	44.87%	49.55%	55.33%	64.02%	73.78%	83.23%	90.36%	95.74%	98.27%	100.00
	Cumulative Achieved	0.20%	0.40%	0.70%	0.88%	1.13%	1.70%	2.79%	4.03%	5.39%	6.57%	10.16%	11.05%	11.42%	13.73%	14.98%	20.28%	21.32%	22.42%	24.80%	27.34%					

6.1. List of Lab Equipment's

A site laboratory has been set up with all equipment required for testing soil, GSB, WMM, Bitumen, aggregate and concrete. Following tables represents the list of QA/QC equipment's available at Annaikarai & Meensurity Lab.

Table 6.1 - 1 QA/QC Lab Equipment at Annaikarai Lab

SI. NO	EQUIPEMENT LIST'S	QUANTITY
1	compression testing machine 2000 kN	1
2	cement mortar vibrating machine	1
3	AIV Apparatus	1
4	electronic weighing balance (50 kg)	1
5	electronic weighing balance (600 gm)	1
6	Hot Air Oven(250◦ c)	1
7	Hot plate	1
8	Rain Gauge	1
9	Sieve: as per IS 460 -1962 200 dia Brass frame	
10	4.75 mm	1
11	1.18 mm	1
12	600 mic	1
13	300 mic	1
14	90 mic	1
15	75 mic	1
16	Pan with Lid	1
17	Sieve: as per IS 460 -1962 200 dia GI frame	
18	40 mm	1
19	20 mm	1
20	12.5 mm	1
21	10 mm	1
22	4.75 mm	1
23	2.36 mm	1
24	Pan with Lid	1
25	Thickness Gauge	1
26	Glass Rain measuring jar (200CM^2)	2
27	GI Tray (18 x24 x50)	5
28	Enamel Tray (medium)	4
29	Enamel Tray (small)	6
30	spactula wooden handle	8
31	GI Tray ()	1
32	Iron tray	1
33	slump cone apparatus with tamping rod	2

Table 6.1 - 2 QA/QC Lab Equipment at Meensurity Lab		
SI. NO	EQUIPEMENT LIST'S	QUANTITY
1	Test Sieves Set 450mm internal diameter as per IS complete with lid & pan of hole sizes	
a	100mm	2 Nos
b	75mm	2 Nos
c	90mm	2 Nos
d	63mm	2 Nos
e	53mm	2 Nos
f	50mm	2 Nos
g	45mm	2 Nos
h	40mm	2 Nos
i	37.5mm	2 Nos
j	31.5mm	2 Nos
k	26.5mm	2 Nos
l	25mm	2 Nos
m	22.4mm	2 Nos
n	20.0mm	2 Nos
o	19.0mm	2 Nos
p	18mm	2 Nos
q	16mm	2 Nos
r	14mm	2 Nos
s	13.2mm	2 Nos
t	12.5mm	2 Nos
v	11.2mm	2 Nos
u	10mm	2 Nos
w	9.5mm	2 Nos
x	6.3mm	2 Nos
y	5.6mm	2 Nos
z	4.75mm	2 Nos
2	Test Sieves Set 200mm internal diameter (Brass frame & steel or brass wire cloth mesh) as per IS complete with lid & pan of sieve	
a	37.5mm	2 Nos
b	26.5mm	2 Nos
c	22.4mm	2 Nos
d	19mm	2 Nos
e	16mm	2 Nos
f	14mm	2 Nos
g	13.2mm	2 Nos
h	12.5	2 Nos
i	11.2mm	2 Nos
j	10mm	2 Nos
k	9.5mm	2 Nos
l	4.75mm	2 Nos
m	2.8mm	2 Nos
n	2.36mm	2 Nos
o	2.0mm	2 Nos

SI. NO	EQUIPEMENT LIST'S	QUANTITY
p	1.80mm	2 Nos
q	1.7mm	2 Nos
r	1.4mm	2 Nos
s	1.18mm	2 Nos
t	1.0mm	3 Nos
v	0.600mm	2 Nos
u	0.425mm	2 Nos
w	0.355mm	2 Nos
x	0.300mm	2 Nos
y	0.180	2 Nos
z	0.090mm	2 Nos
aa	0.075mm	6 Nos
3	Measuring cylinder - Borosilicate glass - 100ML	40 Nos
4	Glass Thermometer 00c to 3000c	10 Nos
5	Flash filtering borosil glass - 2000ML	1 No
6	Flash filtering borosil glass - 5000ML	1 No
7	Round hot Plate	2 Nos
8	Measuring cylinder - Borosilicate glass - 1000ML	4 Nos
9	Measuring cylinder - Borosilicate glass - 250ML	4 Nos
10	Measuring cylinder- Borosilicate glass - 500ML	4 Nos
11	Beakers - glass borosil - low from cap 600ML	4 Nos
12	Compaction pedestal - 4"	4 Nos
13	Extractor plate - 6" dia for marshal test	1 No
14	Rammer marshal - 4"	4 Nos
15	Thermometer Infra red - MTX - 2	2 Nos
16	LE - Chatlier mould one set of six	2 Nos
17	Cone penetrometer	1 No
18	Los angeles abrasion testing machine	1 No
19	Marshal Mould - 4" dia	51 nos
20	G.I Tray - 1500*1500*100MM	4 Nos
21	Compaction pedestal - 6"	1 No
22	Marshal stability apparatus	1 No
23	Measuring cylinder- Plastic - 50ML	4 Nos
24	Measuring cylinder- Plastic - 250ML	2 Nos
25	Measuring cylinder- Plastic - 500ML	2 Nos
26	Measuring cylinder- Plastic - 1000ML	2 Nos
27	Vibrating machine with digital timer	1 No
28	Hot Air Oven - Thermostatic - NoN Digital - 45*45*45 CM	1 No
29	Hot Air Oven - Thermostatic - NoN Digital - 90*60*60 CM	1 No
30	Penetration cup - 55*70 MM	2 Nos
31	Penetration cup - 55*35MM	6 Nos
32	Standard Penetrometer - Automatic with digital timer	1 No
33	proctor compaction mould 100mm dia with 2.69kg Rammer mid steel	4 Nos
34	proctor compaction mould 150mm dia with 4.89kg Rammer mid steel	6 Nos
35	proving ring compression type 10kn	1 Nos

SI. NO	EQUIPEMENT LIST'S	QUANTITY
36	proving ring compression type 2.5kn	1 Nos
37	proving ring compression type 25kn	1 Nos
38	proving ring compression type 50kn	1 Nos
39	pycnometter bottle	4 Nos
40	Rapid moisture meter-0-25%	4 Nos
41	Riffle sample divider -G.I-20mm , no of slot ;16	1 nos
42	Riffle sample divider -G.I-40mm , no of slot ;12	1 Nos
43	Pipette borosilicate glass - 10 ml	4 Nos
44	Sant equivalent value test apparaus with accessories	1 Nos
45	fileld density test app - sand replacement method small	2 Set
46	shrinkage limit set W/O mercury	1 Nos
47	Mercury 250 Gm	1 Nos
48	Buoyancy balance	1 Nos
49	Spatula 8"	10 Nos
50	Spatula 4"	10 Nos
51	Standard sand - grade III - Bag of 25 kg	2 Nos
52	Standard sand - grade I - Bag of 25 kg	2 Bag
53	Standard sand - grade II - Bag of 25 kg	2 Bag
54	stanard penetrometer - automatic with digital timer	1 Nos
55	Beaking head assembly - 6'	1 Nos
56	Bulk density cylinderical metal measure - 15 LTR	1 Nos
57	Bulk density cylinderical metal measure - 5 LTR	1 Nos
58	Bulk density cylinderical metal measure - 30 LTR	1 Nos
59	Calcium carbide - 500 GM for rapid moisture meter	10 Nos
60	Liquid limits device - hand operated	1 Nos
61	CBR mould mild steel 150mm dia eith coller and base plate	60 Nos
62	Perforrated plate - for CBR test AS per 1377	57 Nos
63	Spacer disc - for CBR test	4 nos
64	surcharge weight 2.5kg annular for cbr test	120 nos
65	cbr load frame electrical single speed	1 nos
66	chiesel 25mm wide *300mm long	20 nos
67	compression testing machine 2000kn digital manual pace	1 nos
68	cube moulds 7.06cm isi marked for cement	12
69	Concrete mixer - Tilting drum type	1 No
70	Constant temperature waterbath for marshal test with digital	2 Nos
71	Core drilling machine with disel engine	1 No
72	Electronic weighing balance - 10KG	1 No
73	Cube moulds - 10CM	18 Nos
74	Cube moulds - 5CM	12 Nos
75	Electronic weighing balance - 600Gms	2 Nos
76	Dial gauge 0.01*30mm	4 Nos
77	Electronic platform balance - 100KG	1 Nos
78	Electronic weighing balance - 30KG	2 Nos
79	Electronic weighing balance - 50KG	2 Nos
80	Electronic weighing balance - 5KG	1 No
81	Stop watch - digital	4 Nos

SI. NO	EQUIPEMENT LIST'S	QUANTITY
82	Direct shear apparatus	1 No
83	Bottle wash plastic - 1000ML	4 Nos
84	Length gauge	1 No
85	Tray - G.I 300*300MM (12"*12")	6 Nos
86	Enamel tray -300*250*40 mm (10"*12")	9 Nos
87	Tray G.I -300*250*40 mm (10"*12")	9 Nos
88	Enamel tray -450*600*40 mm (18"*12")	12 Nos
89	Field density test app -sand replacement method medium	2 Set
90	Field density test app -sand replacement method Large	2 Set
91	Filter paper for marshal test 100mm dia	10 PKT
92	Filter paper for CBR test 15cm dia PKT of 100 circles	10 PKT
93	Flakiness gauge - M.S .Chrome / powder coated	1 Nos
94	Pensky marten flash piot apparatus	1 Nos
95	Flexural strength testing machine curve	1 Nos
96	French curve	2 Nos
97	Slump test appratus with tamping rod 16mm dia *600mm long	9 Nos
98	Thermometer dial 100mm dia * 300mm long 00 - 3000c	10 Nos
99	Tripod stand for CBR test	4 Nos
100	Gauging trowel 6" (150mm)	4 Nos
101	U tube glass viscometer	1 Nos
102	Saybolt viscometer with energy regulator	1 Nos
103	Vacuum pump -Singal Stage	1 Nos
104	Vibrating table -60*60 CM	1 Nos
105	Needle final setting time for vicat needle appratus	1 Nos
106	Needle Intial setting time for vicat needle appratus	1 Nos
107	Vicat Needle apparatus	2 Nos
108	Hammer with Handle - 1000 GM	4 Nos
109	Aggregate Impact testing machine	1 Nos
110	Beakers - glass borosil - low form cap ; 600ML	2 Nos
111	Beam mould -15*15*70 CM - Mild steel	17 Nos

6.2. Quality Control Test Summary

GSB material, soil samples from borrow areas, aggregates, cement and bitumen are being tested regularly. Trial mix design for concrete with different admixtures is also in progress.

The detailed list of quality control test conducted up to the month of March - 2020 are tabulated below -

Four Laning of Sethiyahopu - Cholopuram From km 65.960 to km 116.440 Section of NH-45C in the State of TamilNadu Under NHDP Phase-IV on Hybrid Annuity Mode

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Monthly Progress Report : Summary of Quality Control Report : Month of MAR-2020

S. No.	Description	IS Specification Clause	Frequency of Tests	*Test conducted upto Previous(DEC) month*				*Tests conducted during reporting month upto 31 MAR-2020*				*Test conducted upto this month*			
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE
1.0 Tests on OGL															
1.1	*Grain size analysis*	IS:2720 (Part4)	1 test / 250 meters	313	313	0	82	10	10	0	5	323	323	0	87
1.2	*Atterberg Limits*	IS:2720 (Part5)	1 test / 250 meters	313	313	0	82	10	10	0	5	323	323	0	87
1.3	*Proctor*	IS:2720 (Part8)	1 test / 250 meters	313	313	0	82	10	10	0	5	323	323	0	87
1.4	*Free Swell index*	IS:2720 (Part40)	1 test / 250 meters	313	308	5	82	10	10	0	5	323	318	5	87
1.5	*California bearing ratio*	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
2.0 Borrow Area for EMB/Subgrade (MoRT&H 305)															
2.1	*Grain size analysis*	IS:2720 (Part4)	1 test /1500 m^3	524	524	0	352	40	40	0	29	564	564	0	381
2.2	*Atterberg Limits*	IS:2720 (Part5)	1 test /1500 m^3	524	524	0	352	40	40	0	29	564	564	0	381
2.3	*Proctor*	IS:2720 (Part8)	1 test /1500 m^3	524	524	0	352	40	40	0	29	564	564	0	381
2.4	*Free Swell index*	IS:2720 (Part40)	1 test /1500 m^3	524	524	0	352	40	40	0	29	564	564	0	381
2.5	*California bearing ratio*	IS:2720 (Part16)	1 test / 3000 m^3	90	88	2	45	10	10	0	8	100	98	2	53
2.6	*Direct shear Test*	IS:2720 (Part13)	*1 test /3000 m^3*	32	32	0	15	0	0	0	0	32	32	0	15
3.0 Cutting portion & Existing for EMB/SG (MoRT&H 305)															
3.1	*Grain size analysis*	IS:2720 (Part4)	1 test /1500 m^3	16	14	0	10	9	9	0	1	25	23	0	11
3.2	*Atterberg Limits*	IS:2720 (Part5)	1 test /1500 m^3	16	14	0	10	9	9	0	1	25	23	0	11
3.3	*Proctor*	IS:2720 (Part8)	1 test /1500 m^3	16	14	0	10	9	9	0	1	25	23	0	11
3.4	*Free Swell index*	IS:2720 (Part40)	1 test /1500 m^3	16	14	0	10	9	9	0	1	25	23	0	11
3.5	*California bearing ratio*	IS:2720 (Part16)	1 test / 3000 m^3	12	10	2	6	0	0	0	0	12	10	2	6
3.6	*Direct shear Test*	IS:2720 (Part13)	*1 test /3000 m^3*	0	0	0	0	1	1		1	1	1	0	1
4.0 Service Road															
2.1	*Grain size analysis*	IS:2720 (Part4)	1 test /1500 m^3	27	27	0	20	0	0	0	0	27	27	0	20
2.2	*Atterberg Limits*	IS:2720 (Part5)	1 test /1500 m^3	27	27	0	20	0	0	0	0	27	27	0	20
2.3	*Proctor*	IS:2720 (Part8)	1 test /1500 m^3	27	27	0	20	0	0	0	0	27	27	0	20
2.4	*Free Swell index*	IS:2720 (Part40)	1 test /1500 m^3	27	27	0	20	0	0	0	0	27	27	0	20
2.5	*California bearing ratio*	IS:2720 (Part16)	1 test / 3000 m^3	8	8	0	8	0	0	0	0	8	8	0	8
2.6	*Direct shear Test*	IS:2720 (Part13)	*1 test /3000 m^3*	0	0	0	0	0	0	0	0	0	0	0	0
5.0 FLYASH For Embankment															
5.1	*Liquid Limit & Plastic limit*	*TABLE-1*	*1 test /1500 m^3*	165	165	0	103	0	0	0	0	165	165	0	103
5.2	*Maximum Dry Density*	*Clause 5.2*	*1 test /1500 m^3*	165	165	0	115	0	0	0	0	165	165	0	115
5.3	*Grain size analysis*	IS:2720 (Part4)	*1 test /3000 m^3*	55	55	0	42	0	0	0	0	55	55	0	42
5.4	*Direct shear Test*	IS:2720 (Part13)	*1 test /3000 m^3*	55	55	0	35	0	0	0	0	55	55	0	35

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous(DEC) month				Tests conducted during reporting month upto 31 MAR-2020				Test conducted upto this month			
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE
6.0 Field Density Test MORT&H 305															
6.1	*Field density (OGL)*	IS:2720 (Part28)	1 test /3000 sqm	3146	3050	96	922	317	296	21	3	3463	3346	117	925
6.2	*EMB field density*	IS:2720 (Part28)	1 test /3000 sqm	21940	21148	792	4734	3127	2920	207	904	25067	24068	999	5638
6.3	*SG field density*	IS:2720 (Part28)	1 test / 2000 sqm	2913	2829	84	1195	674	647	27	305	3587	3476	111	1500
6.4	*Shoulder field density*	IS:2720 (Part28)	1 test / 2000 sqm	323	320	3	30	0	0	0	0	323	320	3	30
6.5	*Ground improvement (Flyash)*	IS:2720 (Part28)	1 test / 2000 sqm	3046	3022	24	223	40	40	0	10	3086	3062	24	233
7.0 Filter Media & Back filling MoRT&H 2500															
7.1	*Gradation*		As required	0	0	0	0	0	0	0	0	0	0	0	0
7.2	*Backfilling field density*		1 test /1000 m^3	704	704	0	36	24	24	0	4	728	728	0	40
7.3	*RE Wall field density*		As required	0	0	0	0	0	0	0	0	0	0	0	0
8.0 Safe Bearing capacity of soil															
8.1	*Free Swell index*	IS:2720 (Part40)	As required	59	53	6	54	1	1	0	1	60	54	6	55
8.2	*Grain size analysis*	IS:2720 (Part4)	As required	59	59	0	54	1	1	0	1	60	60	0	55
8.3	*Proctor*	IS:2720 (Part8)	As required	59	59	0	54	1	1	0	1	60	60	0	55
8.4	*Direct shear Test*	IS:2720 (Part13)	As required	59	50	9	54	1	1	0	1	60	51	9	55
8.5	*Bearing Capacity / Plate Load Test*	IS:6403 / IS 1888	As required	5	5	0	5	0	0	0	0	5	5	0	5
9.0 CTSB Mix Design/Site Frequency MoRT&H 403															
9.1	*Gradation*	Table 400-4	1 test/400m^3	162	162	0	107	17	17	0	7	179	179	0	114
9.2	*Atterberg Limits*	IS:2720 (Part5)	1 test/400m^3	48	48	0	33	10	10	0	5	58	58	0	38
9.3	*Proctor*	IS:2720 (Part8)	As required	12	12	0	10	1	1	0	1	13	13	0	11
9.4	*CBR Test or unconfined compressive strength test*	IS:2720 (Part16)	As required	1	1	0	1	0	0	0	0	1	1	0	1
9.5	*Quality of cement*		Minimum 1 test/5 tons	2	2	0	2	0	0	0	0	2	2	0	2
9.6	*Aggregate Impact value*	IS:2386 Part-4	As required	13	13	0	10	2	2	0	1	15	15	0	11
9.7	*Field Density*	IS:2720 (Part28)	1 set of 2 Test per 500Sqm	770	770	0	472	190	190	0	54	960	960	0	526
9.8	*Specific gravity& Water absorption*	IS:2386 (Part2)	As required	2	2	0	2	0	0	0	0	2	2	0	2
9.9	*Cubes*	IRC SP 89 (2010)	As required	313	313	0	145	102	102	0	42	415	415	0	187
10.0 Granular Bedding Material (For Structures-Ground Improvement)- Mix Design															
10.1	*Gradation*	Table 400-1	1 test/400m^3	0	0	0	0	0	0	0	0	0	0	0	0
10.2	*Atterberg Limits*	IS:2720 (Part5)	1 test/400 m^3	0	0	0	0	0	0	0	0	0	0	0	0
10.3	*Proctor*	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
10.4	*CBR Test*	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
10.5	*Aggregate Impact value*	IS:2386 Part-4	As required	0	0	0	0	0	0	0	0	0	0	0	0
10.6	*Field Density*	IS:2720 (Part28)	1 Test per 1000Sq.m	0	0	0	0	0	0	0	0	0	0	0	0

S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous(DEC) month				Tests conducted during reporting month upto 31 MAR-2020				Test conducted upto this month			
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE
11.0 Granular Bedding Material (For Structures-Ground Improvement)- Site Frequency															
11.1	*Gradation*	Table 400-1	1 test/400m^3	3	3	0	3	0	0	0	0	3	3	0	3
11.2	*Atterberg Limits*	IS:2720 (Part5)	1 test/400 m^3	3	3	0	3	0	0	0	0	3	3	0	3
11.3	*Proctor*	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
11.4	*CBR Test*	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
11.5	*Aggregate Impact value*	IS:2386 Part-4	As required	0	0	0	0	0	0	0	0	0	0	0	0
11.6	*Field Density*	IS:2720 (Part28)	1 Test per 1000Sq.m	90	90	0	21	0	0	0	0	90	90	0	21
12.0 WMM Mix Design															
12.1	*Gradation*	Table 400-3	1 test/200m^3	53	53	0	53	0	0	0	0	53	53	0	53
12.2	*Aggregate Impact Value*	IS:2386 Part-4	1 test/ 1000 m^3	5	5	0	5	0	0	0	0	5	5	0	5
12.3	*Flakiness & Elagation index*	IS:2386 Part1	1 test/ 500 m^3	4	4	0	4	0	0	0	0	4	4	0	4
12.4	*Atterberg Limits*	IS:2720 (Part5)	1 test/200m^3	4	4	0	4	0	0	0	0	4	4	0	4
12.5	*Water absorption& Sp.Gravity*	IS:2386 Part2	As required	8	8	0	8	0	0	0	0	8	8	0	8
12.6	*Proctor*	IS:2720 (Part8)	As required	4	4	0	4	0	0	0	0	4	4	0	4
12.7	*CBR*	IS:2720 (Part16)	As required	2	2	0	2	0	0	0	0	2	2	0	2
13.0 WMM Site Frequency MoRT&H 406															
13.1	*Gradation*	Table 400-3	1 test/200m^3	85	85	0	55	16	16	0	9	101	101	0	64
13.2	*Aggregate Impact Value*	IS:2386 Part-4	1 test/ 1000 m^3	40	40	0	24	7	7	0	3	47	47	0	27
13.3	*Flakiness & Elagation index*	IS:2386 Part1	1 test/ 500 m^3	30	30	0	15	9	9	0	4	39	39	0	19
13.4	*Atterberg Limits*	IS:2720 (Part5)	1 test/200m^3	62	62	0	32	16	16	0	9	78	78	0	41
13.5	*Water absorption*	IS:2386 Part2	As required	4	4	0	4	0	0	0	0	4	4	0	4
13.6	*Proctor*	IS:2720 (Part8)	As required	3	4	0	2	0	1	0	0	3	5	0	2
13.7	*CBR*	IS:2720 (Part16)	As required	1	1	0	1	0	0	0	0	1	1	0	1
13.8	*Field Density*	IS:2720 (Part28)	1 set Test per 1000Sq.m	99	99	0	51	15	15	0	8	114	114	0	59
14.0 Dense Bituminous Macadam (Grade - II)															
14.1	*Bitumen Extraction Test*		1 Test/400MT	60	60	0	40	14	14	0	10	74	74	0	50
14.2	*Gradation*	Table 500 - 18, Grad.II	1 Test/400MT	60	60	0	40	14	14	0	10	74	74	0	50
14.3	*Flakiness & Elagation index*	IS:2386 Part1	1 test/ 50 m^3	44	44	0	30	14	14	0	10	58	58	0	40
14.4	*Aggregate Impact Value*	IS:2386 (Part4)	1 test/50m^3	74	74	0	42	21	21	0	15	95	95	0	57
14.5	*Marshall Density*	ASTM D 2726	1 Test/400MT	72	72	0	50	14	14	0	10	86	86	0	60
14.6	*GMM*		1 Test/400MT	60	60	0	42	14	14	0	10	74	74	0	52
14.7	*Softening Point*		1 Test/ 1 lot	15	15	0	9	6	6	0	3	21	21	0	12
14.8	*Penetration*		1 Test/ 1 lot	15	15	0	9	6	6	0	3	21	21	0	12
14.9	*DBM Core Cutting*		1 Test/700M^2	102	102	0	77	41	41	0	30	143	143	0	107
15.0 Prime Coat															
15.1	*Rate of Spread of Binder*		Three tests per day	60	60	0	33	27	27	0	12	87	87	0	45
16.0 Tack Coat															
14.1	*Rate of Spread of Binder*		Three tests per day	45	45	0	23	24	24	0	9	69	69	0	32

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17.0 Fine Aggregate MoRT&H 1008															
17.1	*Grade / Sieve analysis*	IS:2386 (Part1)	1 test per day	754	754	0	271	53	53	0	14	807	807	0	285
17.2	*Specific gravity& Water absorption*	IS:2386 (Part2)	As required	16	16	0	15	0	0	0	0	16	16	0	15
17.3	*Fineness Modulus*	MORT&H Sec. 1008&383	1 test per day	612	612	0	199	53	53	0	14	665	665	0	213
17.4	*Alkali aggregate reactivity test*	IS:2386 (Part-7)IS : 456	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0
17.5	*Deleterious material/silt*	IS:2386 (Part2)	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0
18.0 Coarse Aggregate MoRT&H 1007															
18.1	*Gradation*	IS:2386 (Part2)	1 test per day	652	652	0	255	53	53	0	14	705	705	0	269
18.2	*Specific gravity& Water absorption*	IS:2386 (Part3)	As required	18	18	0	15	0	0	0	0	18	18	0	15
18.3	*Aggregate Impact Value*	IS:2386 (Part4)	1 test / each source & monthly	212	212	0	103	13	13	0	6	225	225	0	109
18.4	*Flakiness index*	IS:2386 (Part1)	1 test / each source & monthly	182	182	0	90	13	13	0	6	195	195	0	96
18.5	*Soundness*	IS:2386 (Part5)	As required	0	0	0	0	0	0	0	0	0	0	0	0
18.6	*Alkali aggregate reactivity test*	IS:2386 (Part-7)IS : 456	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0
18.7	*Deleterious constituents*	IS:2386 (Part2)	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0
18.8	*Petrograhic Examination*	IS:2386 (Part8)	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0
19.0 Cement MoRT&H 1006															
19.1	*Chemical test / Physical test*	IS:4031,4032	1 test per source	6	15	0	6	0	0	0	0	6	15	0	6
19.2	*Fineness*	IS:4031 (Part1)	Every batch	272	272	0	138	11	11	0	6	283	283	0	144
19.3	*Normal Consistency*	IS:4031 (Part4)	Every batch	244	244	0	138	11	11	0	6	255	255	0	144
19.4	*Initial,Final setting time*	IS:4031 (Part5)	Every batch	244	244	0	138	11	11	0	6	255	255	0	144
19.5	*Soundness of Cement*	IS:4031 (Part3)	Every batch	197	197	0	110	11	11	0	5	208	208	0	115
19.6	*Compressive Strength-set*	IS:4031 (Part6)													
	3 days		1 test per Lot	204	204	0	108	11	11	0	6	215	215	0	114
	7 days		1 test per Lot	202	202	0	104	11	11	0	2	213	213	0	106
	28 days		1 test per Lot	186	186	0	94	14	14	0	4	200	200	0	98

S. No.	Description	IS Specification Clause	Frequency of Tests	*Test conducted upto Previous(DEC) month*				*Tests conducted during reporting month upto 31 MAR-2020*				*Test conducted upto this month*			
				No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE	No. of test Conducted EPC/ Concessionaire	Passed	Failed	Nos.of test witnessed by IE
20.0.(A) Concrete Cube Strength															
	M15 PCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	265	262	0	130	13	13	0	3	278	275	0	133
	28Days Compressive Strength			464	464	0	266	10	10	0	9	474	474	0	275
	M20 KERB														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	81	81	0	34	7	7	0	1	88	88	0	35
	28Days Compressive Strength			155	155	0	53	0	0	0	0	155	155	0	53
	M20 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	164	164	0	55	37	37	0	22	201	201	0	77
	28Days Compressive Strength			295	295	0	129	64	64	0	27	359	359	0	156
	M30 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	172	172	0	94	13	13	0	2	185	185	0	96
	28Days Compressive Strength			298	298	0	158	14	14	0	4	312	312	0	162
	M30 RCC PUMPABLE														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	16	16	0	13	0	0	0	0	16	16	0	13
	28Days Compressive Strength			31	31	0	20	4	4	0	0	35	35	0	20
	M35 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	155	155	0	119	4	4	0	2	159	159	0	121
	28Days Compressive Strength			330	330	0	227	5	5	0	2	335	335	0	229
	M35 PILING														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	587	587	0	317	36	36	0	9	623	623	0	326
	28Days Compressive Strength			1659	1653	0	991	102	102	0	54	1761	1755	0	1045
	M35 RCC PUMPABLE														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	264	264	0	108	46	46	0	13	310	310	0	121
	28Days Compressive Strength			648	648	0	314	105	105	0	48	753	753	0	362
	M35 RE BLOCK														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	525	525	0	178	37	37	0	12	562	562	0	190
	28Days Compressive Strength			1375	1375	0	499	131	131	0	29	1506	1506	0	528
	M40 PUMP														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	60	60	0	29	0	0	0	0	60	60	0	29
	28Days Compressive Strength			137	137	0	38	0	0	0	0	137	137	0	38
	M40 PILE														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	306	306	0	92	0	0	0	0	306	306	0	92
	28Days Compressive Strength			997	997	0	271	0	0	0	0	997	997	0	271
	M45 PUMP														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	40	40	0	8	17	17	0	1	57	57	0	9
	28Days Compressive Strength			103	103	0	15	23	23	0	4	126	126	0	19
	M50 RCC														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	6	6	0	6	0	0	0	0	6	6	0	6
	28Days Compressive Strength			12	12	0	12	0	0	0	0	12	12	0	12
	M60 PUMP														
	7Days Compressive Strength	MORT&H Sec. 1700	MORT&H Sec. 1700 No of sets	143	143	0	38	49	49	0	5	192	192	0	43
	28Days Compressive Strength			351	351	0	93	95	95	0	12	446	446	0	105

7. Weather Report

DATE	Temperature (°C)		Rainfall in mm	Humidity in %		Remarks
	Min	Max		Min	Max	
01-03-20	24.5	33.9	59	80	0.00	SUNNY
02-03-20	23.9	33.9	48	88	0.00	SUNNY
03-03-20	24.0	32.7	45	84	0.00	SUNNY
04-03-20	24.2	33.5	48	85	0.00	SUNNY
05-03-20	23.4	32.3	47	82	0.00	SUNNY
06-03-20	23.4	33.6	39	82	0.00	SUNNY
07-03-20	23.3	33.5	40	85	0.00	SUNNY
08-03-20	23.4	33.9	39	82	0.00	SUNNY
09-03-20	24.5	32.7	59	85	0.00	SUNNY
10-03-20	23.9	33.5	48	88	0.00	SUNNY
11-03-20	24.3	31.8	49	89	0.00	SUNNY
12-03-20	23.4	31.1	50	83	0.00	SUNNY
13-03-20	24.5	32.0	62	82	0.00	SUNNY
14-03-20	23.9	31.5	60	85	0.00	SUNNY
15-03-20	22.5	33.5	40	79	0.00	SUNNY
16-03-20	22.7	33.3	45	80	0.00	SUNNY
17-03-20	22.8	33.8	40	81	0.00	SUNNY
18-03-20	22.9	33.2	42	83	0.00	SUNNY
19-03-20	23.1	33.7	46	86	0.00	SUNNY
20-03-20	22.7	34.0	49	90	0.00	SUNNY
21-03-20	22.6	33.6	50	87	0.00	SUNNY
22-03-20	22.9	33.2	42	84	0.00	SUNNY
23-03-20	23.4	33.0	41	83	0.00	SUNNY
24-03-20	23.2	32.9	46	81	0.00	SUNNY
25-03-20	23.0	33.7	48	80	0.00	SUNNY
26-03-20	24.5	33.9	59	80	0.00	SUNNY
27-03-20	23.9	33.9	48	88	0.00	SUNNY
28-03-20	24.0	32.7	45	84	0.00	SUNNY
29-03-20	24.2	33.5	48	85	0.00	SUNNY
30-03-20	22.9	33.2	42	83	0.00	SUNNY
31-03-20	22.9	33.2	42	83	0.00	SUNNY

- Various issues related to environment and safety, such as traffic management, safety signage, disposal of waste materials and oil spillage, housekeeping, area barricading and traffic management, etc, are being taken care of during the execution of the project.

  Periodic Safety meetings being conducted on a regular basis and the details of the photographs for the same along with action taken are as below.

9. Support required from NHAI

Concessionaire requests NHAI to take early action on the following issues:

1. Pending Disbursement of Payment to the beneficiaries from CALA towards Land and Buildings in Cuddalore, Ariyalur & Thanjavur District. – Request Authority to advise/instruct the Competent Authority of Land Acquisition to speed up the process of disbursement of pending payment. Total affected length due to issues in Land acquisition is 18.35 Km out of 50.48 Km.

2. Additional land acquisition for toll plaza, bus bays, turning radius of major junctions along the project highways.

3. Finalization of Toll plaza location.

4. Change of Scope notice required for relocation of VUP @ Km 113+500 due to existence of electrical substation of TANGENDCO at Km:113+700 to 113+800(RHS).

5. Change of Scope notice required for widening of Existing Minor Bridge @ Km 101+095 from two lane to four-lane carriageway.

6. Change of Scope notice required for reconstruction of Existing Box Culvert @ Km 110+785 because the existing structure of said location at site is a Pipe Culvert, which has been mentioned as Box type in the concession agreement.

7. Removal of Electrical substation 85+300 to 85+400, which is obstructing the project highways.

8. NOC from PWD/WRO, Govt of Tamil Nadu for construction of Minor Bridge (13 Nos) and Major Bridge (3 Nos) as per below

Sl No	Description	Total scope (Nos.)	Submitted as on date (Nos.)	Approved as on date (Nos.)	Balance (Nos.)	Present Status
1	MNB	26	26	13	13	Under Processing with Engineer In Chief, Chennai
2	MJB	4	4	2	2	
	Total	30	30	15	15	

9. In sufficient Right of Way with respect to the land handed over as per Clause 10.3.1 of Concession Agreement at the time of Signing of Joint Memorandum.

10. Payment disbursement and necessary clearances required for removal of religious and Govt. buildings.

11. NOC from PWD/WRO, Govt. of Tamil Nadu for construction of project highways in the existing ponds (in a length of 1.702 Kms).

Sl No	Chainage		Length Affected (M)	Side	AVG Toe Width from CL "A"	Width/distance of Pond Edge from CL "C"
	From	To				
1	75+557	75+632	74.75	RHS	32.50	7.00
2	77+330	77+400	70.00	LHS	28.16	3.00
3	78+404	78+422	17.90	LHS	16.00	9.50
4	80+396	80+415	19.00	LHS	27.00	7.00
5	80+400	80+423	23.00	RHS	24.00	6.50
6	81+356	81+416	60.30	LHS	18.00	9.00

7	81+760	81+835	75.00	LHS	14.30	2.00
8	90+804	90+837	32.77	RHS	32.00	12.80
9	97+376	97+551	175.00	RHS	32.67	11.00
10	97+822	97+845	23.00	RHS	27.50	7.80
11	99+961	100+020	59.70	RHS	25.00	17.28
12	100+350	100+389	39.00	LHS	22.70	4.00
13	100+800	100+845	44.70	RHS	23.00	12.25
14	100+731	100+854	123.75	LHS	23.00	5.00
15	103+039	103+056	17.60	LHS	23.00	6.60
16	103+125	103+435	310.10	LHS	23.00	6.00
17	103+822	103+846	24.00	LHS	23.20	5.20
18	104+091	104+262	171.00	RHS	23.00	16.80
19	103+992	104+264	271.50	LHS	23.00	10.90
20	114+547	114+617	70.00	LHS	20.62	0.00
Total Length affected (in M)			1702.1			

12. Removal/relocation of existing irrigation sluice and regulator in the locations.

Sl. No.	Chainage	Distance from PCL	Remarks/Action to be taken	Present Status
1	68+644 (02 Nos)	-	To be shifted to edge of PROW	The site inspection by irrigation officials has been done and the relocation estimate to be forwarded by the PWD, Chidambaram to NHAI.
2	81+850	9.3m	To be shifted to edge of PROW	
3	81+870	1.8m	To be shifted to edge of PROW	
4	81+910	1.8m	To be shifted to edge of PROW	
5	82+010	1.8m	To be shifted to edge of PROW	
6	82+100	7.4m	To be shifted to edge of PROW	
7	103+990	5.97m	To be shifted to edge of PROW	Approval of estimate is pending with NHAI

13. Permission for Removal of Teak wood trees from the Project Highway in Cuddalore District in a length of 2.84 Kms.

Sl no	Name of the Village	Location/Chainage	Effected Length (in Km)	Remarks
1	Nandeeswaramanagalam	78+400 to 79+400	1.00	Teak Trees under Forest Dept. to be removed.
2	Cholatharam	79+730	0.25	
3	Pudaiyur	81+860	0.20	
4	Pudaiyur	82+100	0.15	
5	Agaraputhur	84+680	0.25	
6	Agaraputhur	84+830	0.25	
7	Agaraputhur	84+990	0.28	
8	Mamangalam Addl.	85+450	0.21	
9	Mamangalam Addl.	85+420	0.15	

14. Removal of Religious structures of 17 Nos. and Bus stand from the proposed ROW.

SL No	Chainage	Type of Structure	Side	Distance from PCL (M)	TCS Type	Formation Width Required from PCL	ROW From PCL	Remarks
Priority I – Obstruction of Main Carriage way & Service Road :-								
1.	86+350	Temple	LHS	7	Type - B with SR 7.5	21.25	26.10	
2.	87+500	Temple	LHS	13	Fig -7.8 with SR 5.5	22.75	26.80	
3.	92+455	Temple	LHS	14	Type - A3	18.80	23.70	
4.	92+570	Temple	RHS	12	Type - B with SR 7.5	21.25	28.80	
Priority II – Obstruction of Service Road :-								
1.	75+650	Temple	RHS	15	Fig -7.8 with SR 5.5	22.75	25.50	
2.	80+125	Temple	RHS	16	Type -A3	20.80	23.50	
3.	83+615	Temple	RHS	16	Type - B with SR 7.5	21.25	21.25	
4.	84+070	Temple	LHS	16	Type - B with SR 7.5	21.25	29.00	
5.	86+280	Temple	RHS	23	Type - B with SR 7.5	21.25	30.00	
6.	86+390	Temple	LHS	18	Type - B with SR 7.5	21.25	26.10	
7.	89+310	Temple	RHS	16	Type - B with SR 7.5	21.25	22.50	
8.	90+325	Temple	RHS	14	Fig -7.8 with SR 5.5	22.75	23.00	
Priority III – Falling Within ROW and effecting the Utility shifting works:-								
1.	76+600	Temple	RHS	24.5	Type - B with SR 7.5	21.25	31.10	
2.	91+780	Temple	RHS	22	TCS - 1	14.00	26.00	
3.	92+135	Temple	LHS	22	Type - A3	15.65	26.00	
4.	99+710	Temple	LHS	20	Type - A3	17.95	25.00	
5.	114+550	Temple	RHS	17	Type - A3	18.00	22.70	

15. Removal of Government Buildings like VAO office, School, Post Office & Ration Shop etc.

16. Removal of unauthorized occupations in 38 nos. in Cuddalore dist. & 32 nos. in Ariyalur dist. in the project highways,

17. Removal/relocation of Veeranam Pipes between Km: 65+960 to 66+200 causing material adverse effect on construction, Authority requested to take up the matter with Concern Department for early removal of the same.

18. Providing/finalization of land by the concern owning department for construction of Over Head Tank in the following locations:

S. No	Name of the Village	Location/ Chainage	Capacity of OHT	Remarks
1	Nandeeswaramangalam	77+760	30 KL	Land yet to be finalized
	Cholatharam	80+120	30 KL	
	Pattam	110+860	30 KL	

19. The World health Organization (WHO) has characterized the Novel Corona virus Disease (COVID-19) outbreak as global pandemic. Following the WHO's Announcement the union government of india has invoked Epidemic Disease Act on 12.03.2020. in this regard, Ministry of Home Affairs on 24.03.2020, it has directed to enforce lock down in all parts of the india and this order shall remain in force for a period of 21 days with effect from 25.03.2020 upto 14.04.2020.

Table 10.1. Details of Important Events

Sl. No	Date of Events	Description of Events	Remarks
1.	22-03-2020	Janata Curfew	
2.	24-03-2020 to 14-04-2020	Lockdown due to COVID-19	

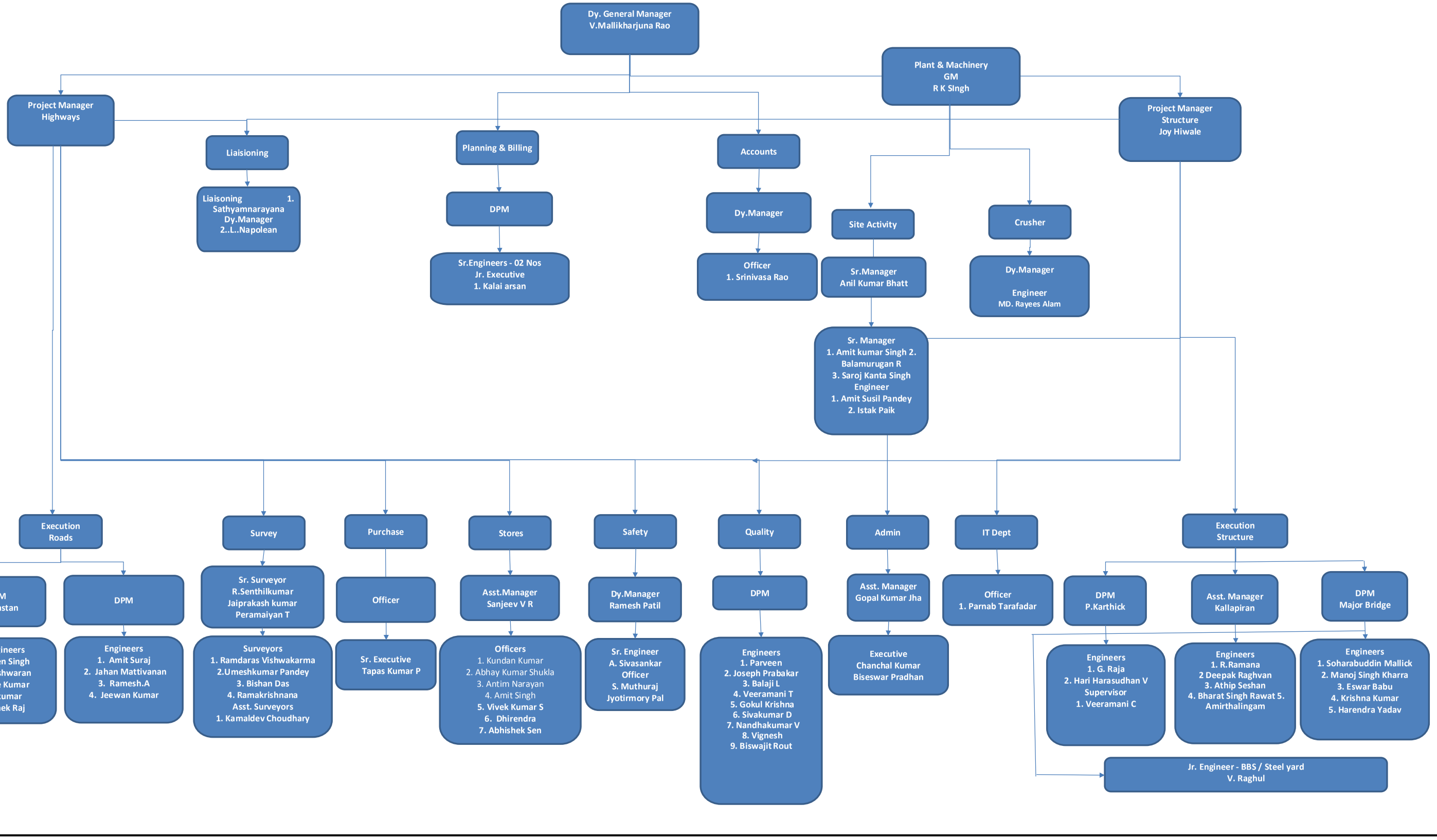
11. Organization Chart

The following figures represents the organization structure of the EPC and SPV Team.

1. Fig. 4 - Organization Chart - EPC Team

2. Fig. 5 - Organization Chart - SPV Team

ORGANIZATION CHART - EPC TEAM



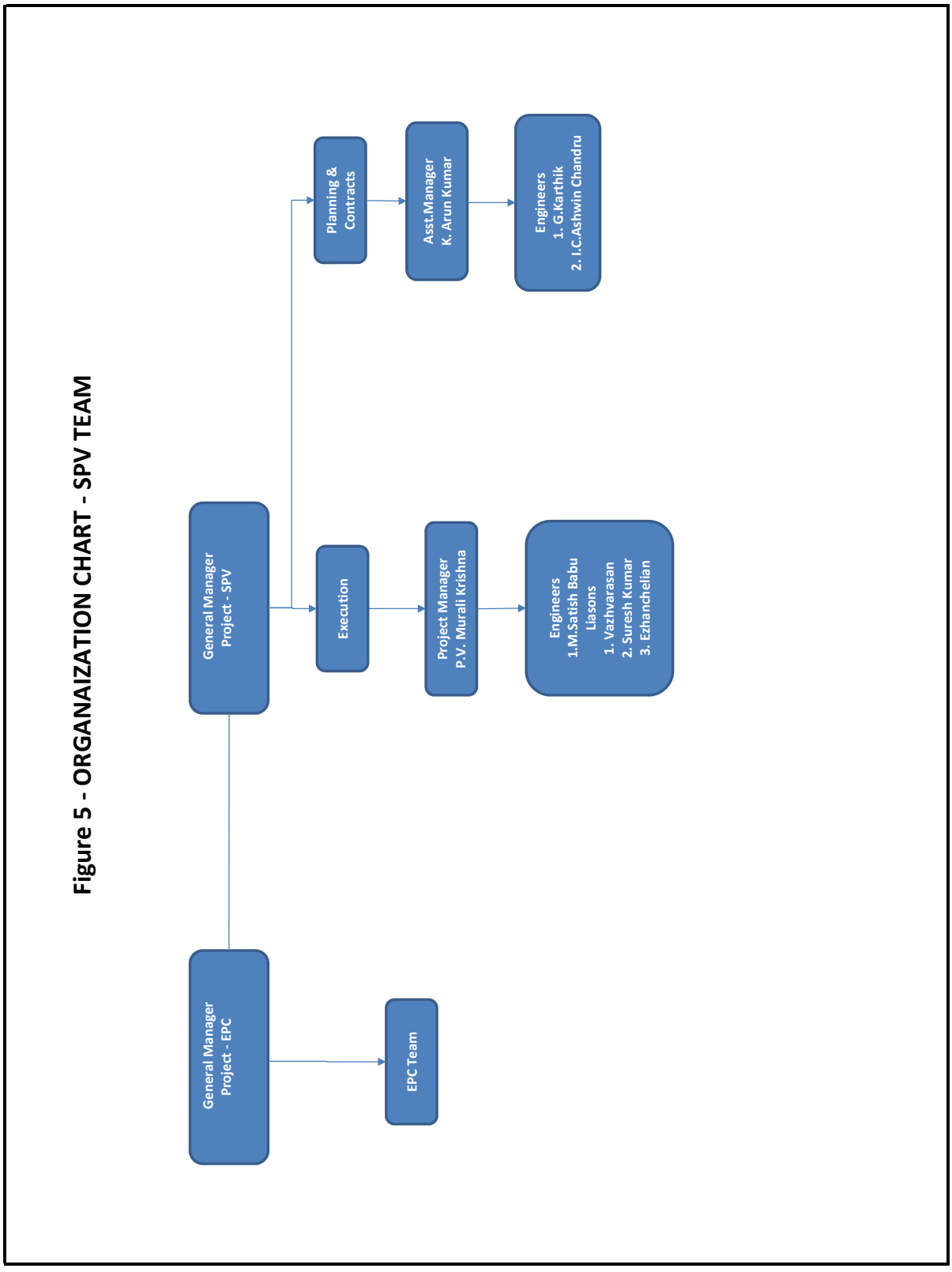


Figure 5 - ORGANAIZATION CHART - SPV TEAM

12. List of Plants, Machinery and Equipment's

Table 12.1 - List of Plants, Machinery and Equipment's

S.No.	Name of the Machinery	Capacity / Model	Mobilized in Nos.	Remarks
1	Grader	120K2	9	
2	Excavator	JCB-220	9	
3	Dozer		3	
4	Soil Compactor	HAMM 311	8	
5	Backhoe Loader	JCB 3DX	7	
6	Tipper	Bharat Benz- 3128C	73	
7	Transit Mixture	2523C	8	
8	Loader	455 ZX	4	
9	Trailer		2	
10	Water Tanker		5	
11	Boom Placer	S-36	1	
12	Tractor	5036 D V-2	2	
13	Mobile Service Van		1	
14	Tower Light	AJASKY	3	
11	Hydra Crane		2	
12	Asphalt Batch Mix Plant		1	
13	Wet Mix Plant	250 TPH	1	
14	Concrete Batch Mix Plant	45 cum	1	
15	Concrete Batch Mix Plant	60 cum	2	
16	Crusher Plant (3 Stage)	250 TPH	2	
17	Weigh Bridge for Camp 100MT	100MT	3	
18	Weigh Bridge for Crusher 100MT	100MT	2	
19	Genset Base Camp	25KV	1	
20	Genset 63KVA Boiler	63KVA Boile	1	
21	Genset (H.M & B/P)	82.50KV	3	
22	Genset (B/P-CP-45)	125KV	2	
23	Genset Concrete Plant-180 KVA	180 KVA	1	
24	Genset (Crusher)	1010KVA	3	
25	Gantry at Box Segment Casting Yard	100 MT	2	

Table 13.1 - Status of Change of Scope Proposals

Sl. No	Proposal Details	Date of Proposal	Current Status	COS Amount	Actual Date of Approval
1	Strengthening/upgrade the incident Management Service	10.05.2019	Required COS notice for Strengthening/upgrade the incident Management Service.	NA	NA
2	Relocation of VUP from Km. 113+550 to Km. 113+273	13.11.2018	The proposal for Shifting of VUP at Km. 113+550 had been submitted to IE/Authority through letter no. PSCHPL/HO/IE/101/2018 dated 13.11.2018.	NA	NA
3	Widening of existing Box Culvert at Km 110+ 785	25.01.2019	NHAI vide letter no. NHAI/PIU/Thanj./11019/59/2017/913 dated 17.05.2019 advised the IE to submit the comprehensive statement in this regards.	NA	NA
4	Widening of Existing MNB at Km. 101+095	29.05.2019	The proposal for Widening of Existing MNB at Km. 101+095 had been submitted to IE/Authority through letter no. PSCHPL/HO/SCP/IE/008/2019 dated 29.05.2019.	NA	NA
5	COS proposal for 09 nos of Box culvert and 01 MNB under +ve COS and 01 nos of Box culvert under –ve COS.	07.06.2019	IE had submitted the COS proposal to Authority vide Lr.No.TES/IE/SCP/NHAI/2019/087 dated 07.06.2019 for 09 nos of Box culvert and 01 MNB under +ve COS and 01 nos of Box culvert under –ve COS.	NA	NA

The following tables list out the correspondences between the parties.

Table 14.1. - Concessionaire to NHAI

Table 14.2. - NHAI to Concessionaire

Table 14.3. - Concessionaire to Independent Engineer

Table 14.4. - Independent Engineer to Concessionaire

TABLE 14.1 - CORRESPONDANCE - CONCESSIONAIRE TO NHAI				
S.No	Date	Letter No	Subject	Remarks
1	3/2/2020	PSCHPL/SCP/NHAI/2020/630	Deduction of credit amount againt Electrical Utility RA bill No 01,02,09	
2	3/21/2020	PSCHPL/SCP/NHAI/2020/642	RA Bill-11- Shifting of electrical utility as per clause 11.2.1 of Concession Agreement	
3	3/20/2020	PSCHPL/HO/SCP/NHAI/007/2020	Report on Occurrence of Force majuere Non political Event under Article 28,Clause 28.2 (a) of Concession agreement	
4	3/21/2020	PSCHPL/SCP/NHAI/2020/643	Regarding the lock down of project site due to Janta curfew on 22.03.2020	
5	3/24/2020	PSCHPL/HO/SCP/NHAI/008/2020	Regarding the lock down of project site upto 31.03.2020 due to novel Corona virus Disease (COVID-19)	
6	3/26/2020	PSCHPL/HO/SCP/NHAI/009/2020	Regarding the lock down of project site for 21 days effective from 25.03.2020	

TABLE 14.2 - CORRESPONDANCE - NHAI TO CONCESSIONAIRE				
S.No	Date	Letter No	Subject	Remarks
1	3/2/2020	NHAI/PIU/Thanj/11025/11/2018/460	Interim Extension of time and rescheduling of project milestone	
2	3/2/2020	NHAI/PIU/Thanj/11025/11/2018/462	Release of payment towards intrest bearing working capital advance	
3	3/4/2020	NHAI/PIU/Thanj/11025/11/2018/476	Remittance towards contribution of welfare cess Tamilnadu workers general welfare board	
4	3/5/2020	NHAI/PIU/Thanj/11025/08/2018/478	Shifting of electrical utilities like HT/LT lines & structures in Ariyalur Division Meensuritti section	
5	3/5/2020	NHAI/PIU/Thanj/11017/02/2007/480	Maintenance of Anaikarai to Thirupanandal road	
6	3/9/2020	NHAI/PIU/Thanj/11025/28/2019/509	Details of payment made for 20% advance against COS order	

TABLE 14.3 - CORRESPONDANCE - CONCESSIONAIRE TO INDEPENDENT ENGINEER				
S.No	Date	Letter No	Subject	Remarks
1	3/2/2020	PSCHPL/SCP/IE/2020/631	Submission of revised plan & profile drawings from Km 72+800 to Km 73+820 for main carriage way portion of the Project Highway	
2	3/2/2020	PSCHPL/SCP/IE/2020/632	Submission of revised design & drawings of MJB at Km 73+317 of the Project Highway	
3	3/3/2020	PSCHPL/SCP/IE/2019/633	Submission of RE Wall drawings for GSI at Km 98+950 & VUP at Km 106+320	
4	3/5/2020	PSCHPL/SCP/IE/2019/634	Compliance report -News Published in Dinamalar Daily-News Paper cutting received from District collector Thanjavur -Status Report called For	
5	3/5/2020	PSCHPL/SCP/IE/2019/635	Submission of Monthly progress report for the month of February 2020	
6	3/7/2020	PSCHPL/SCP/IE/2019/636	Submission of Soil test reports for the Borrow Area No 24	
7	3/7/2020	PSCHPL/SCP/IE/2019/637	Submission of Soil test reports for the Borrow Area No 25	
8	3/8/2020	PSCHPL/SCP/IE/2019/638	Deletion of VUP at Km 86+900 and GSI at Km 80+710 Submission of revised Plan & Profile between Km 79+860 to 81+440 and Km 86+280 to 87+420	
9	3/12/2020	PSCHPL/SCP/IE/2019/639	Submission of Compliance report -NCR-05-Kerb laying	
10	3/17/2020	PSCHPL/SCP/IE/2019/640	Submission of Soil test reports for the Borrow Area No 25 (Extn-01)	

TABLE 14.4 - CORRESPONDANCE - INDEPENDENT ENGINEER TO CONCESSIONAIRE / NHAI				
S.No	Date	Letter No	Subject	Remarks
1	3/2/2020	TES/IE/SC/NHAI/2020/132	Interim extension of Time and rescheduling of project milestone	
2	3/11/2020	TES/IE/SC/NHAI/2020/133	Shifting of Electrical utilities like HT/Lt lines and structures in ariyalur Division -Meensuritti Section RA bill-10	
3	3/11/2020	TES/IE/SC/NHAI/2020/134	Service road requested infront of power grid corporation substation of pappakudi South-Report Called for-Reply	
4	3/16/2020	TES/IE/SC/PIL/2020/452	Proposal of Borrow area No 23 Ex No 01	
5	3/16/2020	TES/IE/SC/PIL/2020/453	Proposal of Borrow area No 24	
6	3/16/2020	TES/IE/SC/PIL/2020/454	Proposal of Borrow area No 25	
7	3/16/2020	TES/IE/SC/PIL/2020/455	Submission of drawings for 2 nos of Major Bridges	
8	3/18/2020	TES/IE/SC/NHAI/2020/136	Determination of reasonable period for completeion of the works in the land handed over on appointed date+146 days	
9	3/27/2020	TES/IE/SC/NHAI/2020/137	Determination of reasonable period for completeion of the works in the land handed over on appointed date+146 days	

15. Progress Photographs

Sl. No	Description	Location	Side	Remarks
1.	EMBANKMENT WORK IN PROGRESS	71+000	LHS	
2.	EMBANKMENT WORK IN PROGRESS	96+300	BHS	

Sl. No	Description	Location	Side	Remarks
3.	WMM WORK IN PROGRESS	78+800 to 79+190	LHS	
4.				

Sl. No	Description	Location	Side	Remarks
5.	DBM COMPLETED	76+200	LHS	
6.		76+600	LHS	

Sl. No	Description	Location	Side	Remarks
7.	RE WALL ERECTION WORK IN PROGRESS	69+785	A1 Side	
8.			A2 Side	

Sl. No	Description	Location	Side	Remarks
9.	VUP ABUTMENT CAP COMPLETED	97+225	LHS	
10.	VUP ABUTMENT CAP IN PROGRESS	101+900	RHS	

Sl. No	Description	Location	Side	Remarks
11.	LVUP SLAB IN PROGRESS	112+643	BHS	
12.	VUP GIRDER CASTING IN PROGRESS	104+570	BHS	

Sl. No	Description	Location	Side	Remarks
13.	MJB LAUNCHING GIRDER ERECTION WORK IN PROGRESS	107+400	LHS