National Mission for Clean Ganga (NMCG)
Ministry of Water Resources, River Development & Ganga Rejuvenation, Govt. of India

The development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi in the State of Uttar Pradesh

(LoA File Number: Rd-63014/1/2017/PPP/NMCG)

Monthly Progress Report
of
Project Engineer

November - 2018

Executing Agency	Funding Agency	Project Engineer	Concessionaire
Uttar Pradesh Jal Nigam, Varanasi - 221 005	**National Mission for Clean Ganga** MoWR, River Development & Ganga Rejuvenation, New Delhi - 110002	**Mahindra Consulting Engineers Limited** Mahindra Towers, No. 17/18, Pattullous Road, Chennai - 600 002, Tamil Nadu, India	**Varanasi STP Project Private Limited** 6th Floor, Plot No. 19, Film City, Sector 16 A, Gautam Buddha Nagar, Noida, Uttar Pradesh - 201 301

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MONTHLY PROGRESS REPORT

1.0. INTRODUCTION

The GoI, recognizing that long-term rejuvenation of the river Ganga will have significant social and economic benefits on the lives of the 500 million people living along its basin, has identified cleaning of the river Ganga as one of its priorities. For this purpose, in May 2015, the GoI approved the flagship Namami Gange programme for cleaning, rejuvenation, and protection of the river Ganga. In January 2016, the GoI approved a hybrid annuity model to implement STP projects under the Namami Gange programme on a PPP basis.

Subsequently, the MoWR issued the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 (Ganga 2016 Order) to constitute various authorities to assist the GoI in achieving its aim of effective abatement of pollution in the river Ganga. The Ganga 2016 Order applies to all states in the catchment of the river Ganga basin, including Uttar Pradesh. The Ganga 2016 Order revised the legal status of NMCG (which was initially constituted as a registered society under the Societies Registration Act, 1860) to an authority constituted under the Environment (Protection) Act, 1986 and designated NMCG as the nodal agency for the implementation of the Ganga 2016 Order.

Rapidly increasing population, rising standards of living and exponential growth of industrialisation and urbanisation have exposed water resources, in general, and rivers, in particular, to various forms of degradation. The mighty Ganga is no exception. The deterioration in the water quality impacts the people immediately. Ganga, in some stretches, particularly during lean seasons has become unfit even for bathing. The threat of global climate change, the effect of glacial melt on Ganga flow and the impacts of infrastructural projects in the upper reaches of the river, raise issues that need a comprehensive response.

In the Ganga basin approximately 12,000 million litres per day (MLD) sewage is generated, for which presently there is a treatment capacity of only around 4,000 MLD. Approximately 3000 MLD of sewage is discharged into the mainstream of the river Ganga from the Class I & II towns located along the banks, against which treatment capacity of about 1000 MLD has been created till date.

The Uttar Pradesh Jal Nigam (Jal Nigam) is a statutory body constituted under the Uttar Pradesh Water Supply and Sewerage Act, 1975, and has the power to develop, maintain and regulate water supply and sewerage works in Uttar Pradesh. With a view to implement the Namami Gange programme and the Ganga 2016 Order, the Jal Nigam, in association with the NMCG, has decided to undertake the development of an STP with a proposed capacity of 50 MLD along with other Facilities and Associated Infrastructure at Varanasi on a PPP basis, through a hybrid annuity model. While the Jal Nigam will be the principal executing agency and bidding authority for the Project, NMCG will be responsible for making payments to the Concessionaire.

The objectives that NMCG and the UP Jal Nigam wish to achieve through the Project is mentioned in **Figure 1**.

- Intercept raw sewage flowing into the river Ganga and divert the raw sewage to the Varanasi STP;
- Treatment of the raw sewage at the Varanasi STP;
- Implement viable technologies and international best practices for development, operation and maintenance of the Varanasi STP and other facilities and
- Demonstrate large scale private sector participation and mobilisation of private sector investment to further the national aim of rejuvenation of the river Ganga.

Figure 1: Objectives of NMCG and UP JAL NIGAM

Government of India, has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga, various interventions are planned such as Interception & Diversion works and development & operation of Sewage Treatment Plants (STPs). Considering various development models in practice for the construction, operation and maintenance

of Sewage Treatment Plants, Government of India has approved the Hybrid Annuity based Public Private Partnership (PPP) mode as one of the options for the development & operation of STPs. Under this model, private investor/developer will design, build, finance, operate and transfer the asset (STP) to the Project Executing Agency/Jal Nigam/Jal Sansthan / Urban Local body at the end of the Concession Period (say 15 years). 40% of the Capital cost will be paid to the developer during construction of the STP. Balance 60% along with Operation & Maintenance (O&M) cost will be paid over the Concession Period on achievement of key performance indicators as per the contract. Entire cost of development and operation of the STPs will be 100% funded by the Government of India as central sector scheme. It is also envisaged to explore the possibility of recycle/ reuse of the treated waste water for non-potable purpose.

NMCG & UPJN appointed M/s. Mahindra Consulting Engineers Limited, Chennai as Project Engineer for this project through tendering process. Letter of Award is issued dated 5th January 2018 and agreement signed between the parties on 16th February 2018.

1.1. Project components

1.1.1. New construction units

- Inlet structure
- Grit chambers & Parshall flume
- SBR tanks
- Chlorine contact tank
- Overhead treated water tank
- Air blower room
- Belt filter press building
- Chlorination building
- Electrical building and control room
- Admin building, laboratory room
- Transformer yard, internal roads & drainage
- Treated water pump house
- Treated effluent disposal line
- Bund wall
- Staff quarters
- Approach road

1.1.2. Rehabilitation works

- Rehabilitation of Main Pumping Station (MPS)
- Construction of Weir
- Strengthening & Pipe protection of Rising main
- Construction of Control room
- Rerouting the raising main near Samne Ghat

1.2. Executing agency

- Uttar Pradesh Jal Nigam (UPJN)

1.3. Implementation agency

- Uttar Pradesh Jal Nigam (UPJN)

1.4. Consulting services

- **Project Engineer**
  - Mahindra Consulting Engineers Ltd, Chennai

1.5. Concessionaire

- Varanasi STP Project Private Limited

2.0. STATUS OF PROJECT

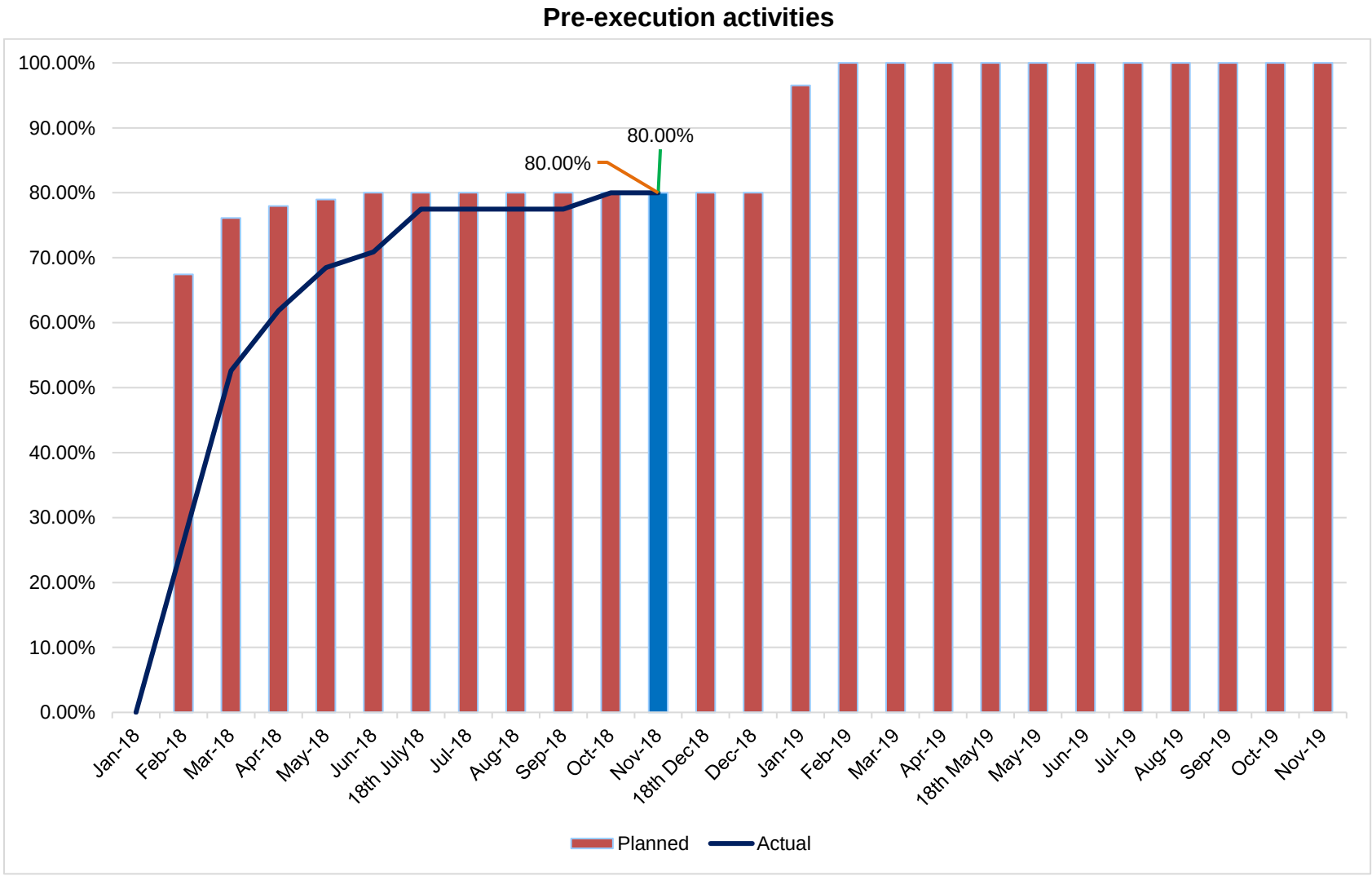
STATUS	**:**	**CONSTRUCTION STAGE**
Concessionaire Contract Agreement No.	:	SUBIN-DLDL80840374672746341531P
Name of the Concessionaire	:	Varanasi STP Project Pvt. Ltd.
Commencement date	:	19th February 2018
Completion date (as per contract):		18th November 2019

2.1. Physical status

2.1.1. Pre-execution activities

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Pre - Execution Activities	**12-Oct-17**	**04-Feb-19**	**80.00%**	**80.00%**		**80.00%**
Temporary Power Connection (During Construction Period)	12-Oct-17	30-Apr-18	100%	100%		100%
Permanent Power Connection	06-Jan-18	04-Feb-19				
Submission of Resource Plan including Mobilization plan	12-Oct-17	19-Feb-18	100%	100%		100%
Setting up of temporary site office	11-Nov-17	18-Feb-18	100%	100%		100%
Removal of debris & Shrubs	11-Nov-17	19-Feb-18	100%	100%		100%
Bore well construction	11-Nov-17	19-Feb-18	100%	100%		100%
Other temporary execution	20-Feb-18	11-Mar-18	100%	100%		100%
Topographical / Soil Investigation	11-Nov-17	20-Dec-17	100%	100%		100%
Condition Precedent required to be satisfied by Concessionaire	12-Oct-17	19-Feb-18	100%	100%		100%
Condition Precedent required to be satisfied by Jal Nigam	12-Oct-17	19-Feb-18	100%	100%		100%
Condition Precedent required to be satisfied by NMCG	12-Oct-17	19-Feb-18	100%	100%		100%
Appointment of Design Consultant	12-Oct-17	09-Jan-18	100%	100%		100%
Submission & Approval of Sub Contracts from UPJN	01-Feb-18	30-Jun-18	100%	100%		100%

2.1.2. Pre-execution activities - Physical progress graph



2.1.3. Design detailed engineering

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Design Detailed Engineering	11-Oct-17	30-Oct-18	100.00%	85%	1.50%	86.50%
PHASE-1 Design, drawings and documentation for basic engineering package	**11-Oct-17**	**07-Feb-18**	**100.00%**	**100.00%**		**100.00%**
Basic engineering package	11-Oct-17	08-Jan-18	100%	100%		100%
Approval (BEP)	09-Jan-18	07-Feb-18	100%	100%		100%
Topographical / soil investigation	**11-Nov-17**	**20-Dec-17**	100%	100%		100%
Phase-II D&E (civil, mechanical, electrical, inst. drawings)	**10-Jan-18**	**25-Sep-18**	**100%**	**95.30%**	**1.50%**	**96.80%**
Plant layout / site layout	11-May-18	23-May-18	100%	85%	5%	90%
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	85%	15%	100%
Bund Wall	10-Jan-18	18-Feb-18	100%	100%		100%
Inlet chamber with fine screens, grit removal and Parshall flume	20-Mar-18	08-Apr-18	100%	100%		100%
Administrative & security building	09-Apr-18	13-May-18	100%	100%		100%
Air blower & MCC room	15-Mar-18	02-Jun-18	100%	100%		100%
Staff quarters	09-Apr-18	23-May-18	100%	100%		100%
SBR basins & SBR outlet chamber	05-Mar-18	29-Mar-18	100%	100%		100%

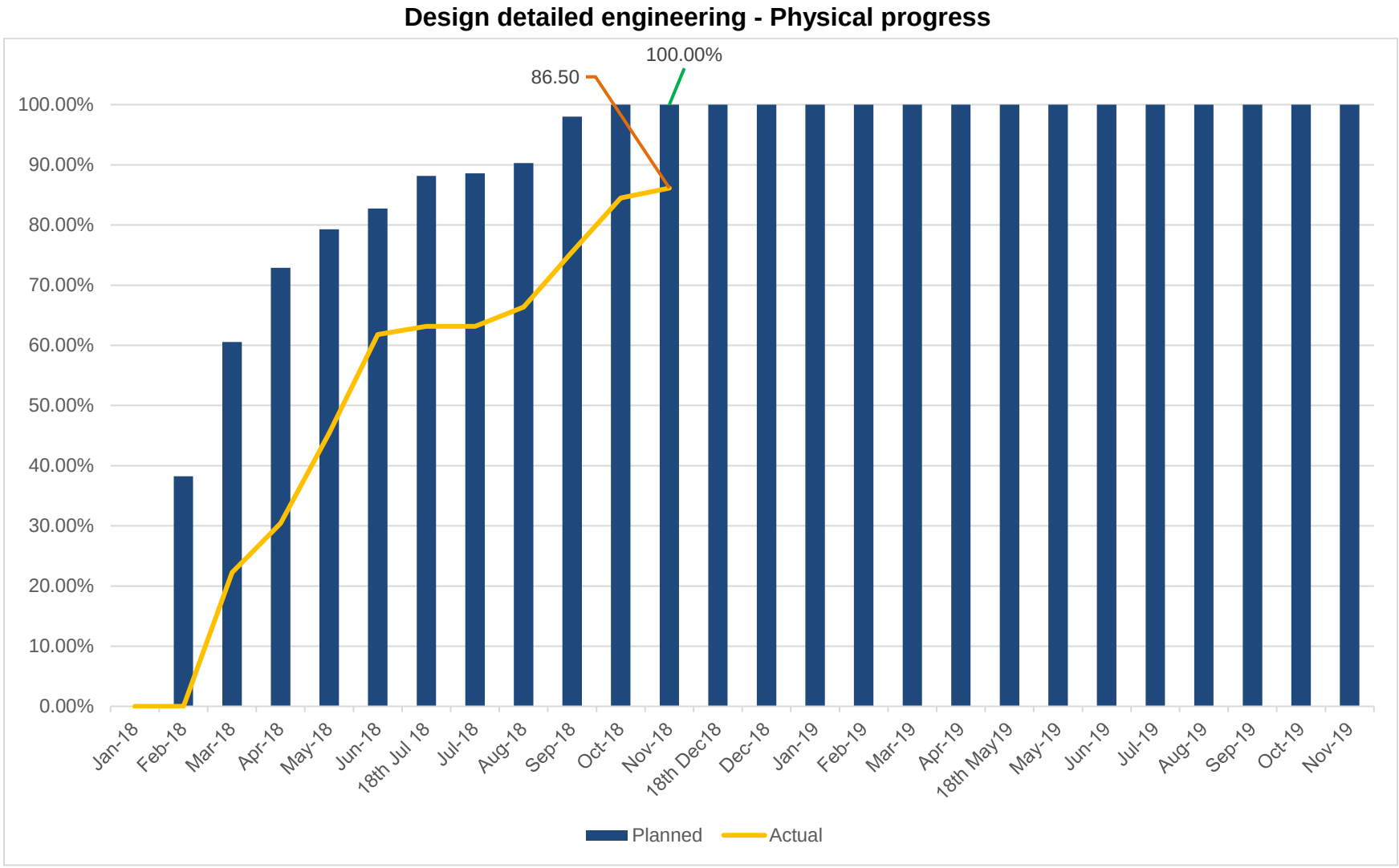
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Chlorine contact tank & treated water collection tank	25-Mar-18	25-Apr-18	100%	100%		100%
Treated water overhead tank	04-Apr-18	28-May-18	100%	100%		100%
Sludge treatment building / BFP	10-Sep-18	25-Sep-18	100%	100%		100%
Weir across Assi Nalla	05-Mar-18	14-Mar-18	100%	60%		60%
Final outfall chamber	01-Jul-18	18-Jul-18	100%	80%		80%
Raw water receiving chamber	01-Jul-18	18-Jul-18	100%	60%		60%
Electrical control room	01-Jul-18	18-Jul-18	100%	40%		40%
Structural drawings submissions & approvals	**02-Feb-18**	**30-Sep-18**	**100.00%**	**92.40%**	**1.60%**	**94.00%**
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	80%		80%
Inlet chamber with fine screens, grit removal and Parshall flume	20-Mar-18	08-Apr-18	100%	100%		100%
Administrative & security building	09-Apr-18	13-May-18	100%	100%		100%
Air blower & MCC room	15-Mar-18	02-Jun-18	100%	100%		100%
Staff quarters	09-Apr-18	23-May-18	100%	100%		100%
SBR basins & SBR outlet chamber	05-Mar-18	29-Mar-18	100%	100%		100%
Chlorine contact tank & treated water collection tank	25-Mar-18	25-Apr-18	100%	100%		100%
Treated water overhead tank	04-Apr-18	28-May-18	100%	100%		100%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Sludge treatment building / BFP	10-Sep-18	30-Sep-18	100%	100%		100%
Weir across Assi Nalla	05-Mar-18	14-Mar-18	100%			
Final outfall chamber	01-Jul-18	18-Jul-18	100%	60%		60%
Raw water receiving chamber	06-Sep-18	15-Sep-18	100%			
Electrical control room	06-Sep-18	15-Sep-18	100%	40%		40%
Design, drawings and documentation for mechanical GAD	**13-Feb-18**	**15-Sep-18**	**100%**	**69.20%**	**4%**	**73.40%**
Inlet chamber with fine screens, grit removal and Parshall flume	23-Feb-18	19-Mar-18	100%	100%		100%
SBR basins & SBR outlet Chamber	13-Feb-18	04-Mar-18	100%	100%		100%
Chlorine contact tank & treated water collection tank	05-Mar-18	24-Mar-18	100%	100%		100%
Treated water overhead tank	15-Mar-18	03-Apr-18	100%	40%	40%	80%
Sludge treatment building / BFP	28-Jul-18	16-Aug-18	100%	60%		60%
Air blower & MCC room	05-Sep-18	15-Sep-18	100%	100%		100%
Weir across Assi nalla	13-Feb-18	04-Mar-18	100%	40%		40%
Final outfall chamber	01-Jul-18	18-Jul-18	100%			
Overall piping drawings	30-May-18	05-Sep-18	100%			

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Design, drawings and documentation for electrical & instrumentation works	**10-Mar-18**	**08-Oct-18**	**100%**	**62%**	**3%**	**65%**
Transformer	10-Mar-18	08-Apr-18	100%	100%		100%
DG set	10-Mar-18	08-Apr-18	100%	100%		100%
Electrical load list	10-Mar-18	08-Apr-18	100%	80%	20%	100%
PCC MCC panels	10-Mar-18	18-Jul-18	100%			
Cables / earthing/ lightning - layout plan, sizing, schedule	15-Sep-18	05-Oct-18	100%	60%		60%
Cable trays	01-May-18	18-Jul-18	100%	60%		60%
Flow meters	15-Sep-18	05-Oct-18	100%	40%		40%
Analysers	15-Sep-18	05-Oct-18	100%	40%		40%
SLD	19-Mar-18	18-Jun-18	100%	80%		80%
Design calculation	10-Mar-18	18-Jul-18	100%	40%		40%
Electrical & instrumentation control philosophy	25-Sep-18	08-Oct-18	100%	40%		40%
Plant lighting layout plan	25-Sep-18	05-Oct-18	100%			
Gauges	25-Sep-18	05-Oct-18	100%			
Instrumentation document submissions & approvals	**01-Jun-18**	**30-Oct-18**	**100%**	**35%**		**35%**
Instrument index / alarm list	01-Jun-18	18-Jul-18	100%	80%		80%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Instrument hook - up diagram	01-Jun-18	18-Jul-18	100%	60%		60%
PLC - I/O list, loop wiring diagram, design of SCADA	05-Oct-18	30-Oct-18	100%			
Cause & effect diagram	01-Jun-18	18-Jul-18	100%			

2.1.4. Design detailed engineering - Physical progress graph



2.1.5. Equipment procurement, logistics and receipt of equipment at site

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Equipment Procurement, Logistics and receipt of equipment at Site			**17%**	**10%**		**10%**
Fine Screen / Coarse Screen / Belt Conveyors	**24-May-18**	**18-Dec-18**	**44.30%**	**30.4%**		**30.4%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	24-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	17-Sep-18	10-Dec-18	88%	59%		59%
Inspection / Logistics	08-Dec-18	10-Dec-18				
Receipt of equipment at site	11-Dec-18	18-Dec-18				
Grit Removal Mechanism	**24-May-18**	**10-Mar-19**	**28.80%**	**18.0%**		**18.0%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	24-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	10-Feb-19	56%	33%		33%
Inspection / Logistics	12-Feb-19	27-Feb-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Receipt of equipment at site	28-Feb-19	10-Mar-19				
SBR System (Decanters)	**19-May-18**	**16-May-19**	**22.60%**	**18.5%**		**18.5%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	19-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	31-Mar-19	43%	34%		34%
Inspection / Logistics	01-Apr-19	16-Apr-19				
Receipt of equipment at site	17-Apr-19	16-May-19				
Submersible (SAS / RAS/ Filtrate / BFP feed)	**31-May-18**	**18-Dec-18**	**43.90%**	**29.5%**		**29.5%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	03-Sep-18	13-Dec-18	87%	57%		57%
Inspection / Logistics	01-Dec-18	10-Dec-18				
Receipt of equipment at site	14-Dec-18	18-Dec-18				
Horizontal centrifugal pumps (Treated water pumps)	**31-May-18**	**18-Dec-18**	**42.50%**	**1.8%**		**1.8%**

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	25-Jul-18	100%	80%		80%
Manufacturing of Equipment	10-Sep-18	15-Dec-18	84%			
Inspection / Logistics	01-Dec-18	10-Dec-18				
Receipt of equipment at site	16-Dec-18	18-Dec-18				
Air Blowers	**01-May-18**	**18-May-19**	**22.7%**	**18.5%**		**18.5%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	30-Mar-19	43%	34%		34%
Inspection / Logistics	31-Mar-19	29-Apr-19				
Receipt of equipment at site	30-Apr-19	18-May-19				
Chlorination System	**05-Sep-18**	**18-May-19**	**18.1%**	**15.1%**		**15.1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	05-Sep-18	29-Sep-18	100%	100%		100%
Manufacturing of Equipment	01-Oct-18	30-Mar-19	33%	27%		27%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Inspection / Logistics	01-Apr-19	11-May-19				
Receipt of equipment at site	12-May-19	18-May-19				
Sluice Gates	**05-Mar-18**	**18-Dec-18**	**43%**	**1%**		**1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	05-Mar-18	18-Jul-18	100%	60%		60%
Manufacturing of Equipment	25-Sep-18	12-Dec-18	85%			
Inspection / Logistics	01-Dec-18	10-Dec-18				
Receipt of equipment at site	13-Dec-18	18-Dec-18				
MS/CS/SS/GI/CI/DI Piping	**01-Jan-19**	**12-Aug-19**				
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-Jan-19	15-Feb-19				
Manufacturing of Equipment	01-Mar-19	30-Jul-19				
Inspection / Logistics	31-Jul-19	10-Aug-19				
Receipt of equipment at site	11-Aug-19	12-Aug-19				
Valves	**01-Jan-19**	**12-Aug-19**				
Submission & Approval of Drgs / Docs & data sheets	01-Jan-19	17-Jan-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
including release of purchase order						
Manufacturing of Equipment	01-Mar-19	30-Jul-19				
Inspection / Logistics	31-Jul-19	10-Aug-19				
Receipt of equipment at site	11-Aug-19	12-Aug-19				
Motorized Gates at Inlet of SBR	**01-May-18**	**18-May-19**	**2%**	**1%**		**1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	30-Aug-18	100%	50%		50%
Manufacturing of Equipment	11-Jan-19	05-Apr-19				
Inspection / Logistics	07-Apr-19	07-May-19				
Receipt of equipment at site	08-May-19	18-May-19				
Diffusers	**12-May-18**	**23-Apr-19**	**28%**	**11%**		**11%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	12-May-18	14-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	15-Feb-19	54%	18%		18%
Inspection / Logistics	16-Feb-19	02-Apr-19				
Receipt of equipment at site	03-Apr-19	23-Apr-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Volute press	**15-Oct-18**	**13-Jul-19**	**2%**	**11%**		**11%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18	100%	100%		100%
Manufacturing of Equipment	29-Dec-18	30-Jun-19		18%		18%
Inspection / Logistics	30-May-19	28-Jun-19				
Receipt of equipment at site	01-Jul-19	13-Jul-19				
PE Dosing Tanks	**15-Oct-18**	**13-Jul-19**	2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18	100%			
Manufacturing of Equipment	29-Dec-18	30-Jun-19				
Inspection / Logistics	30-May-19	28-Jun-19				
Receipt of equipment at site	01-Jul-19	13-Jul-19				
Agitators	**01-May-18**	**23-Jul-19**	**18%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	18-Jul-18	100%			

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Manufacturing of Equipment	01-Sep-18	08-Jun-19	32%			
Inspection / Logistics	09-Jun-19	08-Jul-19				
Receipt of equipment at site	09-Jul-19	23-Jul-19				
Transformers	**02-Jul-18**	**21-Jul-19**	**2.2%**	**1.30%**		**1.3%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	02-Jul-18	18-Jul-18	100%	60%		60%
Manufacturing of Equipment	19-Dec-18	15-Jun-19				
Inspection / Logistics	25-Jun-19	30-Jun-19				
Receipt of equipment at site	01-Jul-19	21-Jul-19				
HT cables	**29-Sep-18**	**26-Jul-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	29-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Mar-19	30-Jun-19				
Inspection / Logistics	05-Jul-19	15-Jul-19				
Receipt of equipment at site	16-Jul-19	26-Jul-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
MCC panel	**23-Jun-18**	**16-Aug-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	23-Jun-18	27-Jul-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
HT Panel	**07-Sep-18**	**16-Aug-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
PLC Panel	**07-Sep-18**	**16-Aug-19**	**2%**	**1.33%**		**1.33%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
SCADA System	**07-Sep-18**	**16-Aug-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
MLDB, LDB & SLDBS	**07-Sep-18**	**16-Aug-19**	**2%**	**1%**		**1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				

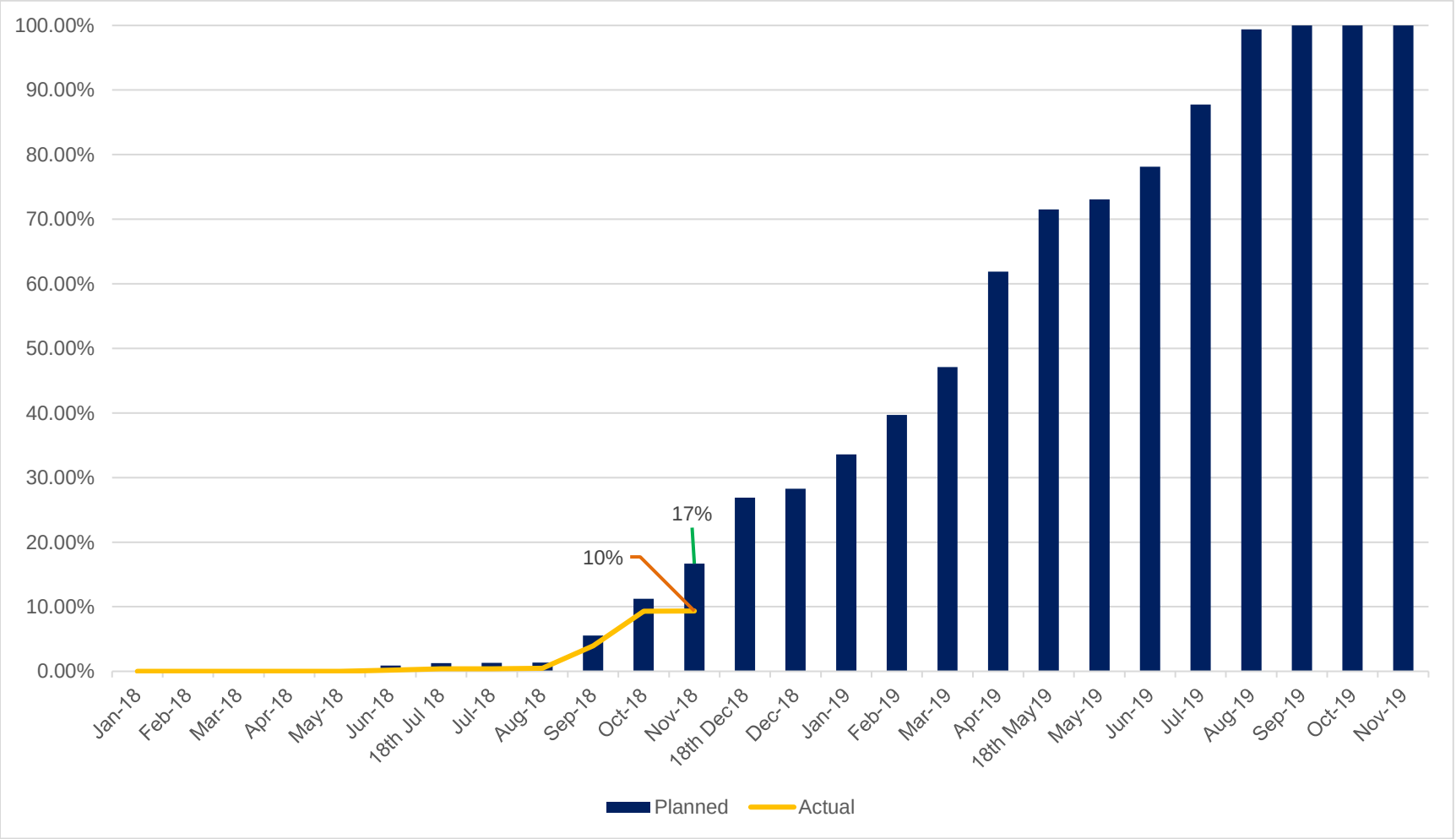
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Push Button Stations / Plant lighting / Buildings lighting	**07-Sep-18**	**16-Aug-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Power, Control & lighting Cables	**07-Sep-18**	**16-Aug-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Cable trays/Lighting JB	**07-Sep-18**	**16-Aug-19**	**2%**			
Submission & Approval of Drgs / Docs & data sheets	07-Sep-18	09-Nov-18	100%			

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
including release of purchase order						
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
DG Set	**07-Sep-18**	**16-Aug-19**	**2%**	**1.33%**		**1.33%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Plant Earthing	**07-Sep-18**	**16-Aug-19**	**2%**	**1%**		**1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	20-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Instruments (Flow meter / Analyser)	**20-Nov-18**	**16-Aug-19**	**1%**	**1%**		**1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	20-Nov-18	15-Dec-18	40%	40%		40%
Manufacturing of Equipment	18-Mar-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches)	**20-Nov-18**	**05-Sep-19**	**1%**	**1%**		**1%**
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	20-Nov-18	15-Dec-18	40%	40%		40%
Manufacturing of Equipment	18-Mar-19	30-Jul-19				
Inspection / Logistics	01-Aug-19	30-Aug-19				
Receipt of equipment at site	31-Aug-19	05-Sep-19				

2.1.6. Equipment procurement, logistics and receipt of equipment at site - Physical progress graph

Procurement - Physical progress



2.1.7. New construction units

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Civil Executions	**6-Apr-18**	**15-Aug-19**	**63%**	**44%**	**6%**	**50.00%**
Bund Wall / Earthen Embankment	**19-Feb-18**	**30-Aug-19**	**67.3%**	**59.3%**		**59.3%**
Excavation	19-Feb-18	8-May-18	100%	100%		100%
Filling & Compaction of Bund Wall up to 1.0 Mtr Height	10-Apr-18	8-Jul-18	100%	100%		100%
Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height	9-Jul-18	25-Oct-18	100%	63%		63%
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	1-Oct-18	29-Nov-18	51%	30%		30%
Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height	7-Nov-18	18-Dec-18		8%		8%
Stone Pitching work, Side Drain Work & Fencing work	20-May-19	30-Aug-19				
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	**3-Jun-18**	**30-Jun-19**	**61.00%**	**37.80%**	**11%**	**48.80%**
Excavation	3-Jun-18	12-Jun-18	100%	95%	5%	100%
PCC & RCC of Footing	13-Jun-18	18-Jul-18	100%	63%	33%	96%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Inlet Chamber Slab with Column, Wall	20-Sep-18	15-Dec-18	83%		1%	1%
Grit Chamber Slab with Column	1-Dec-18	28-Feb-19				
Parshall flume slab with Column	1-Mar-19	30-Mar-19				
Hydrotesting including finishing works	1-Jun-19	30-Jun-19				
SBR Basins & SBR outlet Chamber	**9-Apr-18**	**15-Jul-19**	**68.1%**	**49.3%**	**6.90%**	**56.20%**
Excavation	9-Apr-18	7-Jun-18	100%	100%		100%
PCC & Raft RCC at 72.00 level	10-Apr-18	29-Jul-18	100%	98%	2%	100%
Wall 1st Lift	5-Jun-18	30-Aug-18	100%	47%	15%	63%
Wall 2nd Lift	7-Jun-18	5-Sep-18	100%	23%	14%	37%
Wall 3rd Lift	24-Sep-18	15-Jan-19	33%	17%	9%	26%
Wall Final Lift	7-Feb-19	6-Apr-19		12%	15%	27%
Walkways and Channels	6-Apr-19	11-May-19			3%	3%
Hydrotesting	20-May-19	15-Jul-19				
Construction of CCT including Chlorination room & Treated water pump House	**26-Apr-18**	**24-Aug-19**	**55.0%**	**31.9%**	**11.8%**	**43.8%**
Excavation	26-Apr-18	4-Jul-18	100%	100%		100%
PCC & Raft RCC	15-May-18	25-Jul-18	100%	62%	37%	100%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
50% RCC of Structure	20-Jun-18	10-Oct-18	100%	38%	18%	55%
50% RCC of Structure	20-Jan-19	18-May-19				
Completion of Brick work and Plaster	6-Apr-19	30-Jul-19				
Hydrotest including finishing works	9-Aug-19	24-Aug-19				
Final Outfall Chamber	**19-May-19**	**3-Aug-19**				
Excavation, Dressing, Filling G & PCC	19-May-19	23-May-19				
Foundation and Raft	29-May-19	17-Jun-19				
Wall & Super Structure	18-Jun-19	18-Jul-19				
Hydrotesting & finishing works	19-Jul-19	3-Aug-19				
Overhead Treated Water Tank	**1-Jun-18**	**1-Aug-19**	**52.3%**	**15.0%**	**15.0%**	**30.0%**
Excavation	1-Jun-18	5-Jun-18	100%	100%		100%
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%	25%	75%	100%
50% RCC of Structure	9-Oct-18	18-Dec-18	74%			
50% RCC of Structure	25-Feb-19	6-May-19				
Finishing Works	19-Jun-19	1-Aug-19				
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	**15-Oct-18**	**13-Jul-19**	**22.3%**	**15.0%**		**15.0%**

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Excavation	15-Oct-18	30-Oct-18	100%	100%		100%
PCC & Raft RCC	1-Nov-18	18-Dec-18	62%	25%		25%
50% RCC of Structure	18-Jan-19	18-Mar-19				
50% RCC of Structure	19-Mar-19	17-May-19				
Completion of Brick work and Plaster	19-Apr-19	18-May-19				
Finishing Works	20-May-19	13-Jul-19				
Administrative Building including lab and workshop	**3-Feb-18**	**11-Jul-19**	**51.4%**	**30.0%**	**5.1%**	**35.1%**
Excavation	8-Jun-18	17-Jun-18	100%	100%		100%
PCC & Raft RCC	18-Jun-18	18-Jul-18	100%	100%		100%
50% RCC of Structure	16-Oct-18	18-Dec-18	71%		17%	17%
50% RCC of Structure	3-Feb-19	7-Apr-19				
Completion of Brick work and Plaster	8-Apr-19	17-May-19				
Finishing Works	28-May-19	11-Jul-19				
Staff Quarters	**8-Jun-18**	**16-Nov-19**	**30.0%**	**27.6%**	**4.6%**	**32.2%**
Excavation	8-Jun-18	17-Jun-18	100%	100%		100%
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%	85%	6%	91%
50% RCC of Structure	20-May-19	9-Jul-19		3%	17%	20%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
50% RCC of Structure	9-Jul-19	28-Aug-19				
Completion of Brick work and Plaster	28-Aug-19	27-Sep-19				
Finishing Works	27-Sep-19	16-Nov-19				
Roads, Drainage & Fire Fighting system	**3-Jun-19**	**31-Aug-19**				
Roads work & Fire fighting	3-Jun-19	1-Aug-19				
Drainage Works	18-Jun-19	22-Aug-19				
Landscaping & Finishing	18-Jun-19	31-Aug-19				
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	**3-Jun-18**	**29-Aug-19**	**58.8%**	**30.1%**	**1.7%**	**31.7%**
Excavation	3-Jun-18	2-Jul-18	100%	100%		100%
PCC & RCC of Footing	3-Jul-18	18-Jul-18	100%	100%		100%
RCC up to Plinth	15-Sep-18	11-Oct-18	100%		17%	17%
RCC up to Lintel Beams	15-Oct-18	15-Nov-18	100%			
RCC Roof Slab	16-Nov-18	18-Dec-18	44%			
Brick Work	1-Jan-19	21-Mar-19				
Plastering	22-Mar-19	15-May-19				
Painting & Finishing	15-Jun-19	29-Aug-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Mechanical Installation	**1-Aug-19**	**30-Aug-19**				
Erection of Mechanical Equipment	1-Aug-19	30-Aug-19				
Electrical & Instrumentation Installation	1-Aug-19	31-Aug-19				
Pre - Commissioning	1-Sep-19	30-Sep-19				
Trail Run - COD	1-Oct-19	21-Oct-19				
Commissioning	21-Oct-19	18-Nov-19				

2.1.8. New construction units - progress in terms of Physical Quantity

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Civil Executions						
Bund Wall / Earthen Embankment						
Excavation	14182	Cum	14182		14182	100%
Filling & Compaction of Bund Wall up to 1.0 Mtr Height	24061	Cum	24061		24061	100%

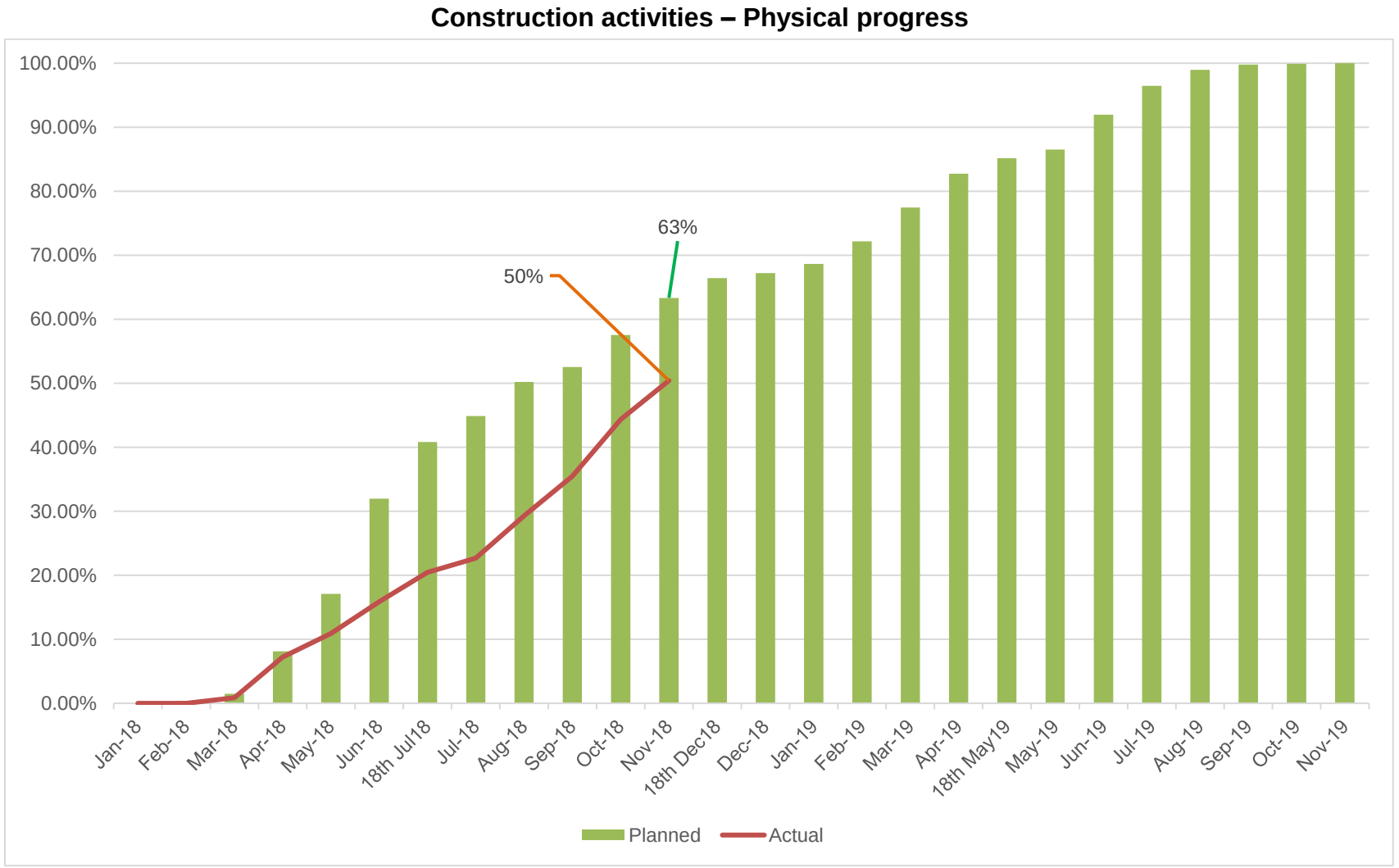
Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height	22140	Cum	13961	1138	15099	68%
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	19056	Cum	5743	1442	7185	40%
Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height	16154	Cum	1275	861	2136	13%
Stone Pitching work, Side Drain Work & Fencing work	6720	Sqm				
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR						
Excavation	600	Cum	570	30	600	100%
PCC	72	Cum	63	9	72	100%
RCC for footing	173	Cum	94	52	146	84.30%
Inlet Chamber Slab with Column, Wall	159	Cum				
Grit Chamber Slab with Column	159	Cum				
Parshall flume slab with Column	79	Cum				
SBR Basins & SBR outlet Chamber						
Excavation	2210	Cum	2210		2210	100%
PCC	1424	Cum	1412		1424	100%

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Raft RCC	4169	Cum	4097	72	4169	100%
Wall 1st Lift	560	Cum	264	34.70	298.70	62.45%
Wall 2nd Lift	390	Cum	91	34	125	37.26%
Wall 3rd Lift	291	Cum	49	15.50	64.5	26.46%
Wall Final Lift	462	Cum	56	63	119	27.36%
Walkways and Channels	306	Cum		9.8	9.8	3%
Construction of CCT including Chlorination room & Treated water pump House						
Excavation	1023	Cum	1023		1023	100%
PCC	140	Cum	140		140	100%
Raft RCC	266	Cum	132	134	266	100%
50% RCC of Structure	146.50	Cum	30	54.16	84.16	55.60%
50% RCC of Structure	146.50	Cum				
Brick work	71	Cum				
Plastering works	1342	Sqm				
Overhead Treated Water Tank						
Excavation	549	Cum	357	192	549	100%
PCC	18	Cum	18		18	100%
Raft RCC	61	Cum		61	61	100%
50% RCC of Structure	79	Cum				

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
50% RCC of Structure	79	Cum				
Finishing Works						
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank						
Excavation	720	Cum	720		720	100%
PCC	39	Cum	39		39	100%
Raft RCC	78	Cum				
50% RCC of Structure	91	Cum				
50% RCC of Structure	91	Cum				
Brick work	35	Cum				
Plastering work	290	Sqm				
Administrative Building including lab and workshop						
Excavation	656	Cum	656		656	100%
PCC	27	Cum	27		27	100%
Raft RCC	101	Cum	101		101	100%
50% RCC of Structure	107	Cum		17.8	17.8	17%
50% RCC of Structure	107	Cum				
Brick work						
Plastering work						

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Finishing Works						
Staff Quarters						
Excavation	1502	Cum	1502		1502	100%
PCC	70	Cum	70		70	100%
Raft RCC	260	Cum	208	20.50	228.50	88%
50% RCC of Structure	215	Cum	6	37	43	20%
50% RCC of Structure	215	Cum				
Brick work						
Plastering work						
Finishing Works						
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area						
Excavation	587	Cum	587		587	100%
PCC	39	Cum	39		39	100%
RCC of Footing	160	Cum	160		160	100%
RCC up to Plinth	35	Cum				
RCC up to Lintel Beams	35	Cum				
RCC Roof Slab	136	Cum				
Brick Work	165	Cum				
Plastering	2000	Sqm				
Finishing works						

2.1.9. New construction units - Physical progress graph

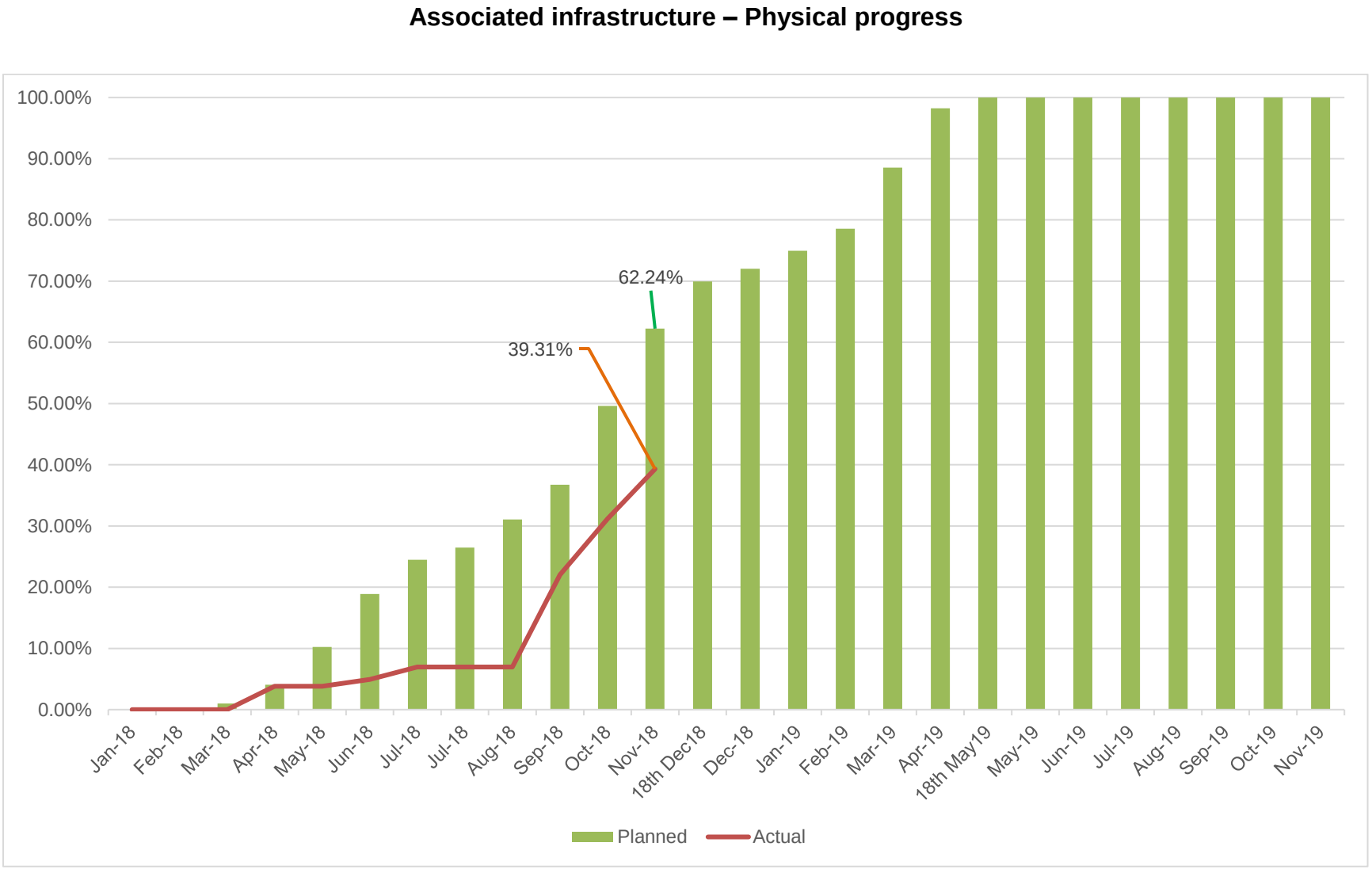


2.1.10. Associated works

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Associated	20-Mar-18	18-May-19	62.24%	31.15%	8.17%	39.31%
MPS Pumping Station	**15-May-18**	**30-Apr-19**	**45.03%**	**33.50%**		**33.50%**
Rehabilitation of MPS	15-May-18	30-Apr-19	57%	52%		52%
Construction of Weir across Assi Nalla & Control room	13-Oct-18	30-Jan-19	44%			
Desilting of the MPS	15-May-18	28-Aug-18	100%	75%		75%
Repair of Equipment	1-Jan-19	30-Mar-19				
Raising of height of Nalla tapping structure upto HFL	1-Apr-19	30-Apr-19				
Rising Main	**15-Jun-18**	**25-Mar-19**	**54.56%**	**7.00%**		**7.00%**
Desilting & CCTV inspection	15-Jun-18	18-Jul-18	100%			
Strengthening and Pipe protection of Rising main Extension of existing Rising main to the Inlet point at the STP site	10-Oct-18	30-Jan-19	46%			
Shifting & laying of Pipe near Samne Ghat bridge	13-Jul-18	15-Jan-19	75%	20%		20%
Hydrotesting of the PSC	15-Feb-19	25-Mar-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Treated Effluent disposal line	**20-Mar-18**	**18-May-19**	**65.12%**	**34.53%**	**10.21%**	**44.74%**
Procurement - supply of pipes including inspection, transportation and delivery at site	20-Mar-18	26-Dec-18	91%	43%	11%	54%
Pipe laying - 20% including excavation and backfilling	9-May-18	18-Jul-18	100%	100%		100%
Pipe laying - 20% including excavation and backfilling	25-Sep-18	5-Nov-18	100%	61%	38%	100%
Pipe laying - 20% including excavation and backfilling	6-Nov-18	18-Dec-18	57%		16%	16%
Pipe laying - 20% including excavation and backfilling	20-Feb-19	29-Mar-19				
Pipe laying - 20% including excavation and backfilling	30-Mar-19	6-May-19				
Hydrotesting & finishing works	14-Jun-18	18-May-19	50%	5%		5%

2.1.11. Associated works - Physical progress graph



2.1.12. **Overall physical progress** : **33.18**%

2.2. Financial status for construction work

- Contract amount : Rs. 153.15 crores (Rs. 102 crores for construction + Rs. 51.15 crores for O&M)
- Expenditure

Mob. Adv	:	Rs. 10.20 crores
Work done - First milestone	:	Rs. 25.50 crores
Less mob. Adv	:	Rs. 2.55 crores
Total	**:**	**Rs. 33.15 crores**

2.3. The issues, the action taken, and status are provided after obtaining the views from UPJN

S. No.	Issues identified	Action Taken	Status
1)	As per the concession agreement the first milestone (At least 25% of both physical and financial progress) should have been achieved on or before 18th July 2018. Despite concessionaire agreed to deploy additional resources to achieve the second mile stone within the targeted date including the delay occurred, same is not reflected in the field. However, concessionaire targeting to achieve the first milestone progress as on 15th October 2018. By doing this there will be backlog of three months' work progress related to second mile stone. Concessionaire to take necessary resource mobilization to full till the targeted second mile stone progress on or before 18 December 2018.	No. of laborers are increased post Dussehra Fest and concessionaire confirmed to complete the 2nd Mile Stone by end of January 2019 and all the back log will be recovered by 3rd Milestone.	To be monitored on a regular basis
2)	Recovery plan submitted by the concessionaire on 8th September 2018 is	Submitted on 24th October'18	Pending from 31st October

S. No.	Issues identified	Action Taken	Status
	not accompanying the resource plan (material, man power & machineries). Concessionaire agreed to submit the same on or before 1st October 2018.	and commented back by MACE on 31st Oct	2018
3)	Extent of progress of the rehabilitation and/or upgradation activities performed by the concessionaire for the associated infrastructure.	Partially submitted for approval	Under review
4)	Monthly Environmental Monitoring Reports to the Jal Nigam providing overview of compliance with EHS Plan.	In progress.	Not submitted till date.
5)	Action to be taken to start the trenchless pipe line work near Samne Ghat as the Concerned authority already provided their acceptance orally and necessary approval will be issued shortly	Permission from Traffic Dept. is still awaited.	Pending since 10th October 2018
6)	Action to be taken for carrying out the desilting and CCTV inspection of existing rising main as the activity should have been completed as per construction plan.	Concessionaire is confirmed to start the desilting after 15th Nov'18.	Pending since 15th June 2018
7)	Insurance policy is submitted in the name of Essel infra projects. As per concession agreement this should be in the name of VSPPL.	Concessionaire to resubmit the insurance policy in the name of VSPPL	

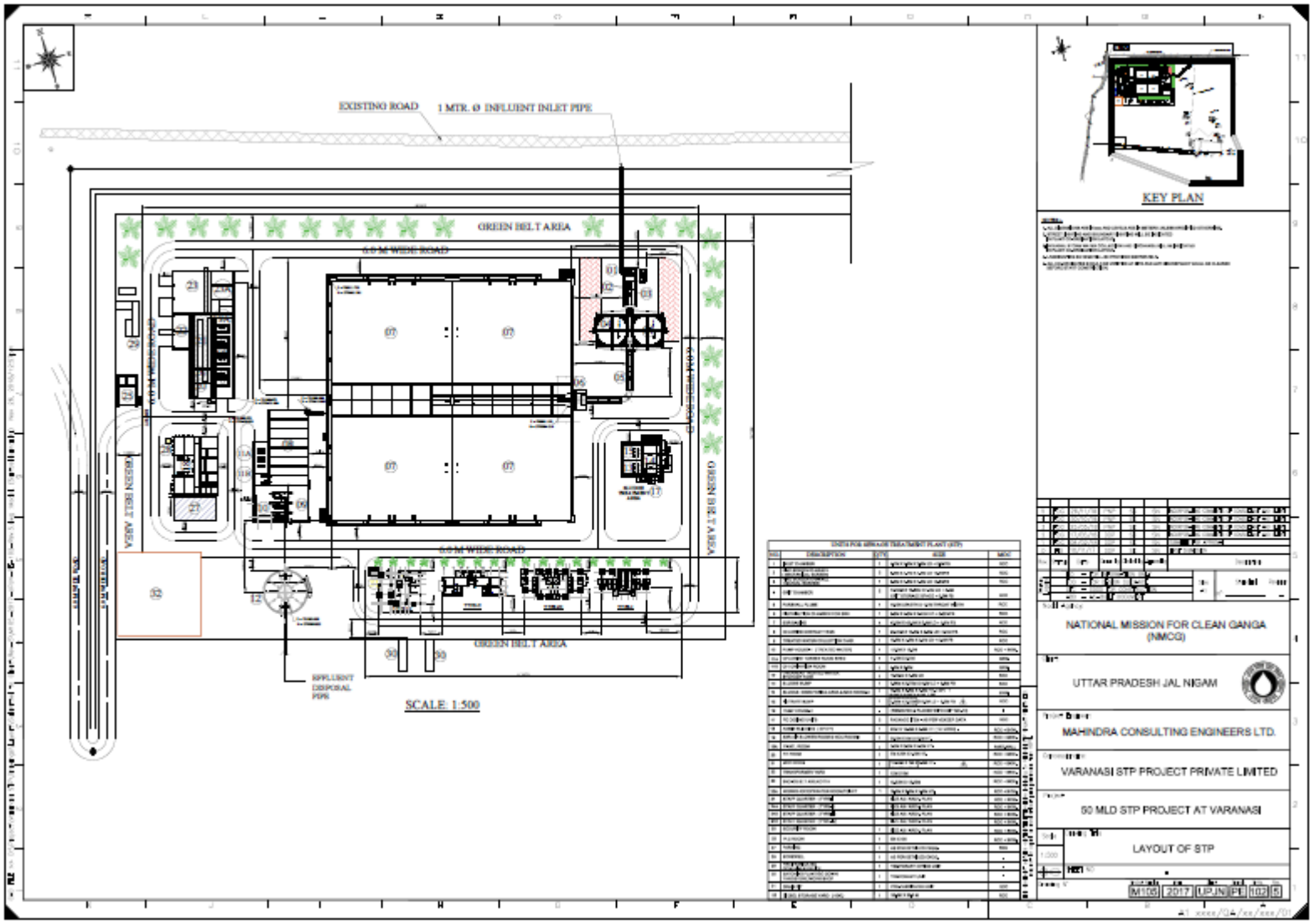


Figure 2: Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi

3.0. PROJECT ENGINEER ACTIVITIES

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
4.1 (i)	Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing.	Yes	Yes	Review of construction material testing
4.1 (ii)	Review, analysis and qualifying assessment of design memorandums, specifications and construction drawings prepared and submitted by the concessionaire.	Yes	Yes	Review of construction drawings
4.1 (iii)	Conduct kick off meetings			
4.1 (iv)	Review of the submissions of the Concessionaire such as a. Work schedule b. Detailed survey report	Yes	• Observations on EAR Insurance Polity and workmen compensation policy	• Delay analysis • Remaining GA & structural

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	c. Basic engineering d. Detailed design and drawings for i) Civil works 1. Geo-tech reports 2. Lab testing reports 3. Third Party Inspection report ii) Mechanical & Electrical Works iii) Automation & Instrumentation works iv) Any other allied works e. QA/QC plans f. Safety plan		• Recommended for approval GAD, SLD & Control schematic drawing of 11kV metal Enclosed Switchboard for STP & observation on GAD, SLD & Control schematic drawing of 11kV metal Enclosed Switchboard • Observations on the approval requested for G.A drawing of electrical control room – MPS area • Observations on the approval requested for GA drawing on Electrical control • Recommended for approval with	drawings of civil structures • QAP & data sheet for remaining mechanical, electrical & instrumentation items. • PSC pipe inspection

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
			comments of Key SLD – (Part – 2LT SLD) for STP & MPS • Observations on STP layout • Recommended for approval for actuator for Gates • Recommended for approval for layout of MPS • Observations on civil GA drawing of Electrical control room • Recommended for approval for Instrumentation data sheets for Analyzers, Vibration Instruments	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
			and Temp. Measuring Instrument for STP • Recommended for approval for Datasheet & GA drawings of the ladder & perforated cable trays for HT, LT control, Rev.1 for MPS and STP • Observations on Pressure instruments MPS	
4.1 (v)	Review of the drawings and documents	Yes	As mentioned above	As mentioned above
4.1 (vi)	Identification of milestones & verifications		Regular review and monitoring	Regular review and monitoring
4.1 (vii)	To Assist NMCG for getting statutory permissions		NA	NA
4.1 (viii)	Ensure compliance with statutory provisions under various applicable laws		Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
4.1 (ix)	Review, inspection, supervision and monitoring of construction works conducting tests on completion of construction and issuing completion / provisional certificate	Yes	Day to day monitoring of construction activities by site personnel and Monthly inspection by Key experts	Day to day monitoring of construction activities by site personnel and Monthly inspection by Key experts
4.1 (x)	Review, inspection and monitoring of O&M	NA	NA	NA
4.1 (xi)	Determining, as required under the Concession Agreement, the costs of any works or services and/or their reasonableness	NA	NA	NA
4.1 (xii)	Determining, as required under the Concession Agreement, the period or any extension thereof, for performing any duty or obligation	NA	NA	NA
4.1 (xiii)	Determining the events of default and guidance on consequent termination notices and payment as detailed in clauses 16.1 to 16.5 of the Concession Agreement	NA	NA	NA
4.1 (xiv)	Determine deficiencies in the	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	commissioning & trial runs; prepare the final acceptance document for acceptance of commissioning & trial runs. Prepare & Issue Commercial Operation certificate through Uttar Pradesh Jal Nigam			
4.1 (xv)	Any other matter which is not specified in ((vi), (vii), or (viii) above and which creates an obligation or liability on the Employer / NMCG beyond the provisions of the Concession Agreement	NA	NA	NA
4.1 (xvi)	The Project Engineer shall submit regular periodic reports, as specified in the Concession Agreement to Uttar Pradesh Jal Nigam and NMCG, in respect of its duties and functions under the Concession Agreement	Monthly progress report	Monthly progress report	Preparation and review of monthly progress report
4.1 (xvii)	The Project Engineer shall aid and advise the Employer on any proposal for variation under Article 20 of the Concession Agreement	NA	NA	NA
4.1	Assisting the Parties in resolution of	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
(xviii)	Disputes			
4.1 (xix)	Assisting the employer in the fulfilment of Hand back requirements as detailed in clause 19.3 of the Concession Agreement		NA	NA
4.1 (xx)	Undertaking all other duties and functions in accordance with this agreement	As mentioned above	As mentioned above	As mentioned above
4.2	The Project Engineer shall discharge its duties in an efficient manner, consistent with the highest standards of professionalism and Good Industry Practice	Yes	Yes	Yes
4.3(i)	The Project Engineer must function in a manner to assist & equip the employer to ascertain that the Concessionaire shall operate and maintain the Facilities and the Associated Infrastructure in a manner that: Is in compliance with the Technical Specifications, Applicable Laws, Applicable Permits and Good Industry Practice; Results in the Facilities and the Associated Infrastructure achieving the KPIs as	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	detailed in schedule 10 of the Concession Agreement & certify within 7 days the KPI adherence Report as per clause 8.12 of the Concession Agreement;			
4.3(ii)	Ensures that the Varanasi STP are capable of treating Sewage up to the Design Capacity on a daily basis;	Yes	Yes	Yes
4.3(iii)	Ensures efficient treatment of Sewage and handling and disposal of STP By- Products and the Treated Effluent	NA	NA	NA
4.3(iv)	STPs are safe and reliable, subject to normal wear and tear of the Facilities and the Associated Infrastructure;	NA	NA	NA
4.3(v)	Is in compliance with the technology license agreement executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Facilities and/or the Associated Infrastructure	Yes	NA	NA

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
4.3(vi)	Maintains the safety and security of personnel, material and property at the Site, in accordance with the approved EHS Plan, Applicable Laws and Applicable Permits.	Yes	Yes	Yes
4.3(vii)	Ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the EHS Plan, Applicable Laws and Applicable Permits.	Yes	Yes	Yes
4.4	Overall, The Project Engineer shall assist the Uttar Pradesh Jal Nigam in supervising the construction, rehabilitation, operation & maintenance of the Facilities and the Associated Infrastructure and shall work closely with the Uttar Pradesh Jal Nigam and NMCG to monitor compliance with the KPIs.	Yes	Yes	Yes
5.1	During the Development Period, the Project Engineer shall undertake a detailed review of the basic engineering Designs, furnished by the Concessionaire along with	Yes	Review of construction drawings submitted by concessionaire	Review of construction drawings submitted by concessionaire

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys and Sewage Flow Analysis. The Project Engineer shall complete such review and send its comments / observations to the NMCG / Name of the Employer (i.e. State Institution) and the Concessionaire within 10 (ten) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards			
5.2	The Project Engineer shall review and assist the (Name of the Employer) in approval of the submissions by the concessionaire relating to the **"design and Construction Plan"** so as to confirm to the scope as per **Schedule 1**	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	of the Concession Agreement.			
5.3	The basic engineering drawings in the above case shall mean the designs and documents to be submitted by the Concessionaire & approved by the Uttar Pradesh Jal Nigam as a Condition Precedent & shall include but not limited to: a) Conduct kick off meeting, scrutiny of contractors submittals b) Process description, process calculations and hydraulic calculations; c) List of design codes and standards; d) Master drawing schedule; e) Drainage design; f) STP Facilities layout; g) Process flow diagram; h) Hydraulic flow diagram; i) Mass balance diagram; j) Process and instrumentation diagram; k) Single line diagram; l) Electrical load list; and	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	m) General arrangement diagrams of all units of facilities and associated infrastructure			
5.4	The project engineer shall review any modified Drawings or supporting documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such drawings or documents.	Yes	Yes	Yes
5.5	The project engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receipt thereof.	Yes	Yes	Yes
5.6	Upon reference by the NMCG/Uttar Pradesh Jal Nigam, the Project Engineer shall review and; comment on the EPC Contract or any other contract for	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	construction, operation and maintenance of the Project, and furnish its comments within 10 (ten) days from receipt of such reference from the NMCG/Uttar Pradesh Jal Nigam.			
6.1	In respect of the designs drawing & documents received by the project engineer for its review and comments during the construction period, the provisions of paragraph 4 shall also apply, mutatis mutandis	Yes	Yes	Yes
6.2	The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 7.3 of the Concession Agreement including Phase 1 and Phase II drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 7.4 of the Concession Agreement	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
6.3	The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments on effectiveness or otherwise of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date	Yes	Yes	Yes
6.4	The Project Engineer shall review, in particular, the submissions by the Concessionaire as per Schedule 1 of the Concession Agreement, and assist Uttar Pradesh Jal Nigam in assessing the effectiveness them	Yes	Yes	Yes
6.5	The Project Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report	Yes	Concessionaire submitted progress report for the month of November 2018 on 27th of November. However, the report was prepared by Project Engineer	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
6.6	The Project Engineer shall inspect the Construction Works and the Project as and when necessary and submit a report of such inspection (the "Inspection Report"), preferably after receipt of the monthly progress report from the Concessionaire, but before the 20th (twentieth) day of each month in any case. The report shall contain, an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of Construction Works with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Project. The Project Engineer shall send a copy of its	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 3 (three) days of the inspection			
6.7	However serious lapses, defects and/or deficiencies shall be reported to the Uttar Pradesh Jal Nigam/NMCG immediately without waiting for the monthly progress submissions as mentioned in the previous paragraph	Yes	Yes	Yes
6.8	For determining that the Construction Works conform to Specifications and Standards, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Project Engineer in accordance with approved norms/Good Industry Practice for quality assurance. The Project Engineer shall issue necessary directions to the Concessionaire for ensuring that the tests	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	are conducted in a fair and efficient manner, and shall monitor and review the results thereof			
6.9	The timing of tests referred to in Paragraph 6.8, and the criteria for acceptance/ rejection of their results shall be determined by the Project Engineer in accordance with the norms /rules and Good Industry Practice. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice	Yes	Yes	Yes
6.10	In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests to determine	NA	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	that such remedial works have brought the Construction Works into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests			
6.11	In the event that the Concessionaire fails to achieve any of the Project Milestones, the Project Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Project Engineer identifies that completion of the Project is not feasible within the time specified in the Concession Agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which COD shall be achieved. Upon receipt of a report from the Concessionaire, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	the Concessionaire forthwith.			
6.12	If at any time during the construction period, the Project Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers and common public in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the common public, it shall make a recommendation to the NMCG/ Uttar Pradesh Jal Nigam forthwith, identifying the whole or part of the Construction Works that should be suspended for ensuring safety in respect thereof.	NA	NA	
6.13	In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works and common public, it may, by notice in writing, require the Project Engineer to inspect such works, and within 3 (three) days of	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	receiving such notice, the Project Engineer shall inspect the suspended works and make a report to the NMCG/ Uttar Pradesh Jal Nigam forthwith, recommending whether or not such suspension may be revoked by the NMCG/ Uttar Pradesh Jal Nigam.			
6.14	If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Project Engineer shall determine the extension of dates set forth in the project completion schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same	NA	NA	
6.15	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services and certify	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal Nigam to the Concessionaire			
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual	NA	NA	
6.17	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 20.	NA	NA	
6.18	The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates'	NA	Yes	
6.19	The Project Engineer shall support the employer in ensuring that the provisions	NA	Yes	

Activities carried out as per TOR				
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		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	specified in Clause 7, of the Concession Agreement including those for liquidated damages and Bonus, are being complied with			
6.20	On completion of construction and at behest of Employer, the Project Engineer may review the work done as per 'as built' drawings and identify defects and suggest changes as per clause 7.13(v) of the Concession Agreement	NA	NA	
6.21	Similarly, the Project Engineer may inspect the trial process and may point out the defects and cause changes or retrial of the process as per clause 7.14(d) of the Concession Agreement	NA	NA	
7.1	In respect of the Designs, Drawings, and Documents received by the Project Engineer for its review and comments during the Operation Period, the provisions of Paragraph 4 shall apply, mutatis mutandis	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
7.2	The Project Engineer shall review the O&M Manual (Clause 8.2) and the Scheduled Maintenance Programme submitted by the concessionaire and provide its recommendations on the same, including suggestions for change, if any. The O&M Manual shall cover: a) O&M Procedures; b) O&M Plan; c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity; g) Procedures for recording and disposal of complaints; h) Operational Contingencies Plans; i) Human Resources Plans; j) EHS Plans;	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	k) Emergency procedures; l) Management of Assets Plans. And m) Annual Scheduled Maintenance programme.			
7.3	The Project Engineer shall review the annual Maintenance Program furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of the Maintenance Program	NA	NA	
7.4	The Project Engineer shall review the reports generated from online monitoring systems to assess adherence to KPIs and submit the monthly KPI Adherence Report to Uttar Pradesh Jal Nigam	NA	NA	
7.5	The Project Engineer shall verify the daily reports submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
7.6	The Project Engineer shall monitor, review and advise the Uttar Pradesh Jal Nigam on the reports submitted by the concessionaire as per clause 8.8(b)(iii) (A) to (G) of the Concession Agreement	NA	NA	
7.7	The Project Engineer shall regularly verify the report submitted by the concessionaire on the tests conducted at the Inlet Point, the Outlet Point or at any other point at the Varanasi STP for the Digested Sludge. Separately, the Project Engineer shall also have the right to take random samples of the incoming Sewage, the Digested Sludge and the Treated Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards.	NA	NA	
7.8	The Project Engineer shall review the monthly status report furnished by the Concessionaire (as required under clause 812(c)) of the Concession Agreement) and	NA	NA	

Activities carried out as per TOR				
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	send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report			
7.9	The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the Maintenance Requirements and Safety Requirements. In a separate section of the O&M Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in O&M of the Project. The Project Engineer shall send a copy of its O&M Inspection Report to the NMCG/ Uttar	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of the inspection			
7.10	The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections.	NA	NA	
7.11	The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.	NA	NA	
7.12	The Project Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Concession Agreement, and shall also determine the Damages, if any, payable by	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
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	the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.			
7.13	The Project Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire.	NA	NA	
7.14	In the event that the Concessionaire notifies the Project Engineer of any modifications that it proposes to make to the project, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 15 (fifteen) days of receiving the proposal.	NA	NA	
7.15	The Project Engineer shall undertake sewage flow sampling, as and when required by the NMCG/ Uttar Pradesh Jal Nigam, under and in accordance with the provisions of this agreement	NA	NA	
7.16	The Project Engineer shall review and report to the employer on all the reports (Daily, Monthly, Quarterly and Annual),	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
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	including monthly Environmental Monitoring Reports as detailed in Schedule 11(Part G) of the Concession Agreement.			
7.17	The Project Engineer shall provide necessary training/capacity building to the operators/technicians of the STP, as and when required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire	NA	NA	
9.1	The Project Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Concession Agreement	NA	NA	
9.2	The Project Engineer shall determine the period, or any extension thereof, that is required to be determined by it under the Concession Agreement	NA	NA	
10.1	When called upon by either Party in the event of any Dispute, the Project Engineer shall mediate and assist the Parties in arriving at an amicable settlement	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
10.2	In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Concession Agreement, the Project Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature	NA	NA	
11.0	As and when requested by NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall provide its opinion and assessment on the events related to Emergency, Change in Law, Force Majure, Minor or total Casualties, Variation and unforeseen Site conditions etc	NA	NA	
12.1	The Project Engineer shall notify its programme of inspection to the NMCG/ Uttar Pradesh Jal Nigam and to the Concessionaire, who may, in their discretion, depute their respective	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	representatives to be present during the inspection.			
12.2	A copy of all communications, comments, instructions, Drawings or Documents sent by the Project Engineer to the Concessionaire pursuant to this TOR, and a copy of all the test results with comments of the Project Engineer thereon shall be furnished to the NMCG/ Uttar Pradesh Jal Nigam forthwith.	Yes	Yes	Yes
12.3	The Project Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.	Yes	Yes	Yes
12.4	Upon completion of its assignment hereunder, the Project Engineer shall duly classify and list all Drawings, Documents, results of tests and other relevant records, and hand them over to the NMCG/ Uttar	Yes	Yes	Yes

Activities carried out as per TOR				
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		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	Pradesh Jal Nigam or such other person as the NMCG/ Uttar Pradesh Jal Nigam may specify, and obtain written receipt thereof. Two copies of the said documents shall also be furnished in their editable digital format or in such other medium or manner as may be acceptable to the NMCG/Uttar Pradesh Jal Nigam			
12.5	Wherever no period has been specified for delivery of services by the Project Engineer, the Project Engineer shall act with the efficiency and urgency necessary for discharging its functions in accordance with Good Industry Practice.	Yes	Yes	Yes
12.6	Project Engineers shall be expected to fully comply with all the provisions of the "Terms of Reference", and shall be fully responsible for supervising the Design, Construction and maintenance and operation of the Facility in accordance with	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
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	the provisions of the Concession Agreement and other schedules. Any failure of the Project Engineer in notifying to the Employer and the Concessionaire on non- compliance of the provisions of the Concession Agreement and other schedules by the Concessionaire, non-adherence to the provision of this ToR and non-adherence to the time schedule prescribed under this ToR shall amount to non-performance.			
12.7	The project Engineer shall develop & maintain a project website and with the approval of NMCG/UPJN post from time to time, information (textual and Audio-Visual) on project progress on a continuous basis. On completion of services as per this RFP document, the website with all necessary technical information shall be handed over to UPJN.	Yes	Yes	Yes
14.1	Uttar Pradesh Jal Nigam may review with	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	the Project Engineer, any or all of the documents and advice forming part of the Consultancy, in meetings and conferences which will be held at the office of the Uttar Pradesh Jal Nigam / NMCG. Uttar Pradesh Jal Nigam / NMCG may, in its discretion, require the Project Engineer to participate in extended meetings and/ or work from the offices of Uttar Pradesh Jal Nigam /NMCG and the Project Engineer shall, on a best endeavour basis and without unreasonable delay, provide such services at the offices of the Uttar Pradesh Jal Nigam/NMCG.			
15.1	The Project Engineer may prepare Issue Papers highlighting issues that could become critical for the timely completion of the Project and that require attention from Uttar Pradesh Jal Nigam/NMCG. The Project Engineer shall report to UPJN for routine activities and deliverables. All	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period: October 2018 to December 2018**		
		Undertaken till previous month - October 2018	**Undertaken during this month - November 2018**	**Expected for next month December 2018**
	major and critical issues shall be reported to NMCG and UPJN simultaneously.			
15.2	The Project Engineer will make a presentation on the inception report for discussion with the Uttar Pradesh Jal Nigam / NMCG at a meeting. This will be a working document. Regular communication with Uttar Pradesh Jal Nigam / NMCG is required in addition to all key communications. This may take the form of telephone/ teleconferencing, emails, and occasional meetings.	Yes	Yes	Yes
15.3	The Deliverables will be submitted as per schedule provided in this RFP	Yes	Yes	Yes

4.0. MEETINGS

Project Engineer undertaken and planned services.

Sl. No.	Services	Undertaken by	Period: October 2018	Period: November 2018
			Description	Expected for next month
1	Site visit	1. A. K. Srivastava,MD UPJN 2. V.P.Mishra, CE UPJN 3. S.K Rai, GM UPJN 4. SK Barman, PM UPJN 5. S.K. Singh, Admin UPJN 6. Narash Goyal, Consultant SMCG	12th November 2018	Project review meeting and site inspection
2	Site inspection, progress and GST Clime review meeting	1. SK Barman, PM UPJN 2. A.Srinivasan, MACE 3. V.M.Bhagiaraj, MACE 4. JB Rai, MACE 5. T.Sathyamoorthy, MACE. 6. Amit Ghorpade,VSPPL 7. Pallav Srivatsa, VSPPL 8. Akash Mittal, VSPPL 9. Devendra kumar Goel, VSPPL	29th November 2018	
2	GST Clime	1. SK Barman, PM UPJN 2. A.Srinivasan, MACE 3. V.M.Bhagiaraj, MACE 4. JB Rai, MACE 5. T.Sathyamoorthy, MACE. 6. Amit Ghorpade,VSPPL 7. Pallav Srivatsa, VSPPL 8. Akash Mittal, VSPPL 9. Devendra kumar Goel, VSPPL	30th November 2018	

5.0. STAFF DEPLOYMENT

The work had commenced on 15.02.2018 the same has been communicated to NMCG vide letter number P968:8230 dated 05.03.2018.

The Project Engineer office shifted on 20/06/2018 at the following address in Varanasi:

Mahindra Consulting Engineers Limited
"K Lion Enclave",
"A "Block,
Flat No: 118, 1st Floor,
Opposite to Vishal Mega Mart,
Nevada, Sundarpur,
Varanasi – 221005,
Uttar Pradesh.

The position of staff deployment since beginning of the project till end of May 2019 is given in the following table:

Staff deployed on site at Ramana, Varanasi			Date of deployment	
Sl. No.	**Designation**	**Name of staff**	**From**	**To**
1	Team Leader	Jiut Bundhan Rai	07/05/2018	
2	Project Manager	G. Sathiskumar	19/02/2018	21/05/2018
3	Civil Engineer	M. Sivapriyan	15/02/2018	
4	Civil Engineer	T. Sathyamoorthy	20/04/2018	07/05/2018
5	Senior Engineer (Electrical & Instrumentation)	R. Satish	20/04/2018	28/05/2018
6	Civil Engineer	P. Ramasubramanian	20/04/2018	
7	Civil Engineer	Imran Khadhar Mohideen	20/04/2018	
8	Structural Engineer	S. Varun Athithiya	20/04/2018	
9	Liaison Officer	O. B. Shivakumar	20/04/2018	08/07/2018
10	QA QC Expert /Safety	L. Selva Kumar	29/05/2018	
11	Structural Engineer	M. Vishnukumar	24/09/2018	
12	Electrical Engineer	K.Ganesh	11/10/2018	13/10/2018

ANNEX - 1
PROJECT PROGRESS (PHYSICAL)

ANNEX 1 - PROJECT PROGRESS (PHYSICAL)

Sl. No.	Component / Package	Physical Progress in Percentage			Remarks
		Up to Previous month	During month	Total	
1	2	3	4	5	6
1	Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi	29.49%	3.69%	33.18%	Physical progress observed to be very slow and needs to be accelerated by Concessionaire.

ANNEX - 2
FINANCIAL STATEMENTS

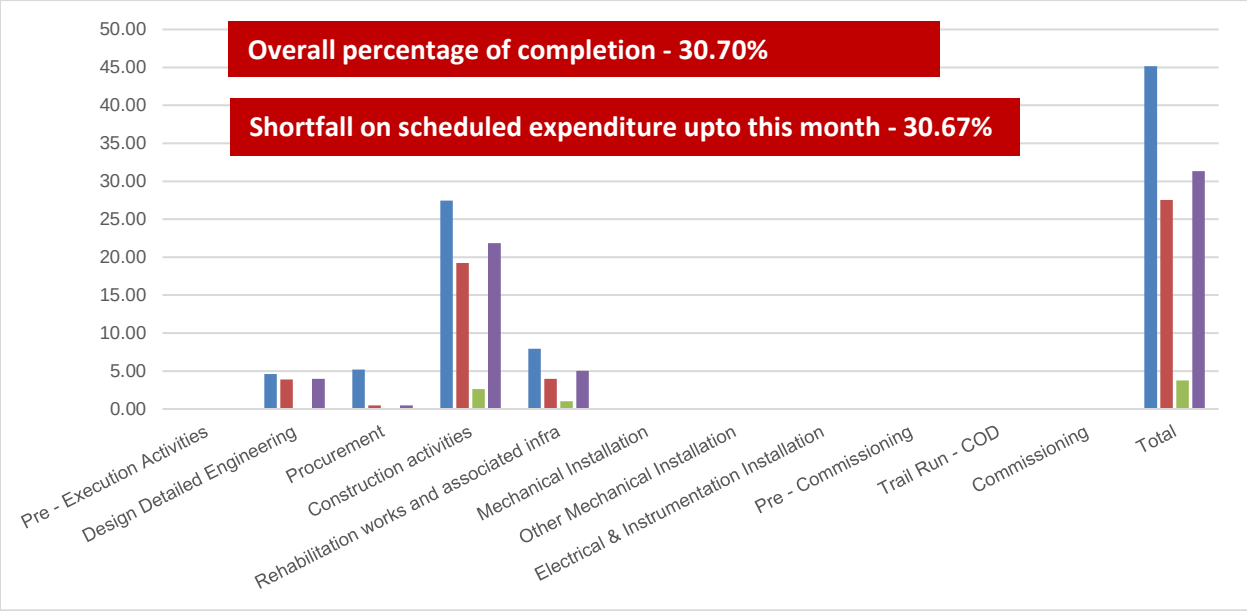
ANNEX 2 - FINANCIAL STATEMENTS

Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
Design detailed engineering				
Phase - I D&E (BEP)	7,650,000	7,650,000	-	7,650,000
Phase - II D&E (Civil, Mechanical, Electrical, Inst. drawings)	5,100,000	4,860,300	76,500	4,936,800
Topographical / Soil Investigation	5,100,000	5,100,000	-	5,100,000
Structural drawings submissions & approvals	12,750,000	11,781,000	204,000	11,985,000
Mechanical & piping drawings submissions & approvals	10,200,000	7,058,400	408,000	7,466,400
Electrical drawings submissions & approvals	2,550,000	1,581,000	76,500	1,657,500
Instrumentation document submissions & approvals	2,550,000	892,500	-	892,500
Associated				
MPS pumping station	4,593,476	3,417,000	-	3,417,000
Rising Main	8,347,431	1,071,000	-	1,071,000
Treated Effluent disposal line	66,421,083	35,223,196	10,412,670	45,635,866
Equipment procurement, logistics and receipt of equipment at Site				
Fine Screen / Coarse Screen / Belt Conveyors	4,519,841	226,667	-	226,667
Grit Removal Mechanism	2,934,074	226,667	-	226,667
SBR System (Decanters)	11,526,698	1,133,333	-	1,133,333
SAS / RAS pumps/booster pumps / treated water pumps / drain pumps	4,472,739	226,667	-	226,667

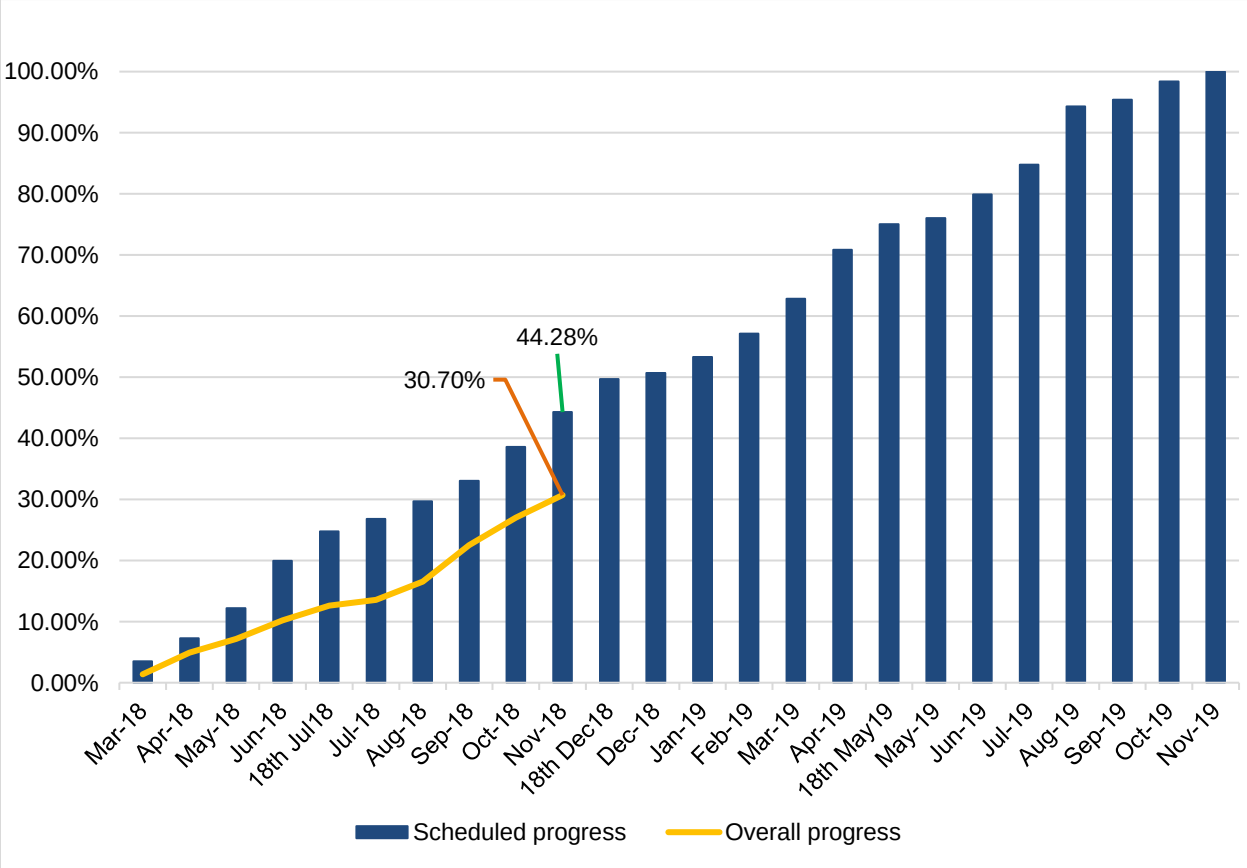
Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
Horizontal centrifugal pumps (Treated water pumps)	8,677,083	362,667	-	362,667
Air blowers	9,260,952	906,667	-	906,667
Chlorination system	1,851,111	226,667	-	226,667
Sluice Gates	2,175,128	68,000	-	68,000
Motorized Gates at Inlet Of SBR	226,667	113,333	-	113,333
Diffusers	2,853,014	226,667	-	226,667
Volute press	226,667	226,667	-	226,667
PE Dosing Tanks	56,667	-	-	-
Agitators	1,344,821	-	-	-
Transformers	113,333	68,000	-	68,000
HT cables	56,667	-	-	-
MCC panel	113,333	-	68,000	68,000
HT Panel	113,333	68,000	-	68,000
PLC Panel	340,000	204,000	-	204,000
SCADA System	226,667	-	-	-
MLDB, LDB,& SLDBS	113,333	-	-	-
Push Button Stations/Plant lighting / Buildings lighting	56,667	-	-	-
Power, Control & lighting Cables	113,333	-	-	-
Cable trays/Lighting JB	56,667	-	-	-
DG Set	113,333	68,000	-	68,000
Plant Earthing	56,667	34,000	-	34,000
Instruments (Flow meter / Analyzer)	68,000	68,000	-	68,000
Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches)	68,000	68,000	-	68,000

Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
Civil Executions				
Bund Wall / Earthen Embankment	66,921,951	48,378,600	2,473,500	50,852,100
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	15,556,977	9,633,263	2,813,500	12,446,763
SBR Basins & SBR outlet Chamber	152,819,469	110,673,060	15,542,250	126,215,310
Construction of CCT including Chlorination room & Treated water pump House	16,830,000	9,771,804	3,616,920	13,388,724
Overhead Treated Water Tank	1,333,286	381,225	382,500	763,725
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	2,278,723	1,534,590	-	1,534,590
Administrative Building including lab and workshop	5,245,714	3,063,774	520,200	3,583,974
Staff Quarters	4,590,000	4,221,117	703,800	4,924,917
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	8,988,750	4,600,924	255,663	4,856,587
Total	**451,674,197**	**275,596,086**	**37,554,003**	**313,150,089**
	Percentage completion of overall project			**30.70%**

Financial status for the month of November 2018



Progress status scheduled vs Actual - November 2018



ANNEX - 3
QUALITY ASSURANCE / QUALITY CONTROL

ANNEX 3 - QUALITY ASSURANCE / QUALITY CONTROL

1. Bund wall

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test	No. of Test conducted	No. of Acceptance	No. of Rejects	As per IS No of test	No. of Test conducted	No. of Acceptance	No. of Rejects	
1	Soil compaction test at source (Barrow pit) - MDD, OMC & Soil characteristics	2720 Part VIII	10	10	10	0	2	2			2 nos sample sent to BHU IIT, waiting for result (as per used Borrow pit qty accordingly all test has been covered up as on date.).
2	Soil compaction test at Site - OMC & Degree of compaction	2720 Part II	499	499	442	57	97	97	83	14	57 samples rejected upto previous month recompacted and retested, found OK. *14 Rectification suggested for the rejects and re test is recommended as per relevant code.

2. Sequential Batch Reactor (SBR)

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
1	Concrete ingredients coarse aggregate 20mm down	IS 383-2001	42	62	48	14*	02	12	12	0	Found acceptable, witnessed by PJN/MACE Complete aggregates of 14* rejected samples removed from site being over sized
2	Concrete ingredients coarse aggregate 10mm down	IS 383-2001	29	36	31	5*	02	02	02	0	Found acceptable, , witnessed by UPJN/MACE Complete aggregates of 5* rejected samples removed from site being under sized

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
3	Concrete ingredients fine aggregate 4.75 mm down	IS 383-2001	23	34	31	**03***	01	01	01	0	Found acceptable, , witnessed by PJN/MACE Complete aggregates of 3* rejected samples removed from site being under sized
4	Combined Grading as per approved IIT Mix design	IS 383-2001	**whenever required	4	4	1	**whenever required	0	0	0	As per Approved mix 20mm with 60%,10mm with 40%, currently running mix, no issues
5	Harden concrete Compressive strength	IS 516 & IS 456	every 50 M3 or part thereof	377	377	0	every 50 M3 or part thereof	168	168	0	All concrete cubes tested at site lab only.
6	OPC Cement 43 Grade	IS 8112-	Every consignm	1	1	0	Every consignm	0	0	0	ULTRA TECH SOURCE /MTC

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
		2013	ent or whenever required				ent or whenever required				Available.
7	Reinforcement TMT Bars	IS 456-2001, IS 1786-1987 & IS 800-2007	50 Metric tonne/one sample for each diameter	18	18	0	50 Metric tonne/one sample for each diameter	0	0	0	TATA STEEL/MTC Available at site for all consignment as of date,
8	Admixer	IS 9103-1979	Every new consignment once reach site	1	1	0	Every new consignment once reach site	0	0	0	FOSROC conplast /MTC Available at site for all consignment as of date
9	Water	IS 456 -2001	6 months once	2	2	0	6 months once	0	0	0	IIT report available, found acceptable

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
10	Concrete Mix design	IS 10262-2000	**whenever changed source of ingredients	Grade of M10, M15, M20, M25 & M30 (including all physical test)	Approved given by IIT VARANASI AND ACCEPTED BY CLIENT	0	**whenever changed source of ingredients	Grade of M10, M15, M20, M25 & M30 (including all physical test)	Approved given by IIT Varanasi and accepted by UPJN	0	Running mix at 50 MLD STP, Ramana site(60% of 20 mm,40 % of 10mm combined grading)
11	Field control test: Slump /Concrete temperature/ unit weight	IS 456, SP 23 & IS 516	Every alternative truck of concrete mixer	258	245	*13	Every alternative truck of concrete mixer	60	60	0	13* under/over slump concrete has been realtered as per norms and compliance with specified range. All tests witnessed by MACE/UPJN at spot inspection

3. Treated Effluent disposal line

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	
1	PSC Pipes 1200mm dia - characteristics Test (Dimension, Straightness, Thickness, Hydrostatic & Permeability)	IS 784 & IS 3597	492 Pipes 2460 mts	492 Pipes 2460 mts	492 Pipes 2460 mts		102 Pipes 510 mts	102 Pipes 510 mts	85 Pipes 425 mts	17 Pipes 85 mts	17 nos of pipe were rejected due to main body seepage during the hydro pressure test, Witnessed by Jhansi - Concrete udyog / Project engineer.
2	Soil test - SBC of soil	IS 6403	4	4	4						
3	EPDM Gasket	IS 5389-1979	492	492	492						MTC report available from concrete udyog pipes

4. Raising main

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	
1	MS Pipes 1000mm dia - characteristics Test (Dimension, Thickness, Hydro testing, Epoxy coating, Anti corrosive coating & Marking)	IS 3589:2001	246.72 Mtr (48 nos)	246.72 Mtr (48 nos)	246.72 Mtr (48 nos)	0	0	0	0	0	Bamrah Pipes -nodia factory-inspection done along with UPJN Engineer.

5. Construction Running Materials / Equipment's

S. No.	Description	IS Code	Up to Previous Month				During this month (November 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	
1	Auto level (SBR / Pipe lines / bund wall)	BIS 1492	Yearly once	3	3	0	Yearly once	0	0	0	Verification done for all instruments, CTM Site lab recalibration certificates attached & found ok
2	Cube testing Machine	IS 516-2001	Yearly once	2	2	0	Yearly once	0	0	0	
3	Laboratory weighing machine	IS 460-1980	Yearly once	2	2	0	Yearly once	0	0	0	
4	Ready Mix Concrete plant	IS 4926-2013	Whenever required	2	2	0	Whenever required	0	0	0	

ANNEX - 4
PHOTOGRAPHS

SBR basin

Side view

Raft

Reinforcement work

Walkway concrete

Inlet chamber, Fine screens, Grit Basin & Parshall Flume	 **Footing**
	 **Footing**

Bund wall

Compaction

Side View

Top view

Compaction

Administrative Building	 **Basement level**
CCT	 **Overall view**

	 **Side view**
Over Head Tank	 **Footing**

SBR air blower room, HT room, MCC room, Transformer Yard & DG set area	 **Plinth level**
Inspection of PSC Pipes at manufacturer plant	 **Hydro Testing**

Length dimension checking

Thickness checking

Staff Quarters

Type – 1 (Footing)

Type – 2 (Column concrete)

Type – 3 (Plinth level)

Type – 4 (Column concrete)

Treated Effluent disposal line

PSC Pipe laying

PSC Pipe laying

Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank

Reinforcement for footing

Footing PCC

ANNEX - 5
OUTWARD CORRESPONDENCE LIST OF NOVEMBER 2018

ANNEX 5 - OUTWARD CORRESPONDENCE LIST OF NOVEMBER 2018

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
1	MACE:P968:8620	03.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on EAR Insurance Polity and workmen compensation policy.
2	MACE:P968:8623	05.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Approved documents – Mechanical data sheets – certain observations
3	MACE:P968:8626	05.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended to approve GAD, SLD & Control schematic drawing of 11kV metal Enclosed Switchboard for STP & observation on GAD, SLD & Control schematic drawing of 11kV metal Enclosed Switchboard
4	MACE:P968:8625	05.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on the approval requested for G.A drawing of electrical control room – MPS area
5	MACE:P968:8640	05.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on the approval requested for GA drawing on Electrical control.
6	MACE:P968:8643	13.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments of Key SLD – (Part – 2LT SLD) for STP & MPS – reg.
7	MACE:P968:8650	17.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on the layout of STP
8	MACE:P968:8651	17.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for actuator for Gates.
9	MACE:P968:8656	17.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Delay intimation for equipment procurement, logistics and receipt of equipment at site.

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
10	MACE:P968:8668		GM, UPJN	NMCG, PM, UPJN	NA	2nd milestone, plan of action for the balance work.
11	MACE:P968:8669	21.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for layout of MPS.
12	MACE:P968:8676	23.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on civil GA drawing of Electrical control room.
13	MACE:P968:868	27.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for Instrumentation data sheets for Analyzers, Vibration Instruments and Temp. Measuring Instrument for STP.
14	MACE:P968: 8684	27.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for Datasheet & GA drawings of the ladder & perforated cable trays for HT, LT control, Rev.1 for MPS and STP.
15	MACE:P968:8670	29.11.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on Pressure instruments MPS

ANNEX - 6
INWARD CORRESPONDENCE LIST OF NOVEMBER 2018

ANNEX 6 - INWARD CORRESPONDENCE LIST OF NOVEMBER 2018

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
1.	EIL/VSPPL/2018-19/291	01.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of EAR Insurance policy and workmen compensation policy.
2.	EIL/VSPPL/2018-19/292	02.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Regarding Actuator for Gates.
3.	EIL/VSPPL/2018-19/293	02.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of additional document for MPS pumps.
4.	EIL/VSPPL/2018-19/294	02.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Fault Level Details at 11 kV feeding substation from the electrical authorities.
5.	EIL/VSPPL/2018-19/295	12.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Submission of Layout of MPS area, Rev.0
6.	EIL/VSPPL/2018-19/296	14.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Fault Level Details at 11kV feeding substation from the electrical authorities.
7.	EIL/VSPPL/2018-19/297	14.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Offer for Inspection of PSC PIPE DN 1200mm – Concrete Udyog
8.	EIL/VSPPL/2018-19/298	19.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Request for informing the waste disposal site for STP b product.
9.	EIL/VSPPL/2018-19/299	19.11.2018	VSPPL /	Amit B	Y	2	Submission of MS pipe thickness

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
			UPJN	Ghorpade			calculation.
10.	EIL/VSPPL/2018-19/300	19.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of comment response sheet of electrical control room.
11.	EIL/VSPPL/2018-19/301	20.11.2018	VSPPL / UPJN				Submission of datasheet & GA drawing of the ladder and perforated cable trays for HT, LT, control. Rev.1
12.	EIL/VSPPL/2018-19/302	20.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of datasheet of pressure measuring instrument for MPS & STP Rev.1
13.	EIL/VSPPL/2018-19/303	20.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	6	Submission of rehabilitation work civil GA
14.	EIL/VSPPL/2018-19/304	20.11.2018	VSPPL/ UPJN	Amit B Ghorpade	Y	4	Submission of Instrumentation data sheet analyzers, Rev.1 Vibration instrument Rev.0 & Temp measuring instrument for STP, Rev.1
15.	EIL/VSPPL/2018-19/305	26.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of GA, SLD & Control schematic drawing of 11kV metal enclosed switchboard for MPS & STP Rev.2.
16.	EIL/VSPPL/2018-19/306	26.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Submission of revised Layout of STP, Rev. 5.

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
17.	EIL/VSPPL/2018-19/307	27.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Monthly progress report for the month of November 2018.
18.	EIL/VSPPL/2018-19/308	27.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Request for Inspection for Decanter Mechanism in China.
19.	EIL/VSPPL/2018-19/309	27.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Recovery plan submitted for 2nd milestone.
20.	EIL/VSPPL/2018-19/310	28.11.2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Mobilization advance guarantee value in view of recovery of mobilization advance in 1st milestone payment.
21.	EIL/VSPPL/2018-19/311	28.11.2018	VSPPL / UPJN	Amit B Ghorpade	Y	5	Submission of datasheet of level measuring instruments for MPS & STP and system configuration for MPS and STP, Rev 0

ANNEX - 7
DELAY ANALYSIS & RECOVERY PLAN

ANNEX 7 – DELAY ANALYSIS & RECOVERY PLAN

Delay analysis and recovery plan:

The following activities are delayed as per the approved construction plan beyond 15 days from the targeted the completion date. The reason for the delay is analyzed in all aspects and the possible recovery plan also arrived to complete the pending activities within 30 days. It is to be noted that the recovery plan is provided only for the delayed activities and hence the concessionaire should plan and provide the additional manpower, Machinery and equipment in addition to the resources available at site for regular activities as per construction plan.

1. Summary of delay analysis

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
Design Detailed Engineering	11-Oct-17	30-Oct-18	Drawing submitted by the concessionaire after the due date, indicates the lack of planning. Approval from IIT is pending for some of the items.	However, concessionaire started the works
			Structural drawings of the following components are pending due to lack of planning. • Weir across assi nalla • Electrical control room	Concessionaire to plan the submission and approval on or before 15th December 2018
			Mechanical GA drawings of Treated water over head tank, Final outfall chamber and	Concessionaire to expedite the same on or before 15th December 2018

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			overall piping drawings due to lack of planning	
			Electrical and instrumentation drawings and documents partly submitted by the concessionaire and delayed due to the lack of finalization of equipment • PCC MCC panels • Plant lighting layout • Cause and effect diagram	Concessionaire to speed up the equipment finalization and arrive at the exact load list on or before 10th December 2018.
Associated infrastructure works	20-Mar-18	18-May-19	Delay in receipt for existing structure as built drawings. and delay in site investigation are the main reason	UPJN not provided existing structure as built drawings Concessionaire to submit the condition assessment report along with drawings on or before 15th December 2018
			Concessionaire yet to finalise the vendor for CCTV inspection of existing rising main	Concessionaire to expedite to start the same by 5th December 2018
			Work not yet started for carrying out the	Concessionaire to expedite the delivery as per

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			trenchless cutting method near Samneghat bridge	schedule
			Manufacturing delay of PSC pipes for treated effluent disposal line. Only 2885 m of pipe inspection completed.	Concessionaire to instruct the manufacturers to speed up the progress or else need to identify one more supplier and place the work order to expedite the delivery as per schedule
			Problem with local villagers to be sorted out by UPJN. Transportation of inspected pipe from manufacturer to site is delayed	UPJN to sort out the issue of local villagers. Concessionaire to expedite the transportation of PSC pipes within 10 days from the date of inspection
			Hydro testing of pipes already laid is delayed unduly due to lack of planning, manpower, equipment.	Concessionaire to plan to complete the hydro testing within 30 days from the date of laying.
Equipment Procurement, Logistics and receipt of equipment at Site	24-May-18	5-Sep-19	Data sheet and GA drawings for the following items are pending due to lack of planning • Agitators • HT Panel • SCADA	Concessionaire to expedite the Submission of the same by 15th December 2018

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			• MLDB, LDB & SLDBS • Push button stations / plant lighting / building lightings • Power, control & lighting cables	
Civil Executions				
Bund Wall / Earthen Embankment	19-Feb-18	30-Aug-19	Lack of sufficient equipment, manpower	
Inlet Chamber Manual & Mechanical Screen Chamber, Grit Chamber & Outlet Channel of Grit Chamber & Parshall Flume (I) & Distribution Chamber of SBR Basin	03-June-18	30-Jun-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT	Concessionaire started the excavation and PCC laying works. Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
SBR Basins & SBR outlet Chamber	9-Apr-18	15-Jul-19	Lack of sufficient equipment, manpower	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Chlorine Contact Tank & Treated Water Collection Tank, Treated water Pumps	26-Apr-18	24-Aug-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			getting from approval from IIT	
SBR air blower room, HT room, MCC room, Transformer Yard & DG set area	3-Jun-18	29-Aug-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Overhead treated water tank	1-Jun-18	1-Aug-19	Concessionaire recently submitted structural drawing i.e after the target date. This is mainly due to lack of planning or engineering team	Concessionaire started the excavation work. Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Administrative building including lab and workshop	3-Feb-18	11-Jul-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT	Concessionaire started the excavation, PCC & RCC laying works. Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing	15-Oct-18	13-Jul-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning.	Concessionaire started the excavation, PCC laying works. Full utilization of

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
tank			Delay occurred for getting from approval from IIT	the available equipment shall increase the output and mitigate the delay occurred.

2. Recovery plan - Additional equipment, manpower and material required to meet the target within 30 days

S. No.	Description	Status	Remarks
1	Bund wall / earthen embankment	Work is in progress	
2	Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	Work is in progress	
3	SBR basins & SBR outlet Chamber	Work is in progress	
4	Chlorination building & Chlorine contact tank & Treated water collection tank, treated water pumps	Work is in progress	
5	Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	Work is in progress	
6	Administrative Building	Work is in progress	
7	Overhead tank for effluent disposal	Work is in progress	
8	SBR air blower room, HT room, MCC room, Transformer yard & DG set area	Work is in progress	
9	MPS, inlet structure, weir, control room and rising main	Drawings partially submitted	
10	Staff quarters	Work is in progress	

2.1. Inlet structure, SBR, CCT, Administrative building, Blower room, HT, MCC, Transformer Yard & DG set area, OHT and Staff quarters

S. No.	Description	Estimate		As per construction plan up to 30th November 2018		Actual work done up to 30th November 2018		Shortfall as on 30th November 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	PCC & RCC	11311	Cum	8713	Cum	7778	Cum	935	Cum

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay

Sl. No.	Description	Quantity	Unit	Capacity	Unit
1	Transit mixer	2	No	7	Cum
2	Tipper	2	Nos	5.5	Cum
3	Tractor	6	Nos	2.8	Cum
4	Batching Plant	1	No	20	Cum/Hr
5	Concrete Pump	2	No	40	Cum/Hr
6	Labour (Skilled & Un skilled)	208	Nos		

2.2. Bund Wall / Earthen Embankment

S. No.	Description	Estimate		As per construction plan up to 30th November 2018		Actual work done up to 30th November 2018		Shortfall as on 30th November 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	Earth filling & Compaction of Bund Wall	81411	Cum	74303	Cum	47915	Cum	26389	Cum

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay.

S. No.	Description	Quantity	Unit	Capacity	Unit
1	Tipper	44	No	3.5	Cum
2	Tractor	7	Nos	2.8	Cum
3	Water tanker	2	Nos	5000	Litters
4	Grader	1	No	17	Tonne
5	Roller	1	No	11	Tonne
6	Labour (Skilled & Un skilled)	20	Nos		

2.3. Treated Effluent disposal line

S. No.	Description	Estimate		As per construction plan up to 30th November 2018		Actual work done up to 30th November 2018		Shortfall as on 30th November 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	Procurement of PSC Pipe	4800	Mtr	4368	Mtr	2585	Mtr	1783	Mtr
2	PSC pipe laying	4800	Mtr	2467	Mtr	2070	Mtr	397	Mtr

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay.

S. No.	Description	Quantity	Unit	Capacity	Unit
1	JCB	1	No		
2	Hydra	1	Nos		
3	Poclain	1	Nos		
4	Labour (Skilled & Un skilled)	12	Nos		

1. Item wise Detailed analysis

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
Design Detailed Engineering	11-Oct-17	30-Oct-18	**100%**	**86%**		
Plant Layout / Site layout	11-May-18	23-May-18	100%	90%		
Weir Across Assi Nalla	05-Mar-18	14-Mar-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the on or before 5th December 2018
Raw water receiving chamber	01-Jul-18	18-Jul-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the structural drawing on or before 5th December 2018
Electrical control room	01-Jul-18	18-Jul-18	100%	40%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 5th December 2018
Structural Drawings Submissions & Approvals	**02-Feb-18**	**30-Sep-18**	**100%**	**94%**		
Weir Across Assi Nalla	05-Mar-18	14-Mar-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 5th December 2018

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
Raw water receiving chamber	06-Sep-18	15-Sep-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 5th December 2018
Electrical control room	06-Sep-18	15-Sep-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 5th December 2018
Design, Drawings & Documentation for Mechanical GAD	**13-Feb-18**	**15-Sep-18**	**100%**	**73.20%**		
Overall Piping Drawings	30-May-18	05-Sep-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5th December 2018.
Design, Drawings and Documentation for Electrical & Instrumentation works	10-Mar-18	08-Oct-18	**100.00%**	**65%**		
PCC MCC panels	10-Mar-18	18-Jul-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of	Concessionaire to submit the drawings on or before 5th December 2018.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
					engineering team strength	
Plant Lighting Layout Plan	25-Sep-18	05-Oct-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5th November 2018.
Gauges	25-Sep-18	05-Oct-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5th December 2018.
Instrumentation Document submissions & Approvals	**01-Jun-18**	**30-Oct-18**	**100%**	35%		
PLC - I/O List, Loop Wiring Diagram, Design of scada	05-Oct-18	30-Oct-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5th December 2018.
Cause & Effect Diagram	01-Jun-18	18-Jul-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of	Concessionaire to submit the drawings on or before 5th December 2018.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
					engineering team strength	
Associated infrastructure works	**20-Mar-18**	**18-May-19**	**62.24%**	**39.31%**		
MPS Pumping Station	15-May-18	10-Apr-19	**45.30%**	**33.50%**		
Construction Of weir across assi nalla & control room	13-Oct-18	30-Jan-19	17%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5th December 2018.
Desilting of the MPS	15-May-18	28-Aug-18	100%	75%	Desilting is held up due to non-start of CCTV inspection and non-finalization of drawings	Concessionaire to expedite the same on or before 25th December 2018
Rising Main	**15-Jun-18**	**25-Mar-19**	**54.56%**	**7%**		
Desilting & CCTV inspection	15-Jun-18	18-Jul-18	100%		Concessionaire yet to finalize the vendor and carry out the investigation	Concessionaire to speed up the progress and complete the same by 15th of November 2018.
Strengthening and Pipe protection of Rising main Extension of	10-Oct-18	30-Jan-19	19%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
existing Rising main to the Inlet point at the STP site						
Shifting & laying of pipe near samne ghat	13-Jul-18	15-Jan-19	59%	20%		
Treated Effluent disposal line	**20-Mar-18**	**18-May-19**	**65.12%**	**44.74%**		
Procurement - supply of pipes including inspection, transportation and delivery at site	20-Mar-18	26-Dec-18	91%	54%	Only 2885 m of pipe inspection completed. Delay in procurement of pipes by the concessionaire.	Concessionaire to instruct the manufacturers to speed up the progress or else need to identify one more supplier and place the work order to expedite the delivery as per schedule
Pipe laying - 20% including excavation and backfilling (3rd 20%)	06-Nov-18	18-Dec-18	57%	16%		
Hydrotesting & finishing works	14-Jun-18	18-May-19	50%	5%	Hydro testing of pipes already laid is delayed unduly due	Concessionaire to ensure the hydrotesting of

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
					to lack of planning, manpower, equipment.	already laid pipes on or before 15th December 2018. Concessionaire to plan to complete the hydrotesting within 20 days from the date of laying.
Equipment Procurement, Logistics and receipt of equipment at Site			**17 %**	**10 %**		
Horizontal centrifugal pumps (Treated water pumps)	**31-May-18**	**18-Dec-18**	**12.2%**	**1.8%**		
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	25-Jul-18	**100%**	**80%**	Concessionaire to resubmit the data sheet after incorporating the observations	
Manufacturing of Equipment	10-Sep-18	15-Dec-18	84%		Manufacturing clearance is delayed due to delay in approval of data	Concessionaire to expedite the manufacturing process within the scheduled

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
					sheet	time
Sluice Gates	**05-Mar-18**	**18-Dec-18**	**24%**	**1%**		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	05-Mar-18	18-Jul-18	100%	60%	Concessionaire to resubmit the data sheet after incorporating the observations	
Manufacturing of Equipment	25-Sep-18	12-Dec-18	85%		Manufacturing clearance is delayed due to delay in approval of data sheet	Concessionaire to expedite the manufacturing process within the scheduled time
Motorized Gates at Inlet Of SBR	**01-May-18**	**18-May-19**	**2%**	**1%**		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	01-May-18	30-Aug-18	100%	50%	Concessionaire to resubmit the data sheet after incorporating the observations	
PE Dosing Tanks	**15-Oct-18**	**13-Jul-19**	2%			
Submission & Approval of Drawings / Documents & data sheets including	15-Oct-18	29-Nov-18	100%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
release of purchase order						
Agitators	**01-May-18**	**23-Jul-19**	**18%**			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	01-May-18	18-Jul-18	100%		Concessionaire yet to submit the same and delay is due to lack of planning.	Concessionaire to expedite the Submission of the same by 5th December 2018
Manufacturing of Equipment	01-Sep-18	08-Jun-19	32%		Manufacturing clearance is delayed due to delay in approval of data sheet	
Transformers	**02-Jul-18**	**21-Jul-19**	**2.2%**	**1.3%**		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	02-Jul-18	18-Jul-18	100%	60%	Concessionaire to resubmit the data sheet after incorporating the observations	
HT Cables	**29-Sep-18**	**26-Jul-19**	**2.2%**			
Submission & Approval of Drawings / Documents & data sheets including	29-Sep-18	09-Nov-18	100%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
release of purchase order						
MCC panel	**23-Jun-18**	**16-Aug-19**	**2%**	1%		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	23-Jun-18	27-Jul-18	100%	60%	Concessionaire to resubmit the data sheet after incorporating the observations	
H.T.Panel	**07-Sep-18**	**16-Aug-19**	2%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
SCADA System	**07-Sep-18**	**16-Aug-19**	2%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
MLDB, LDB & SLDBS	**07-Sep-18**	**16-Aug-19**	2%			
Submission &	07-Sep-18	09-Nov-18	100%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
Approval of Drawings / Documents & data sheets including release of purchase order						
Push Button Stations/Plant lighting / Buildings lighting	**07-Sep-18**	**16-Aug-19**	2%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Power, Control & lighting Cables	**07-Sep-18**	**16-Aug-19**	2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Cable trays / Lighting JB	**07-Sep-18**	**16-Aug-19**	2%			
Submission &	07-Sep-18	09-Nov-18	100%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
Approval of Drgs / Docs & data sheets including release of purchase order						
Civil Executions	**6-Apr-18**	**15- Aug-19**	**63%**	**50%**		
Bund Wall / Earthen Embankment	**19-Feb-18**	**30-Aug-19**	**82%**	**63.2%**		
Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height	09-Jul-18	25-Oct-18	100%	68%	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	01-Oct-18	29-Nov-18	100%	40%	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height	07-Nov-18	18-Dec-18	56%	13%	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Construction of Inlet Structure, Fine Screen, Grit Chamber,	**03-Jun-18**	**30-Jun-19**	**61%**	**48.8%**	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
Parshall Fume, Distribution Chamber for SBR						delay occurred.
PCC & RCC of Footing	13-Jun-18	18-Jul-18	100%	96%		
Inlet Chamber Slab With Column, Wall	20-Sep-18	15-Dec-18	83%			
SBR Basins & SBR outlet Chamber	**09-Apr-18**	**15-Jul-19**	**68.1%**	**56.2%**	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Wall 1st Lift	05-Jun-18	30-Aug-18	100%	63%		
Wall 2nd Lift	07-Jun-18	05-Sep-18	100%	37%		
Wall 3rd Lift	24-Sep-18	15-Jan-19	59%	26%		
Construction of CCT including Chlorination room & Treated water pump House	**26-Apr-18**	**24-Aug-19**	**55%**	**43.8%**	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
50% RCC of Structure	20-Jun-18	10-Oct-18	100%	55%		
Overhead Treated water Tank	**01-Jun-18**	**01-Aug-19**	**52.3%**	**30%**	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30th November 2018	Total completion in % as on 30th November 2018	Delay analysis	Recovery / Mitigation plan
50% RCC of Structure	09-Oct-18	18-Dec-18	74%			
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	**15-Oct-18**	**13-Jul-19**	22.3%	15%	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
PCC & Raft RCC	01-Nov-18	18-Dec-18	62%	25%		
Administrative Building including lab and workshop	**08-Jun-18**	**11-Jul-19**	51.4%	35.1%		
50% RCC of Structure	16-Oct-18	18-Dec-18	71%	17%		
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	**03-Jun-18**	**29-Aug-19**	**58.8%**	**31.70%**	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
RCC up to plinth	15-Sep-18	11-Oct-18	100%	17%		
RCC up to lintel	15-Oct-18	15-Nov-18	100%			
RCC Roof slab	16-Nov-18	18-Dec-18	44%			

ANNEX - 8
ESHS TARGET & ACHIEVEMENT

1. ESHS target and achievement

Health & Safety Targets and Goals

Sl. No.	Goals	Till previous month	During the month of November 2018
1	Zero total recordable injuries	Achieved	Achieved
2	All personnel Health and Safety inducted	Inducted	Inducted
3	100% incident reporting and investigation	No incident occurred	No incident occurred
4	100% adherence of usage of appropriate PPE's at work	Ensured	Ensured
5	Executing construction work with least disturbance to the environment, adjoining road users and traffic	Achieved	Achieved

HSE Training and competence adherence

Sl. No.	Description	Till previous month	During the month of November 2018
1	Issue of a photo identity card duly signed by the authorized representative of the company / subcontractor before they are engaged for any work	Issued	In progress

2	HSE induction training at the first day of their joining explaining the nature of the work for all the personnel working at site on the following topics
	• Hazard identification procedure - Hazards on site
	  • Fails
	  • Slip trip
	  • Electricity
	  • Working at height
	  • Excavation
	  • Drop objects
	  • Machinery
	  • Material handling (Manual and mechanical)
	  • Transportation
		Inducted	Inducted

Sl. No.	Description	Till previous month	During the month of November 2018
	• Site housekeeping • Fire • Personnel protective equipment • What is available • How to obtain it? • Correct use and care • Health • Site welfare facilities • Potential health hazards • First Aid / CPR • Duties of contractor • Brief outline of the responsibilities of the contractor by law • Details of accident prevention policy • Building and other constructions welfare law • Employer's duties • Brief outline of responsibilities of employee • Site safety rules		
3	Tool box meetings Key issues discussed at Daily Tool Box meetings includes • The job to be done • Awareness of hazards, risks & control measures associated with specific activity, review safe work practices • Active involvement of crew and open discussion on any concerns and commitment to work safely	Conducted	Conducted
4	Behavior modification and disciplinary action	None	None
5	Post-accident or near miss meeting	No accident occurred	No accident occurred

HSE Inspections and submission of reports

Sl. No.	Description	Till previous month	During the month of November 2018
1	Planned General inspection	Conducted	Conducted
2	Routine inspection		
2.1	Daily inspection of plant and equipment by operator	Conducted	Conducted
2.2	Weekly inspection of scaffold by scaffolding supervisor	NA	NA
2.3	Monthly inspection of electrical hand tools by competent electrical supervisor	Conducted	Conducted
2.4	Quarterly inspection of temporary electrical systems by competent electrical supervisor	Conducted	Conducted
2.5	Yearly inspection of lifting machinery, lifting appliances, equipment and gears by Government approved competent person	NA	NA
2.6	Half yearly inspection of pressure vessels by Govt approved competent person	NA	NA
3	Specific inspection		
	Inspection performed before a heavy lifting operation	Conducted on regular basis before starting the jobs	Conducted on regular basis before starting the jobs
	Inspection performed before and after the entry of person into a confined space	01 No. Conducted on 27th May 2018 (MPS desilting)	Work stopped
	Inspection performed before and after welding and gas cutting operation	NA	NA
	Inspection of formwork before concreting by formwork erector	Conducted	Conducted
4	Other inspection		
	Inspections by labour department of government	Nil	Nil
	Client site HSE management team	Nil	Nil
5	Monthly HSE Report submission covering • Monthly minor accident, serious incident details • Average manpower details, man-hours works	Submitted	Submitted

Sl. No.	Description	Till previous month	During the month of November 2018
	• Lost time (no of working days) • Number of training / tool box talk • Number of people trained • HSE committee minutes of meeting • HSE inspection, etc		
6	HSE Bulletin board indicating • Safety promotions / awards • Safety meeting dates and times • Emergency phone numbers • QHSE policies • Safety alerts	Available	Available except safety award
7	Risk assessment prior to start of any new work – Report	Conducted by HSE manager	Conducted by HSE manager
8	Availability of method statement for operational control of significant occupational health & safety risk levels	Available at site office	Available at site office except method statement
9	Statement of confirming the medical examination of all employees and workmen	Conducted	Conducted
10	Availability of first aid box with each crew (mention the number of first aid box availability)	Available	Available
11	Statement of confirming the welfare measures for workers		
	One latrine for every 20 workers upto 100 workers and thereafter one for every additional 50 workers	03 number of latrines provided	03 number of latrines provided
	In addition one urinal accommodation provided for every 100 workers	03 number of urinals provided	03 number of urinals provided
	Separate latrine and urinals accommodation similar to above for ladies	NA	NA
	Drinking water facility within a distance of 200 m from the place of work for all workers	Provided at 04 locations	Provided at 04 locations

Sl. No.	Description	Till previous month	During the month of November 2018
	Provision of labour accommodation	Provided for 120 labours	Provided for 120 labours
	Provision of creche (if female workers are more than 50)	NA	NA
	Measures to prevent mosquito breeding	Taken	Taken
	Permit to work system (if applicable)	Provided	Provided
12	PPE adherence		
	Head protection for VSPPL employees, All sub-contractors, Electricians, Safety professionals, All workmen and Visitors Safety helmet color code (every helmet having the logo)	Provided	Provided
	Hearing protection	Provided	Provided
	Eye protection	Provided	Provided
	Foot protection	Provided	Provided
	Fall arresting system	Provided	Provided
	Hand protection	Provided	Provided
	Respiratory protection	Provided	Provided
	Other PPE – 10% spares availability	Provided	Provided
13	Qualification of operator of lifting appliances and of signaler etc Above 21 years of age and possesses a valid heavy transport driving license as per motor vehicle act and rules Competent and reliable Possesses the knowledge of inherent risks involved in the operation of lifting appliances Periodical medical examination conducted	Adhered	Adhered
14	Sufficient lighting especially during night work	Provided	Provided
15	Fire prevention and fighting system availability	Available	Available
16	Adherence of environment management system – Air quality, Water quality, Wastewater handling, waste handling, hazardous waste handling and energy management	Adhered as per the applicable law	Adhered as per the applicable law

HSE communication and awareness campaign conducted

Sl. No.	Description	Status	Planned
1	4th March 2018 – National safety day	Conducted	
2	7th April 2018 – World health day		
3	14th April 2018 – First safety day		
4	5th June 2018 – World environmental day	Conducted	
5	15Th August 2018 – Independence Day celebration and Planting of saplings	Conducted	