

*Reviewed & vetted for adequacy*

**R. Rajan**

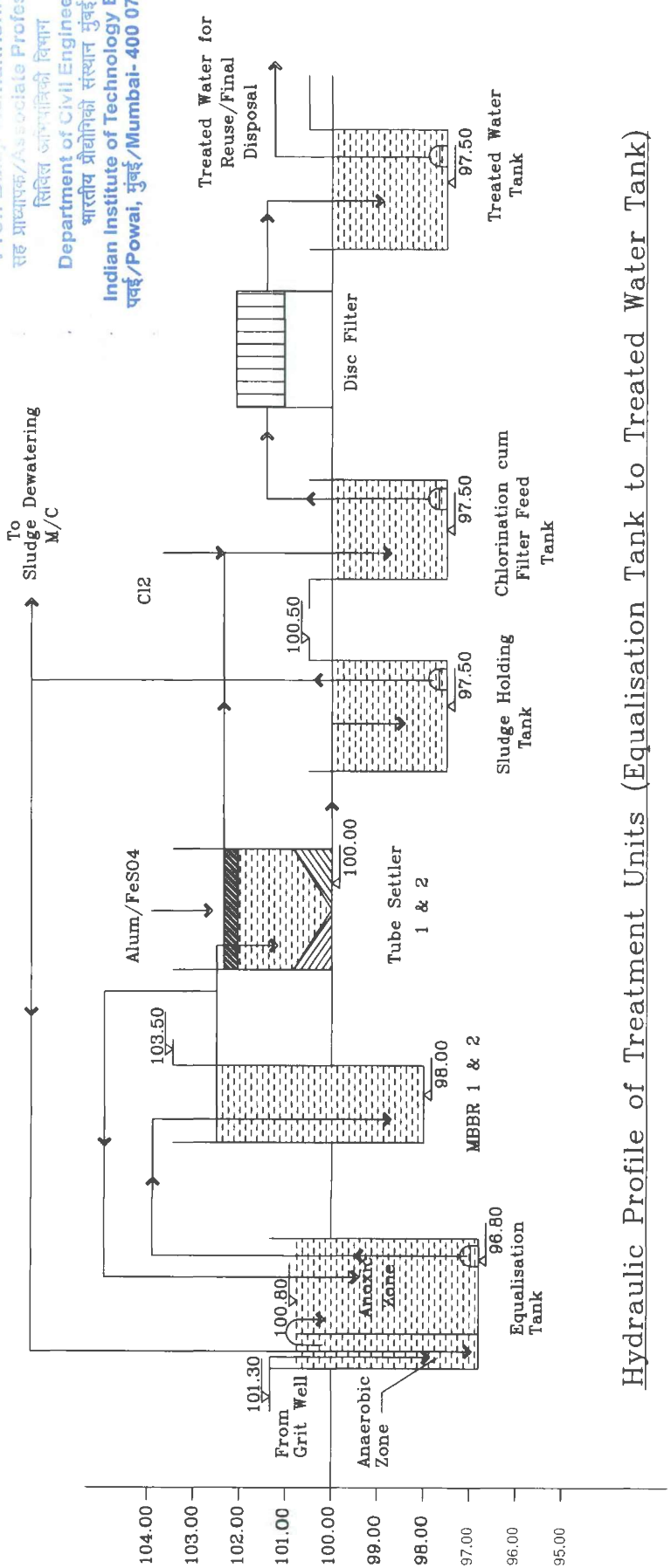
Prof. Rajaji Kamakrishnan  
 सहायक/Associate Professor  
 इंद्रिय अभियांत्रिकी विभाग  
 Department of Civil Engineering  
 भारतीय प्रौद्योगिकी संस्थान मुंबई  
 Indian Institute of Technology Bombay  
 पवई/Powai, मुंबई/Mumbai-400 076 INDIA

Hydraulic Profile of Treatment Units upto Grit Well

ALL DIMENSIONS ARE IN M	
<b>CLIENT:</b> KERALA WATER AUTHORITY THIRUVANANTHAPURAM	<b>CONSULTANT/CONTRACTOR:</b> M/S.SAINATH ENVIRO-TECH 305-C, SEVANTHAKULAM ROAD, TUTICORIN - 628 003.
<b>NAME OF PROJECT:</b> 5 MLD STP FOR TRIVANDRUM MEDICAL COLLEGE HOSPITAL	<b>DWG No-SE/KWA/002</b> <b>REV No-0</b> <b>DATE-01/08/2019</b>

Reviewed & vetted for adequacy, R. Rajan

डॉ. राजेशी रामकृष्ण  
 Prof. Rajesh Kamakrishnan  
 सहायक/Associate Professor  
 सिलिल अभियांत्रिकी विभाग  
 Department of Civil Engineering  
 भारतीय प्रौद्योगिकी संस्थान मुंबई  
 Indian Institute of Technology Bombay  
 पवई/Powai, मुंबई/Mumbai- 400 076 INDIA

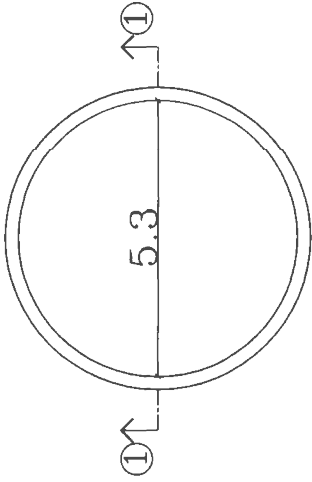


Hydraulic Profile of Treatment Units (Equalisation Tank to Treated Water Tank)

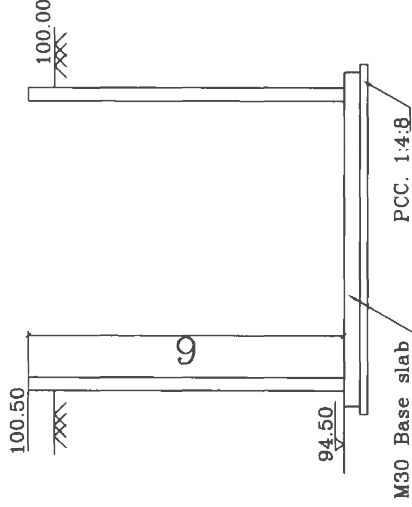
ALL DIMENSIONS ARE IN M

<p><b>CLIENT:</b>          KERALA WATER AUTHORITY          THIRUVANANTHAPURAM</p>	<p><b>CONSULTANT/CONTRACTOR:</b>          M/S.SAINATH ENVIRO-TECH          305-C, SEVANTHAKULAM ROAD,          TUTICORIN - 628 003.</p>	<p><b>NAME OF PROJECT:</b>          5 MLD STP FOR TRIVANDRUM          MEDICAL COLLEGE HOSPITAL</p>	<p>DWG No-SE/KWA/003          REV No-0          DATE-01/08/2019</p>
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INLET CHAMBER



PLAN



SECTION 1-1

ALL DIMENSIONS ARE IN M

Reviewed & vetted for adequacy,

R. Rajaji

श्री. बालाजी रामकृष्ण  
 Prof. Balaji Ramakrishnan  
 सह प्राध्यापक/Associate Professor  
 इन्स्टीट्यूट ऑफ सिविल इंजिनियरिंग  
 भारतीय प्रौद्योगिकी संस्थान मुंबई  
 Indian Institute of Technology Bombay  
 पवई/ Powai, मुंबई/ Mumbai- 400 076 INDIA

CLIENT:

KERALA WATER AUTHORITY  
 THIRUVANANTHAPURAM

CONSULTANT/CONTRACTOR:

M/S.SAINATH ENVIRO - TECH  
 305-C, SEVANTHAKULAM ROAD,  
 TUTICORIN - 628 003.

NAME OF PROJECT:

5 MLD STP FOR TRIVANDRUM  
 MEDICAL COLLEGE HOSPITAL

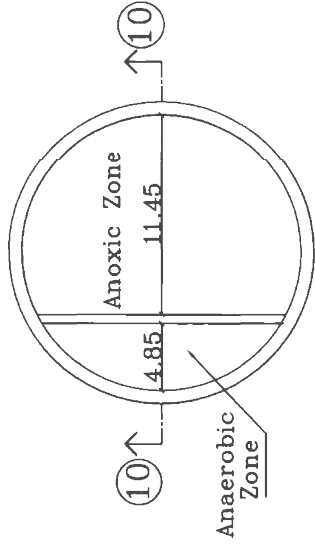
DWG No - SE/KWA/004

REV No - 0

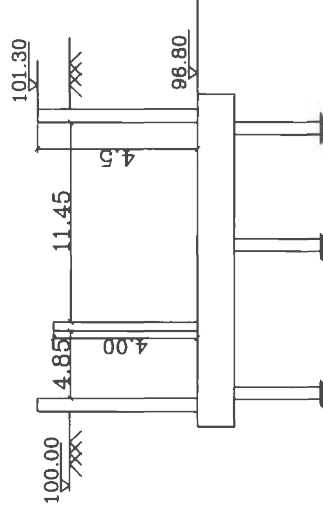
DATE - 01/08/2019



EQUALISATION TANK



PLAN



SECTION 10-10

*Reviewed & vetted for adequacy,*

*R.R. Nij*

डा. बालाजी रामकृष्ण  
 Prof. Balaji Ramakrishnan  
 सह प्राध्यापक/Associate Professor  
 सिविल अभियांत्रिकी विभाग  
 Department of Civil Engineering  
 भारतीय प्रौद्योगिकी संस्थान मुंबई  
 Indian Institute of Technology Bombay  
 पवई/Powai, मुंबई/Mumbai-400 076 INDIA

ALL DIMENSIONS ARE IN M

CLIENT:

KERALA WATER AUTHORITY  
 THIRUVANANTHAPURAM

CONSULTANT/CONTRACTOR:

M/S.SAINATH ENVIRO - TECH  
 305-C, SEVANTHAKULAM ROAD,  
 TUTICORIN - 628 003.

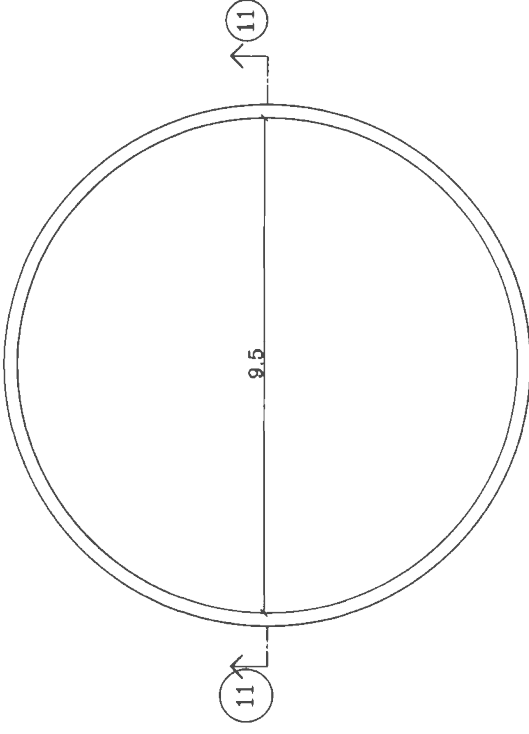
NAME OF PROJECT:

5 MLD STP FOR TRIVANDRUM  
 MEDICAL COLLEGE HOSPITAL

DWG No- SE/KWA/014

REV No-0

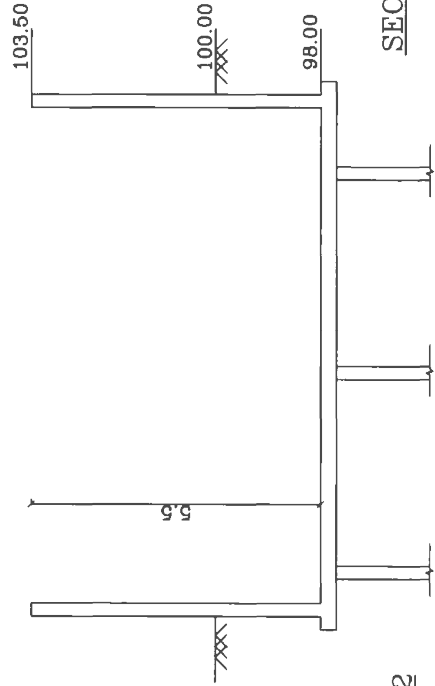
DATE- 01/08/2019



Reviewed & vetted thro  
advisary,

R. R. Mitt

श्री. बालाजी रामकृष्ण  
Prof. Dalaji Ramakrishnan  
सह प्राध्यापक/Associate Professor  
(सिविल अभियंत्रिकी विभाग)  
Department of Civil Engineering  
भारतीय प्रौद्योगिकी संस्थान मुंबई  
Indian Institute of Technology Bombay  
पवई/Powai, मुंबई/Mumbai-400 076 INDIA



ALL DIMENSIONS ARE IN M

SECTION 11-11

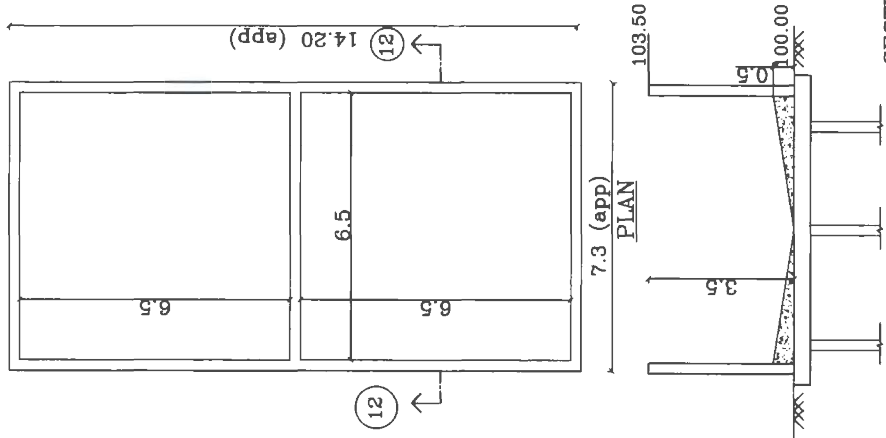
MBBR 1 & MBBR 2

<p><u>CLIENT:</u> M/s. KERALA WATER AUTHORITY THIRUVANANTHAPURAM</p>	<p><u>CONSULTANT/CONTRACTOR:</u> M/S.SAINATH ENVIRO - TECH 305-C, SEVANTHAKULAM ROAD, TUTICORIN - 628 003.</p>	<p><u>NAME OF PROJECT:</u> 5MLD STP FOR TRIVANDRUM MEDICAL COLLEGE HOSPITAL</p>	<p>DWG No- SE / KWA / 0015 REV NO-0 DATE-01/08/2019</p>
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Reviewed & vetted for adequacy,

R. Rajit

प्र. बालाजी रामकृष्ण  
 Prof. Balaji Ramakrishnan  
 सह प्राध्यापक/Associate Professor  
 सिविल अभियंत्रिकी विभाग  
 Department of Civil Engineering  
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 Indian Institute of Technology Bombay  
 पवई/Powai, मुंबई/Mumbai-400 076 INDIA

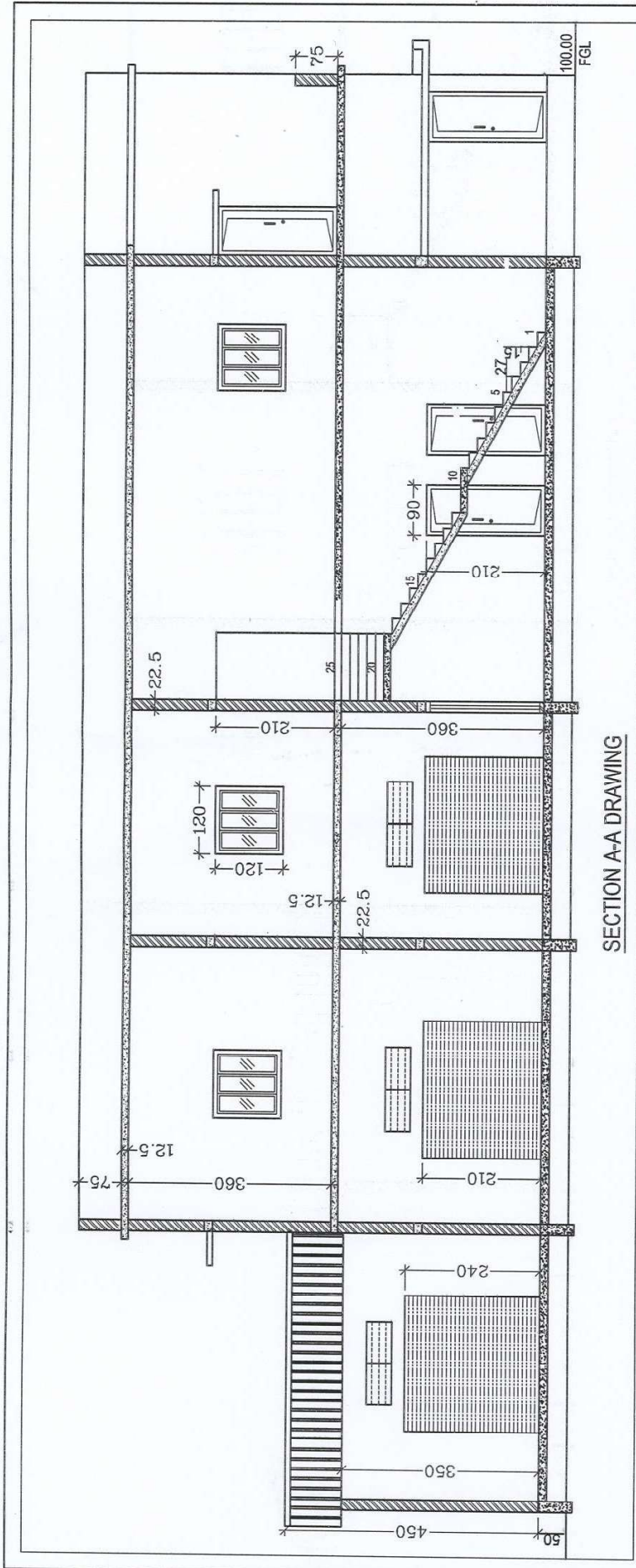


SECTION 12-12

TUBE SETTLER 1 & 2

ALL DIMENTIONS ARE IN M

<p><u>CLIENT:</u>          M/s. KERALA WATER AUTHORITY          THIRUVANANTHAPURAM</p>	<p><u>CONSULTANT/CONTRACTOR:</u>          M/S.SAINATH ENVIRO - TECH          305-C, SEVANTHAKULAM ROAD,          TUTTICORIN - 628 003.</p>	<p><u>NAME OF PROJECT:</u>          SMD STP FOR TRIVANDRUM          MEDICAL COLLEGE HOSPITAL</p>	<p>DWG No- SE / KWA / 0016          REV NO-0          DATE-01/08/2019</p>
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**SECTION A-A DRAWING**

**CLIENT:**

**KWA  
TRIVANDRUM**

**CONSULTANT/CONTRACTOR:  
M/S.SAINATH ENVIRO - TECH  
305-C, SEVANTHAKULAM ROAD,  
TUTICORIN - 628 003.**

**DWG No - SE/KWA/002  
REV No - 05  
DATE - 24/02/2020**

*[Signature]*

**Assistant Engineer  
Project Section I  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram**

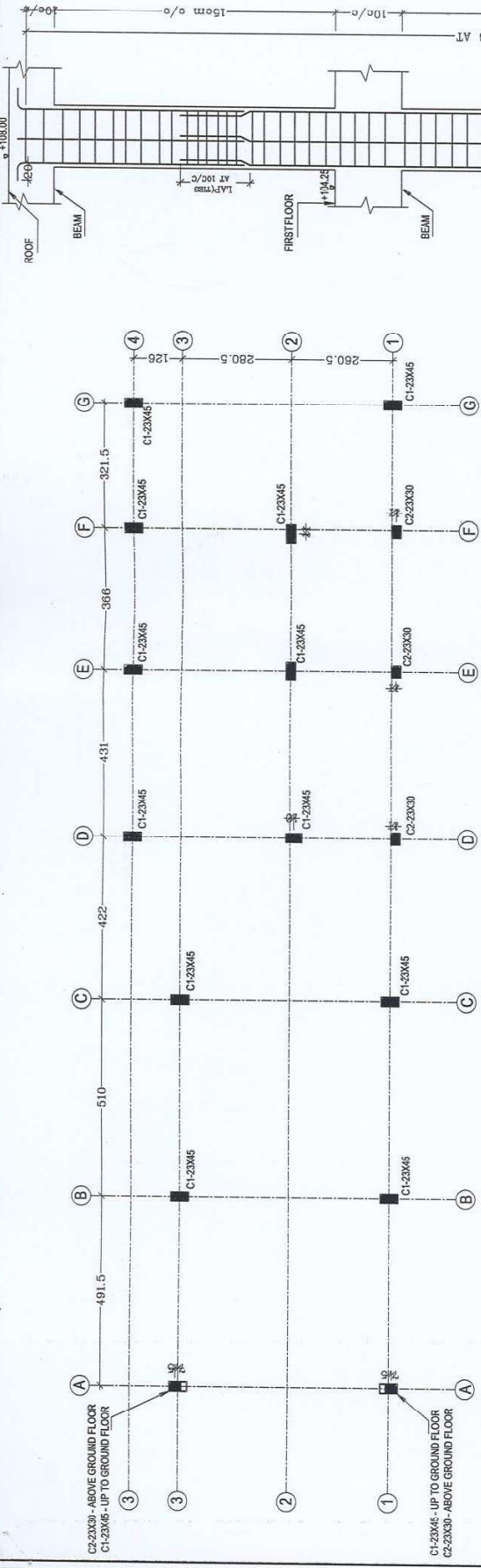
*[Signature]*  
**Asst. Executive Engineer  
Project Sub Division No. I  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram**

*[Signature]*  
**Executive Engineer  
Project Division  
Kerala Water Authority  
Thiruvananthapuram**

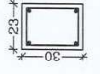
*[Signature]*  
**Superintending Engineer  
Public Health Circle  
Kerala Water Authority  
Thiruvananthapuram  
Pin - 695 033**



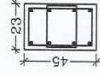




**COLUMN LAYOUT**



MAIN BARS : 8 - #16  
TIES : #8  
**C1-23X45**



MAIN BARS : 4 - #16  
TIES : #8  
**C2-23X30**

**COLUMN RC DETAILS**

GRADE OF CONCRETE:  
M30 - PILE  
M25 - PILE CAP, TIE BEAMS, PLINTH BEAMS  
M20 - SUPER STRUCTURE

*[Signature]*  
Asst. Executive Engineer  
Project Sub Division No. 1  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram

*[Signature]*  
Superintending Engineer  
Public Health Circle  
Kerala Water Authority  
Thiruvananthapuram  
Pili - 695 033

Project: **SMLD STP FOR MEDICAL COLLEGE HOSPITAL TRIVANDRUM KERALA**

NOTES:  
1. No dimensions are to be scaled out from the drawing. Figured dimensions should be followed.  
2. Check all measurements and levels before commencing the work.  
3. Dimensions are in Centimeters.

CONSULTANT  
M/s. SAINATH ENVIRO-TECH  
305-C, SEVANTHAKULAM ROAD,  
TUTICORIN-628 003.

CLIENT  
KWA, GOVT. OF KERALA

Structural Consultant:  
BMD Structural Consultants  
Thiruvur, Kerala  
Mob +91-8881063734

Job Title: **ADMIN BUILDING - COLUMN**  
Date: 22.11.19  
Drawn: Nikitha  
Rev: 5  
Date: 26.02.20  
Size: A3  
DWG. NO. **SD S14**



TYP. COLUMN AND PILE ELEVATION

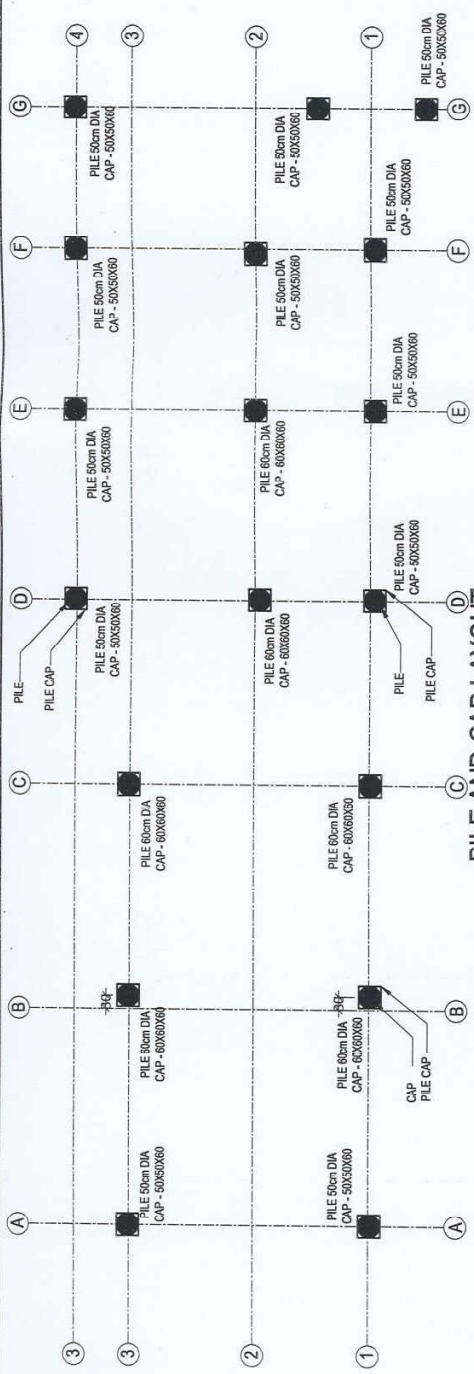
ISSUED FOR: CONSTRUCTION

GRADE OF CONCRETE:  
 M30 - PILE  
 M25 - PILE CAP, TIE BEAMS, PLINTH BEAMS  
 M20 - SUPERSTRUCTURE

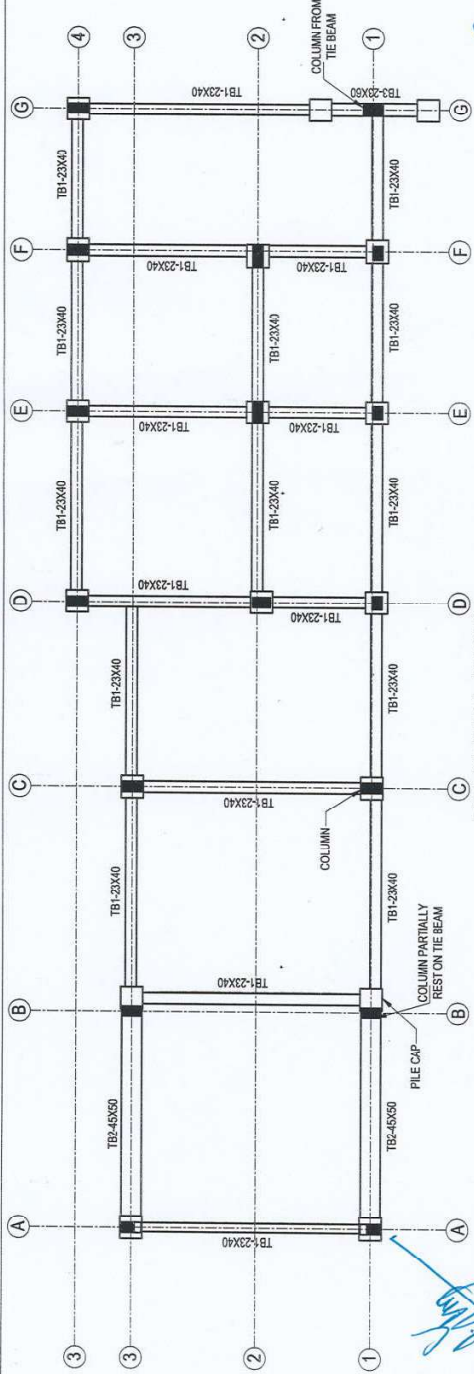
COVER  
 5cm - PILE, CAP  
 3cm - BEAMS  
 2cm - SLABS  
 4cm - COLUMN

PILE RC DETAILS ARE GIVEN IN  
 SEPARATE DRAWING - REFER  
 DRAWING NO. - SD 03

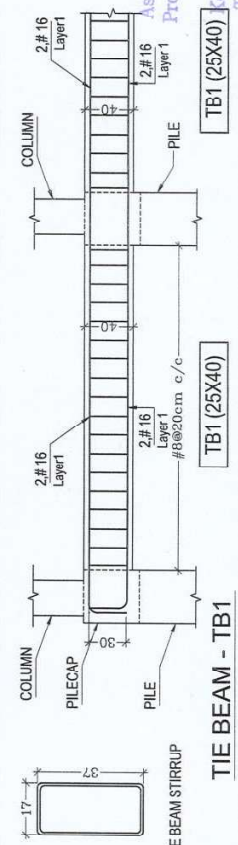
PILE AND CAP ARE AT CENTER  
 OF THE RESPECTIVE COLUMN



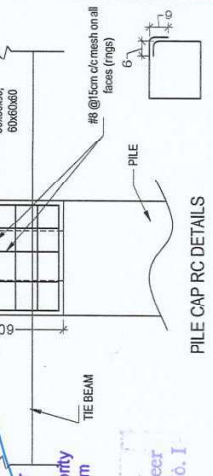
PILE AND CAP LAYOUT



TIE BEAM LAYOUT



TIE BEAM - TB1



PILE CAP RC DETAILS

Executive Engineer  
 Project Division  
 Kerala Water Authority  
 Thiruvananthapuram

Assistant Engineer  
 Project Division No. I  
 Kerala Water Authority  
 Thiruvananthapuram

ISSUED FOR: CONSTRUCTION

PROJECT: SMLD STP FOR MEDICAL COLLEGE HOSPITAL TRIVANDRUM KERALA

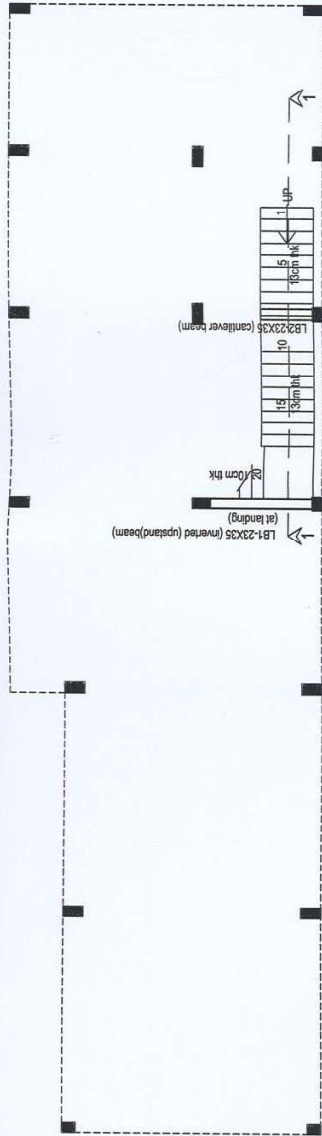
NOTES: 1. No dimensions are to be scaled out from the drawing. Figured dimensions should be followed. 2. Check all measurements and levels before commencing the work. 3. Dimensions are in Centimeters	CONSULTANT M/s. SAINATH ENVIRO-TECH 305-C, SEVANTHAKULAM ROAD, TUTUCORIN-628 003.	CLIENT KWA, GOVT. OF KERALA	Structural Consultant: BMD Structural Consultants Thrissur, Kerala Mob +91-8281063734	Job Title: ADMIN BUILDING - PILE, PILE CAP & TIE BEAM - 1	DWG. NO 
	Project: SMLD STP for Medical College Hospital Thiruvananthapuram	Project: SMLD STP for Medical College Hospital Thiruvananthapuram	Project: SMLD STP for Medical College Hospital Thiruvananthapuram	Project: SMLD STP for Medical College Hospital Thiruvananthapuram	Job No: 19R112 Date: 22.11.19 Drawn: Nikitha Rev: 5 Date: 26.02.20 Size: A3



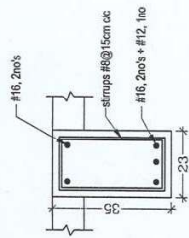


**GRADE OF CONCRETE:**  
 M30 - PILE  
 M25 - PILE CAP, TIE BEAMS, PLINTH BEAMS  
 M20 - SUPER STRUCTURE

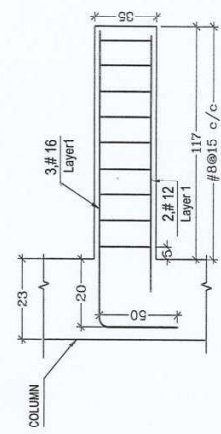
**COVER**  
 5cm - PILE, CAP  
 3cm - BEAMS  
 2cm - SLABS  
 4cm - COLUMN



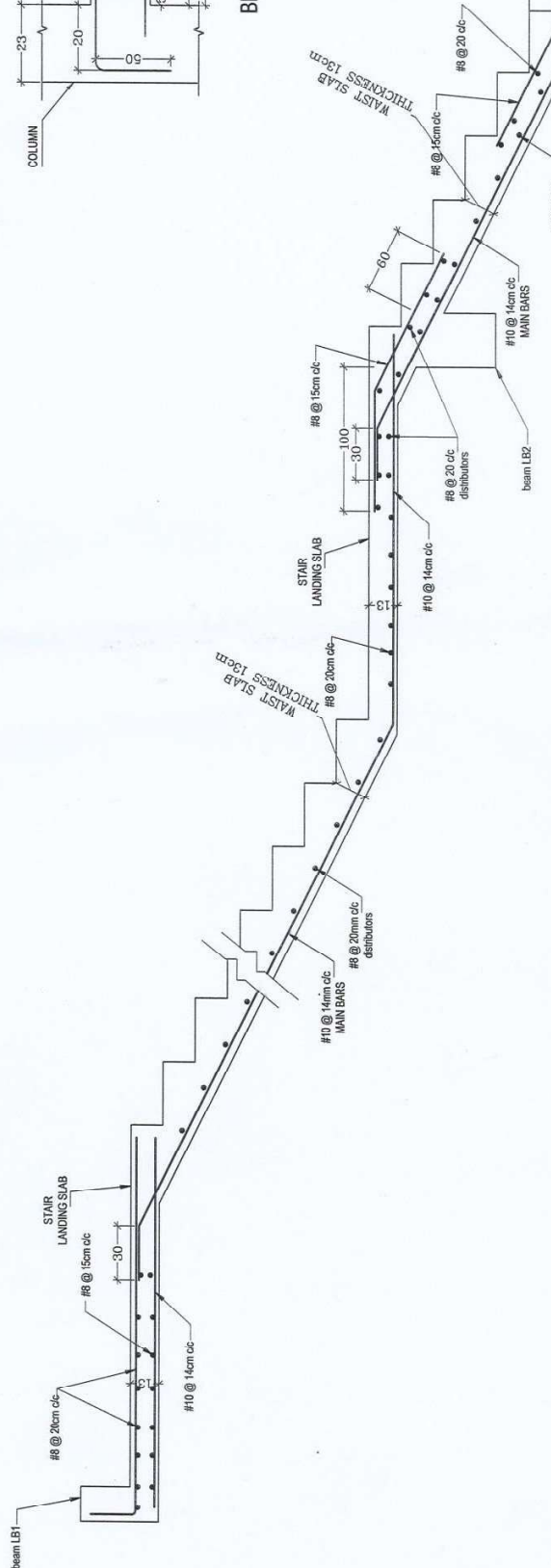
STAIR LANDING BEAM PLAN



BEAM LB1



BEAM LB2 - ELEVATION



STAIR SECTION 1-1



**Asst. Executive Engineer**  
 Project Section I  
 Observatory Hills  
 Kerala Water Authority  
 Thiruvananthapuram

**Executive Engineer**  
 Project Division  
 Kerala Water Authority  
 Thiruvananthapuram  
 Pin - 695 033

**Superintending Engineer**  
 Public Health Cycle  
 Kerala Water Authority  
 Thiruvananthapuram  
 Pin - 695 033

**Project: SMLD STP FOR MEDICAL COLLEGE HOSPITAL TRIVANDRUM KERALA**

ISSUED FOR: CONSTRUCTION

**NOTES:**  
 1. The dimensions are to be scaled out from the drawing. Figured dimensions should be followed.  
 2. Check all measurements and levels before commencing the work.  
 3. Dimensions are in Centimeters

**CONSULTANT**  
 M/s. SAINATH ENVIRO-TECH  
 305-C, SEVANTHAKULAM ROAD,  
 TUTICORIN-628 003.

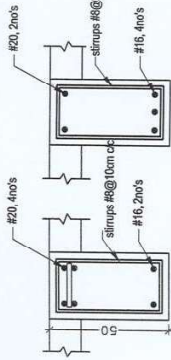
**CLIENT**  
 KWA, GOVT. OF KERALA

**Structural Consultant:**  
 BMD Structural Consultants  
 Thirsur, Kerala  
 Mob + 91-828 063734

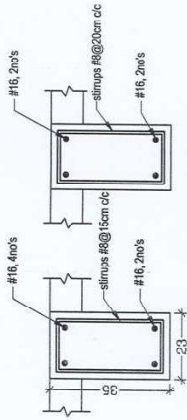
**Job Title:** ADMIN BUILDING - STAIR  
**Date:** 19R11222.11.19  
**Drawn:** Nikitha  
**Rev:** 5  
**Date:** 26.02.20  
**Size:** A3

DWG. NO. SD S17

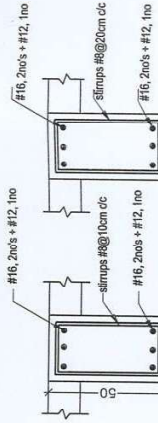




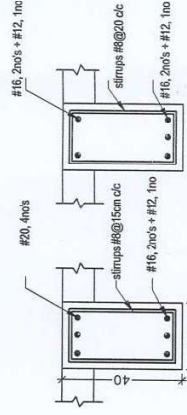
SUPPORT SECTION SPAN SECTION  
**BEAM FB1A**



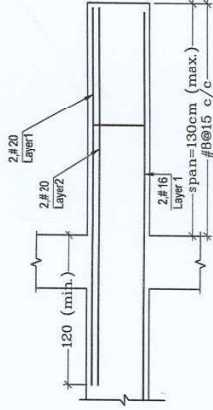
SUPPORT SECTION SPAN SECTION  
**BEAM FB2A**



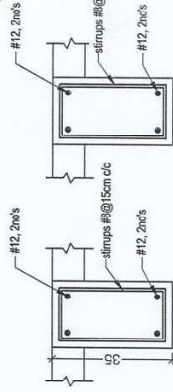
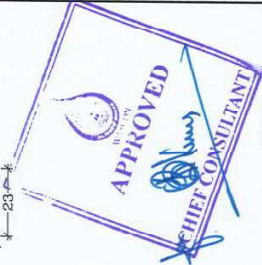
SUPPORT SECTION SPAN SECTION  
**BEAM FB1B**



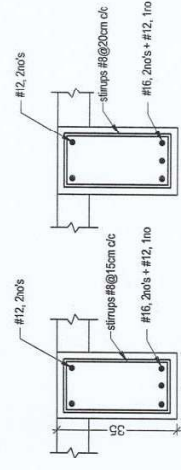
SUPPORT SECTION SPAN SECTION  
**BEAM FB2B**



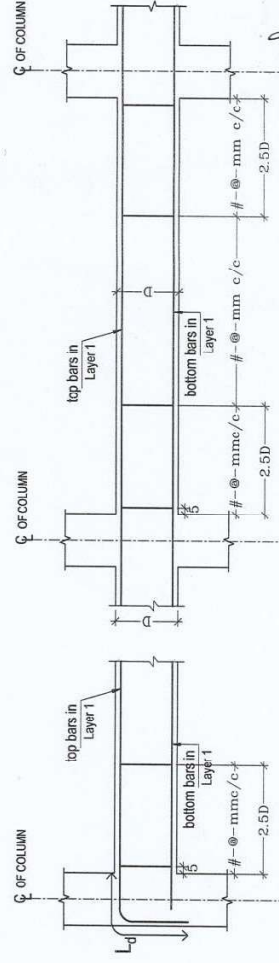
**BEAM - FB3**  
(CANTILEVER BEAM)



SUPPORT SECTION SPAN SECTION  
**BEAM FB2C**



SUPPORT SECTION SPAN SECTION  
**BEAM FB2D**



TYPICAL BEAM HAVING 1 LAYER OF REBARS

GRADE OF CONCRETE:  
M20 - SUPER STRUCTURE

COVER  
3cm - BEAMS  
2cm - SLABS  
4cm - COLUMN

$L_d = 80\text{cm}$  for 16mm bar  
 $L_d = 60\text{cm}$  for 12mm bar

Assistant Engineer  
Project Section  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram

Superintending Engineer  
Public Health Circle  
Kerala Water Authority  
Thiruvananthapuram  
Pin - 695 033

Asst. Executive Engineer  
Project Section  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram

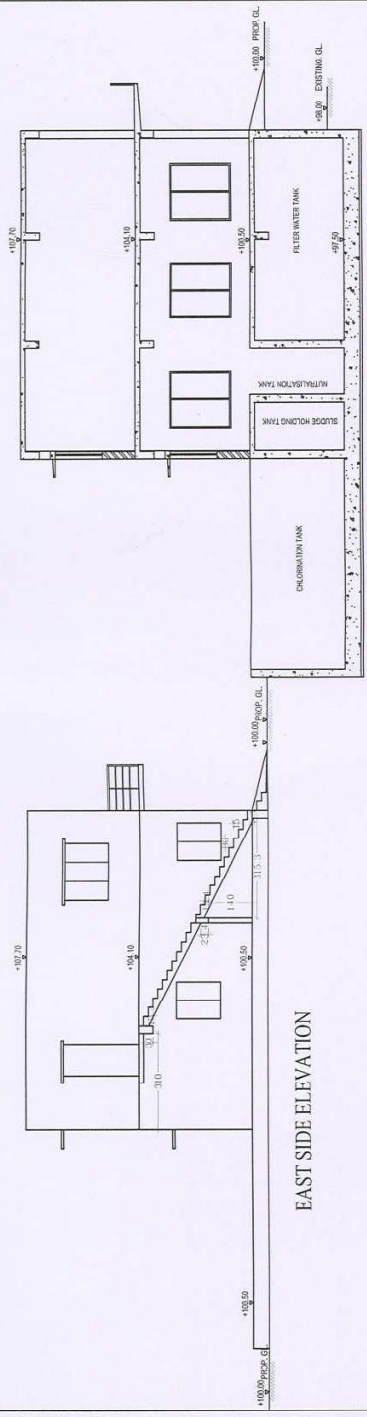
Project: <b>SMLD STP FOR MEDICAL COLLEGE HOSPITAL TRIVANDRUM KERALA</b>		ISSUED FOR: CONSTRUCTION	
NOTES: 1. No dimensions are to be scaled out from the drawing. Figural dimensions should be followed. 2. Check all measurements and levels before commencing the work. 3. Dimensions are in Centimeters	CONSULTANT M/s. SAINATH ENVIRO-TECH 305-C, SEYANTHAKULAM ROAD, TUTICORIN-628 003.	CLIENT KWA, GOVT. OF KERALA	Structural Consultant: BMD Structural Consultants Thirissur, Kerala Mob +91-98281063734
Job No: <b>19R112</b>		Date: <b>22.11.19</b>	Date: <b>26.02.20</b>
Drawn: <b>Nikkitha</b>		Rev: <b>5</b>	Size: <b>A3</b>
Job Title: <b>ADMIN BUILDING - FIRST FLOOR &amp; ROOF</b>		DWG. NO. <b>SD S19</b>	



Superintending Engineer  
Public Health Circle  
Kerala Water Authority  
Thiruvananthapuram  
Pin - 695 033

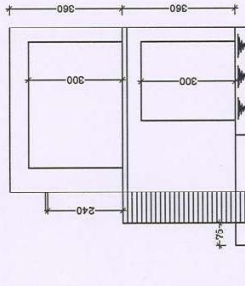
Asst. Executive Engineer  
Project Sub Division No. 1  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram

Executive Engineer  
Project Division  
Observatory Hills  
Kerala Water Authority  
Thiruvananthapuram

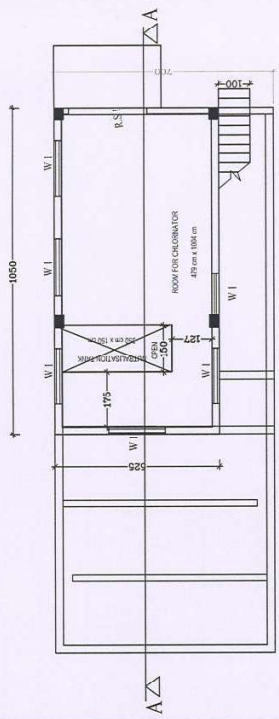


SECTION ON A-A

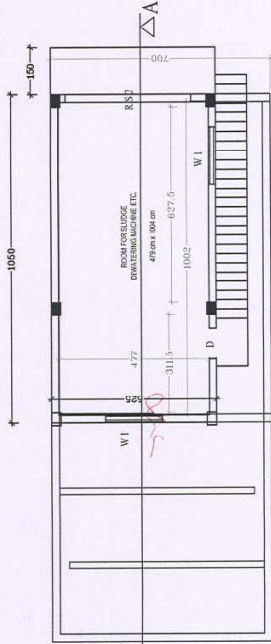
**JOINERY'S**  
 R.S.1 - ROLLING SHUTTER = 200 cm x 200 cm  
 R.S.2 - ROLLING SHUTTER = 400 cm x 200 cm  
 W.1 - STEEL WINDOW = 180 cm x 180 cm  
 W.2 - STEEL WINDOW = 120 cm x 240 cm  
 D - STEEL DOOR = 120 cm x 240 cm



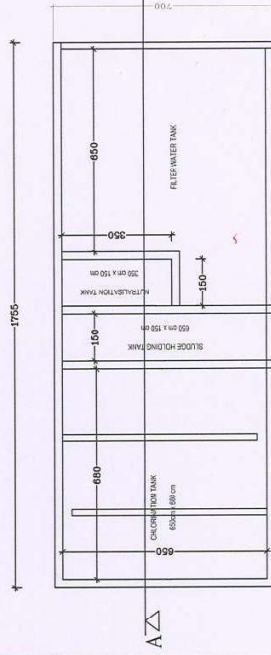
NORTH SIDE ELEVATION



GROUND FLOOR PLAN (100.5 LVL)



FIRST FLOOR PLAN (103.65 LVL)



TANK PLAN BELOW GROUND LEVEL

CONSULTANT/ CONTRACTOR  
 M/s. SAINATH ENVIRO-TECH  
 305-C, SEVANTHAKULAM ROAD,  
 TUTICORIN-628 003.

Executive Engineer  
 Project Division  
 Kerala Water Authority  
 Thiruvananthapuram

DWG NO - SE / KWA / 003  
 REV NO - 02  
 DATE - 24 / 02 / 2020

CLIENT  
 KWA, TRIVANDRUM