

E Waste



# MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

Grade 'A++' Accredited by NAAC

## MGM SCHOOL OF PHYSIOTHERAPY

Sector-1, Kamothe, Navi Mumbai – 410209

MGM/SOP/536 /2022

Date: 07/09/2022

To,  
The Security Officer,  
MGM Campus,  
Kamothe, Navi Mumbai.

Sub : Gate Pass

Dear Sir,

Kindly allow Mr. Roshan Shaikh, Mankhurd to take the following Scrap material.

1. Plinth
2. Projection Screen
3. Hospital Bed
4. Uninterruptible power supply (UPS)
5. Switch mode power supply (SMPS)
6. Bench
7. Revolving chair
8. Plastic chair with arms

Thanking you.

  
Store Keeper

MGM School of Physiotherapy  
Navi Mumbai



Dr. Bela Agarwal  
Professor

MGM School of Physiotherapy  
Navi Mumbai



Dr. Rajani Mullerpatan  
Professor-Director  
MGM School of Physiotherapy  
Navi Mumbai





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Grade 'A' Accredited by NAAC,  
**MGM SCHOOL OF PHYSIOTHERAPY**  
Sector-1, Kamothe, Navi Mumbai – 410209

MGM/SOP/473/2022

Date: 23/08/2022  
10/07/2022

**Details of items of equipment/ furniture submitted to Central Condemnation Committee for write off/ Condemnation/ Disposal etc:**

Sr. No.	Item Name	Qty	Year of Purchase	Purchase Amount	Cost of Repair	Depreciated value as on 19/07/2022	Condition of item as per CCC	Recommendations of CCC
1	Plinth	1	26/11/2010	8500.00	Not Repairable	4428.00	Beyond economic repair	To write off and Dispose
2	Projection screen (6 x 8)	1	31/08/2010	6700.00	Not Repairable	2102.00	Beyond economic repair	To write off and Dispose
3	Hospital bed	1	2014 (Approx.)	Approx. 30000.00	20000.00	6176.00	Beyond economic repair	To write off and Dispose
4	Uninterruptible Power Supply (UPS)	10	24/11/2010	1700.00 (*17000.00)	Technician report from IT	8833.00	Beyond economic repair	To write off and Dispose
		5	22/2/2012	1666.67 (*8333.35)	Technician available		Beyond economic repair	To write off and Dispose
5	Switched Mode Power Supply (SMPS)	01	11/09/2013	570.00	Technician report from IT	631.00	Beyond economic repair	To write off and Dispose
		01	23/09/2015	750.00	Technician available		Beyond economic repair	To write off and Dispose
6	Bench	14	Aug 2010	Approx. 3000.00 (*42000.00)	Not Repairable	8647.00	Beyond economic repair	To write off and Dispose
7	Revolving Chair	10	Aug 2010	Approx. 6500.00 (*39000.00)	Not Repairable	18653.00	Beyond economic repair	To write off and Dispose
8	Plastic Chair with arms	15	28/06/2011 / Aug 2010	500.00 (*6500.00)	Not Repairable	1853.00	Beyond economic repair	To write off and Dispose

\*Cost x Quantity = Total Cost

Above items checked by the committee members and their remarks are appended as column no 7 above for taking further necessary action Items declared Condemned were found beyond economical repair, hence be disposed of by auctioning.

**Committee Members**

1.	Dr. N.C. Mohanty	Chairman		23/8
2.	Dr. P. G. Ramesh	Member		23/8
3.	Dr. Rajani Mullerpatan	Professor-Director MGM School of Physiotherapy, Navi Mumbai		
4.	Dr. Bela Agarwal	Professor MGM School of Physiotherapy, Navi Mumbai		



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MGM/SOP/ / 2022

Date : /07/2022

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						Resumed	Repairable	Condemned (Beyond Economical Repair)
1	Plinth	1	26/11/2010	8500.00	Not Repairable			
2	Projection screen (6 x 8)	1	31/08/2010	6700.00	Technician report from IT Technician available			
3	Hospital bed	1	2014 (Approx.)	Approx. 30000.00	20000.00	Not Repairable		
4	Uninterruptible Power Supply (UPS)	14	24/11/2010 / 22/2/2012	1700.00 / 1666.67	Technician report from IT Technician available			
5	Switched Mode Power Supply (SMPS)	02	11/09/2013 / 23/09/2015	570.00 / 750.00	Technician report from IT Technician available			
6	Bench	15	Aug 2010	Approx. 3000.00 (*42000.00)	1000.00	Not Repairable		
7	Revolving Chair	6	Aug 2010	Approx. 6500.00 (*39000.00)	Not Repairable			
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2	✓ Projection screen (6 x 8)	1	31/09/2011	6700.00	Not Repairable	2102.00	Beyond economic repair	To write off and Dispose
3	✓ Hospital bed FRAME	1	2007 (Approx.)	Approx. 30000.00	20000.00	6176.00	Beyond economic repair	To write off and Dispose
4	✓ Uninterruptible Power Supply (UPS)	10	24/11/2010	1700.00 (*17000.00)	Technician report from IT	8833.00	Beyond economic repair	To write off and Dispose
		5	22/2/2012	1666.67 (*8333.35)	Technician available		Beyond economic repair	To write off and Dispose
5	✓ Switched Mode Power Supply (SMPS)	01	11/09/2013	570.00	Technician report from IT	631.00	Beyond economic repair	To write off and Dispose
		01	23/09/2015	750.00	Technician available		Beyond economic repair	To write off and Dispose
6	✓ Bench	14	2007 (Approx.)	Approx. 3000.00 (*42000.00)	Not Repairable	8647.00	Beyond economic repair	To write off and Dispose
7	✓ Revolving Chair	6	02/06/2015	6500.00 (*39000.00)	Not Repairable	18653.00	Beyond economic repair	To write off and Dispose
8	✓ Plastic Chair with arms	13	28/06/2011	500.00 (*6500.00)	Not Repairable	1853.00	Beyond economic repair	To write off and Dispose

\*Cost x Quantity, Total cost

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3	Hospital bed	1	2007 (Approx.)	Approx. 30000.00	20000.00	Not Repairable		
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7	Revolving Chair	6	02/06/2015	6500.00	Not Repairable			
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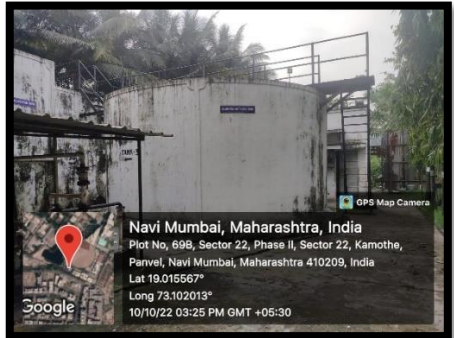



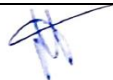
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**Waste Recycling System**

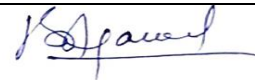
Date: 11/10/2022

Waste Recycling System is located at MGM Institute of Health Sciences, Plot no 69B, behind MGM School of Physiotherapy Building, Kamothe, Navi Mumbai.

 <p>Navi Mumbai, Maharashtra, India Plot No. 69B, Sector 22, Phase II, Sector 22, Kamothe, Panvel, Navi Mumbai, Maharashtra 410209, India Lat 19.018624° Long 73.102106° 10/10/22 03:26 PM GMT +05:30</p>	 <p>Navi Mumbai, Maharashtra, India Plot No. 69B, Sector 22, Phase II, Sector 22, Kamothe, Panvel, Navi Mumbai, Maharashtra 410209, India Lat 19.015512° Long 73.1021° 10/10/22 03:24 PM GMT +05:30</p>
<p>Image 1: Filtration system in water treatment plant</p>	<p>Image 2: Filter press system and Collection tank at water treatment plant</p>
 <p>Navi Mumbai, Maharashtra, India Plot No. 69B, Sector 22, Phase II, Sector 22, Kamothe, Panvel, Navi Mumbai, Maharashtra 410209, India Lat 19.015567° Long 73.102013° 10/10/22 03:25 PM GMT +05:30</p>	 <p>Navi Mumbai, Maharashtra, India Plot No. 69B, Sector 22, Phase II, Sector 22, Kamothe, Panvel, Navi Mumbai, Maharashtra 410209, India Lat 19.015885° Long 73.101878° 10/10/22 03:21 PM GMT +05:30</p>
<p>Image 3: Settling tank unit at sewage treatment plant</p>	<p>Image 4: Rain water harvesting pond in campus</p>

  
**Dr. Pooja Dogra (PT)**  
Criterion In-charge  
MGM School of Physiotherapy

  
**Dr. Shrutika Parab (PT)**  
IQAC coordinator  
MGM School of Physiotherapy

  
**Dr. Rajani Mullerpatan**  
Professor-Director  
MGM School of Physiotherapy



Certificate Mumbai waste  
managment





Towards sustainable growth



# Mumbai Waste Management Limited

## SERVICE CERTIFICATE

MIS M G M Hospital - kamothe

is a registered members of

CBMW-TSDF at MIDC, Talaja

for safe & secure disposal of

Bio Medical Waste.

Registration no.: MWML - BMW PAN-1069

This Certificate is valid upto

31<sup>st</sup> Dec'2022 For 810 Beds.

Somnath Malgar  
Project Head

Certificate No.: MWML-BMW-2021-2022/04234

**WASTE MANAGEMENT MOUs & AGREEMENTS**  
**&**  
**WASTE RECYCLING PLANTS**  
**(STP/ETP/WATER TREATMENT PLANT)**

# **BIOMEDICAL WASTE MOUs & AGREEMENTS**



# Watergrace Products

COMMON BIO.MEDICAL WASTE MANAGEMENT AND TREATMENT FACILITY  
AURANGABAD

SURVE NO-122, GEVRAI TANDA, PATODA SHIVAR, PAITHAN ROAD, AURANGABAD

REF.: WGP/BMW/ABD/AMC/02/2019/899

DATE.:31/01/2019

## CERTIFICATE

### TO WHOM SO EVER IT MAY CONCERN

*This is to certify that, MGM Hospital, N-6, Sevenhill, Cidco, Aurangabad is 700 Beds registered member of our common Biomedical Waste Management Collection Transportation Treatment & Disposal Facility Aurangabad Since- 2006. The Said Hospital/Dispensary/Dental Clinic/Pathology Lab/Blood Bank/Edu.Inst./Veterinary Clinic/Med. Research Centers/Other Institutes etc. is giving us Biomedical Waste for disposal as per the Maharashtra Pollution Control Board (M&H) Rules.*

*This NOC is valid up to: - 31<sup>st</sup> March, 2020.*

*For Watergrace Products Aurangabad*

*Authorised Signatory*







**WATER GRACE PRODUCT'S  
BIO MEDICAL WASTE MANAGEMENT PROJECT**

Near Kannamwar Bridge, Dwarka, Mumbai Agra Road, Nashik - 422 001.  
☎ : (0253) 2501816, 2596890 Fax: 0253-2596889. E-mail: watergrace@rediffmail.com

WGP/BMW/AMC/03/2017

Date 05/04/ 2017.

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that Hospital MGM'S Medical College & Hospital  
AURANGABAD is (700) Beds registered member of our  
common Bio-Medical waste Management Treatment & Disposal Facility Since 2006 The  
Said Hospital/Clinic/Path-lab/Dental Clinic/Blood Banks is given BMW waste regularly for  
disposal as per M.P.C.B Norms....

**This NOC is Valid up to 31 MARCH 2018**

For Water Grace Products.

For WATERGRACE PRODUCTS

Authorised Signatory

Authorised Signatory

Where Quality goes in before the name goes on

# MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/ 24010437  
 Fax: 24023516  
 Website: <http://mpcb.gov.in>  
 E-mail: [cac-cell@mpcb.gov.in](mailto:cac-cell@mpcb.gov.in)



Kalpataru Point, 2<sup>nd</sup> - 4<sup>th</sup> Floor  
 Opp Cine Planet Cinema,  
 Near Sion Circle, Sion (E)  
 Mumbai 400 022

Consent order No: - Format 1.0/BO/CAC-cell/CCA/CAC-9767  
 Date: 12/08/2016

To,  
 M/s. MGM's Medical College and Hospital,  
 N-6, CIDCO, Aurangabad-432003

Subject: Combined Consent to Operate and BMW Authorization under RED category to Health Care Establishment (HCE)

Ref:

1. BMW Authorization granted vide PSO/BMW/Aurangabad/2013 37, date 03.08.2013 valid upto 31.12.2015
2. Your application approved in 2<sup>nd</sup> CAC meeting of 2016-2017 held on 02.06.2016

Your Application no. CO1602000007

Dtd. 07.01.2016

For: Combined Consent to Operate and BMW Authorization under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, Authorization under Rule 5 of the Hazardous Wastes (M, H & I M) Rules 2008 and Biomedical Waste (Management and Handling) Rules 1998, as amended is considered and the consent is hereby granted subject to following terms and conditions and as detailed in the schedule I, II, III, IV & V annexed to this order:

1. The combined consent to operate and BMW authorization is granted for a period Upto 31.12.2018
2. The actual capital investment of the Health Care Establishment is Rs. 42.54 crs (As per C.A. certificate submitted by applicant)
3. The combined consent to operate and BMW authorization is valid for the Activity of -

Sr. No	Activity	Beds
1	Health Care Establishment having 700 beds on Total Plot Area of 20,000 sq.m. and Total Construction BUA of 16,787 sq.m.	700 nos.

4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1.	Trade effluent	22	As per Schedule - I	The treated trade effluent shall be recycled maximum for secondary purpose and remaining shall be connected to the sewerage system provided by local body.
2.	Domestic effluent	540	As per Schedule - I	The treated effluent shall be 60% recycled for secondary purposes and remaining shall be connected to the



sewerage system provided by local body

5. Conditions under Air (P&CP) Act, 1981 for air emissions:

Sr. No.	Description of stack/ source	Number Of Stack	Standards to be achieved
1	D.G. Set (1 x 500 KVA)	1	As per Schedule -II

6. Conditions under Hazardous Waste (M, H & T M) Rules, 2008 for treatment and disposal of hazardous waste:

Sr. No.	HW category	Type Of Waste	Quantity	UOM	Treatment	Disposal
1	34.3	Chemical sludge from waste water treatment	As actual	Kg/M		CHWTSDF

7. Non-Hazardous Solid Wastes:

Sr. No.	Type Of Waste	Quantity	UOM	Treatment	Disposal
1	Wet garbage	As actual	Kg/Day	OWC	Manure
2	Dry garbage		Kg/Day		Recycle or Hand over to local body
3	STP Sludge		Kg/day		Manure

8. This Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.

9. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government agencies.

10. This consent is issued subject to conditions mentioned below.

- The authorized Person Director Administrator of M/s. MGM's Medical College and Hospital shall comply with the provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
- Any unauthorized change in equipment or working conditions as mentioned in the application by the person applying for it shall constitute a breach of this authorization.
- You shall submit details of Management and Handling of outdated, discarded, unused Cytotoxic drugs generated in the Cancer centers, research and health care in the format prescribed by CPCB which is available on [www.cpcb.nic.in](http://www.cpcb.nic.in) alongwith Annual Report to MPCB which is due to CPCB before 31<sup>st</sup> January every year.
- You shall manage the Mercury Waste in the HCF in environmentally sound manner (including storage, spilled collection, transportation and disposal) as per CPCB guidelines published on CPCB website [www.cpcb.nic.in](http://www.cpcb.nic.in) dated 07.09.2010 as detailed in document entitled "Environmentally Sound Management of Mercury Waste in Health Care Facilities."
- You shall submit compliance of Bank Guarantee conditions every six months to Regional Officer, Aurangabad for verification purpose.

For and on behalf of the  
Maharashtra Pollution Control Board

(Dr. P. Anbalagan)  
Member Secretary



Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No./RTGS	Date	Drawn On
1	40,000/-	022769	16.04.2013	

2	1,10,000/-	022889	20.05.2013	
3	1,50,000/-	027774	03.09.2013	
4	1,25,000/-	014784	06.01.2016	IDBI Bank
5	5,50,000/-	016132	25.02.2016	IDBI bank

Copy to:

1. Regional Officer – MPCB, Aurangabad , Sub -Regional Officer, MPCB, Aurangabad: they are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Mumbai.
3. CC/CAC desk- for record & website updation purposes.



Maharashtra Pollution Control Board



Schedule-I

**1) Terms & Conditions for compliance of Water Pollution Control**

- 1) A) As per your consent application, you have provided the sewage treatment system (STPs) with the design capacity of 600 CMD.
- B) The Applicant shall operate and maintain the sewage treatment system to treat the sewage so as to achieve the following standards/ prescribed under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr No.	Parameters	Standards prescribed by Board
		Limiting Concentration in mg/l, except for pH
01	BOD (3 days 27°C)	10
02	Suspended Solids	10
03	COD	50
04	Residual Chlorine	1ppm

- C) The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly/indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the record with data logging system. Project Proponent shall achieve the treated domestic effluent standard for the parameter BOD- 10 mg/lit.
- 2) As per your application, you have provide Effluent Treatment Plants (ETPs) to treat the trade effluent quantity 22 CMD.
- B) The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time; whichever is stringent.

Sr.No	Parameters	Standards prescribed by Board
		Limiting Concentration in mg/l, except for pH
01	pH	Between 5.5 to 9.0
02	BOD (3 days 27°C)	30
03	Suspended Solids	100
04	COD	250
05	Oil & grease	10
06	Detergent	2

- C) The treated trade effluent shall be recycled maximum for secondary purpose such as flushing, air conditioning and irrigation purposes and remaining shall be connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly/indirectly at any time.
- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the system which any treatment and disposal system or an extension or addition thereto.



- 4) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
- 5) The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines if applicable.
- 6) In case, the water consumption of the project is not covered under the water consumption of local body, in that situation, the project proponent shall submit the CESS Returns in the prescribed format given under the provision of Water (Prevention & Control of Pollution) Cess Act, 1977 and Rules made thereunder for various category of water consumption.

In case the water consumption is duly assessed under the quantity of water consumption of local body, the project proponent shall submit certificate to that effect from the concerned local body with the request not to assess CESS on their water consumption, being already assessed on the water consumption of local body.

ii) Conditions under Water (Prevention & Control of Pollution) CESS Act, 1977 as amended

The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Cess Act, 1977 and as amended, by installing water meters, filing water cess returns in Form-I and other provisions as contained in the said act.

Sr. No.	Purpose for water consumed	Water Consumption quantity CMD
1.	Industrial Cooling, boiler feed etc.,	
2.	Domestic purpose	670
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	27
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	--



Schedule II

Terms & conditions for compliance of Air Pollution Control

1. As per your application, you have provided the Air pollution control (APC) system and also erected following stack (s) to observe the following fuel pattern-

Sr. No.	Stack Attached To	APC System	Height in Mtrs.	Type Of Fuel	Quantity & UOM	S%
1	D.G. Set (1 x 500 KVA)	Acoustic enclosure	4.5*	HSD	@ 0.21 liters/hr/KVA at full load.	1

\*Above the roof of building in which it is installed.

2. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150 mg/Nm <sup>3</sup>
--------------------	---------------	------------------------

3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary)



Maharashtra Pollution Control Board

Schedule-III

**I) Terms & Conditions for compliance of Biomedical Waste Management**

1. The "authorized Person" Administrator of M/s. MGM's Medical College and Hospital shall comply with the provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
2. The combined consent is granted for generation and disposal of Bio-Medical Waste (BMW) in waste categories and quantities listed here in below:

Sr. No.	Category	Description	Quantity not to exceed (Kg/M)	Segregation Colour coding	Treatment & Disposal
1	Cat -1	Human Anatomical waste	90	Yellow	Incineration
2	Cat-3	Microbiology & Biotechnology Waste	5	Yellow	Incineration
3	Cat-4	Waste Sharps	135	Blue / white translucent	Disinfection (chemical treatment) and mutilation / shredding
4	Cat-5	Discarded Medicines and Cytotoxic drugs	2	Yellow	Incineration
5	Cat-6	Soiled Waste	250	Yellow	Incineration
6	Cat-7	Solid Waste	300	Red.	Disinfection (chemical treatment) autoclaving / and mutilation / shredding
No onsite treatment of BMW is permitted. The above mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorised by MPCB.					

3. (i) BMW shall not be mixed with other wastes or reused or sold in any form.
- (ii) BMW shall be segregated into containers / bags at the point of generation in accordance with Schedule II prior to storage, treatment and disposal. The containers shall be labeled according to Schedule III of BMW Rules 1998.
- (iii) If a container containing BMW is to be transported from the premises where BMW is generated to any waste treatment facility outside the premises, the container shall, apart from the Label prescribed in Schedule III, also carry information prescribed in Schedule IV and shall be transported by authorized Transporter only.
- (iv) Notwithstanding anything contained in the Motor Vehicles Act, 1988 or Rules there under, BMW shall be transported only in such vehicle as may be authorized for the purpose by the competent authority as specified by the Government.
- (v) No untreated BMW shall be kept stored beyond a period of 48 hours.
- (vi) Necessary protective gear for the waste handlers shall be provided by the hospital Authority.





- (vii) You shall ensure proper collection of mercury spillage arising mainly due to breakage of thermometers pressure gauges (Sphygmomanometers) other equipments used in health care facilities (HCFs) as well as its storage in accordance with the Hazardous waste (Management & Handling) Rules (presently these Rules has to be read as 'Hazardous Waste (Management & Handling and Trans boundary Movement) Rules, 2008) and returning it to the instrument manufacturers apart from necessary taking steps to ensure that the spilled mercury does not become a part of bio-medical or other solid wastes generated from the HCFs.
- (viii) Authorized person shall obtain prior permission from MPCB for generation & disposal, if Bio-Medical waste quantity of category specified exceed the limits authorized at condition No. 4. Above
4. (i) You shall submit an Annual Report to the prescribed authority in Form-II by 31<sup>st</sup> January every year including information about the categories and quantities of BMW handled during the preceding year.
- (ii) You shall maintain records related to the generation, collection, reception, storage, transportation, treatment, disposal and/or any form of handling of BMW in accordance with these Rules and any guidelines issued.
- (iii) All records shall be subject to inspection and verification by the prescribed authority at any time.
5. When any accident occurs at any institution or facility or any other site where BMW is handled or during transportation of such waste, the authorized person shall report the accident in Form III to the prescribed authority forthwith.
6. You shall submit valid registration copy of Bombay Nursing Home Act to Board.
7. The Occupier will obey all the lawful instructions issued by the Board Officers from time to time.

*Maharashtra Pollution Control Board*



Schedule-IV : Bank Guarantees

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by M/s. MGM's Medical College and Hospital

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
<b>I (A)</b>	<b>Operation and Maintenance</b>		
1	To Segregate and Handle BMW as per Rule	Continuous	1,00,000/-
2	Operation and Maintenance of STP/ETP to achieve prescribed discharge standards	Continuous	1,00,000/-
<b>I (B)</b>	<b>Records</b>		
1	To Maintain records of BMW and submission of Annual Report in Form -II before 31 <sup>st</sup> January	Continuous	25,000/-
2	To maintain records of BMW material delivered to CBMWTSDF	Continuous	25,000/-
<b>II</b>	<b>Performance</b>		
1	To provide Separate BMW storage facility As per guidelines of CPCB.	Six	75,000/-
		Total	3,25,000/-

Rupees Three lakhs twenty five thousand only

**Note:**

- \*\* The above Bank Guarantee(s) shall be submitted by the applicant in favour of Regional Officer at the respective Regional Office within 15 days of the date of issue of Consent.
- ++ The Bank Guarantee(s) shall be valid for a period upto: Validity of consent + 4 months
- # Existing BG obtained for above purpose if any may be extended for period of validity as above.



Schedule-V  
General Conditions

- 1) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
- 3) The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) The firm shall submit to this office, the 30<sup>th</sup> day of September every year, the Environmental Statement Report for the financial year ending 31<sup>st</sup> March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
- 7) The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW (MH&TM) Rules 2008, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) The industry should comply with the Hazardous Waste (M, H & TM) Rules, 2008 and submit the Annual Returns as per Rule 5(6) & 22(2) of Hazardous Waste (M, H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30<sup>th</sup> June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
- 10) The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.
- 11) Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website ([www.mpcb.gov.in](http://www.mpcb.gov.in)).
- 12) The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.
- 13) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
- 14) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
- 15) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 16) Conditions for D.G Set
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side, or suitable exhaust muffler with insertion loss of



- 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.
- 17) The industry should not cause any nuisance in surrounding area.
  - 18) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 65 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
  - 19) The applicant shall maintain good housekeeping.
  - 20) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31<sup>st</sup> March of the year and number of trees planted by September end.
  - 21) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
  - 22) The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
  - 23) The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
  - 24) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
  - 25) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.

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# MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010437/24020781/24014701  
Fax: 24024068 /24023515  
Website: <http://mpcb.gov.in>  
E-mail : cac-cell@mpcb.gov.in



Kalpataru Point, 2<sup>nd</sup> - 4<sup>th</sup> Floor,  
Opp. Cine Planet Cinema,  
Near Sion Circle, Sion (E)  
Mumbai - 400 022

Red/LSI

Consent No: Format 1.0/BO/UAN No.62150 /CAC - 1906001274

Date: 25/6/2019.

To,  
M/s MGM's Medical College and Hospital,  
N-6, CIDCO Aurangabad-432003.

Sub : Combined Consent to operate and BMW Authorization under RED Category to Health Care Establishment (HCE's).

Ref : 1. Consent granted by the Board vide no.BO/CAC-Cell/CCA-9767 Dated 12.08.2016 valid up to 31.12.2018.  
2. Your application for combine consent to operate and BMW Authorization dated 07.12.2018.  
3. The minutes of Consent Appraisal Committee meeting dated 02.05.2019.

Combined Consent to Establish and BMW Authorization.

under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2016 and Biomedical Waste Management Rules 2016 and amendment in Rules 2018 is considered and the consent is hereby granted subject to following terms and conditions and as detailed in the schedule I, II, III, IV & V annexed to this order:

1. The conditional combined consent to operate and BMW authorization is granted for period up to 31.12.2023.
2. The capital investment of the HCE is Rs.154.96 Crs.(As per C. A. Certificate submitted)
3. The Consent is valid for the Activity of -

Sr. No.	Activity	
1	Hospital	
a)	Beds	700 Nos.
b)	Total Plot Area	20,000 Sq. Mtrs
c)	Total Built up Area	16,787 Sq. Mtrs

4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1	Trade effluent	22.0	As per Schedule -I	The treated trade effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body.
2	Domestic effluent	540.0	As per Schedule -I	



5. Conditions under Air (P& CP) Act, 1981 for air emissions:

Sr. no.	Description of stack / source	Number of Stack	Standards to be achieved
1	D.G.Set [ 600 KVA]	1	As per Schedule-II
2	D.G.Set [ 600 KVA]	1	
3	D.G.Set [ 750 KVA]	1	

6. Conditions under Hazardous Wastes (Management, Handling Transboundary and Other Waste) Rule 2016 for treatment and disposal of Hazardous Waste:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	35.3 Chemical sludge from ETP	As actual	Nil	--	At CHWTSDF

7. Non-Hazardous Solid Wastes:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	Wet Garbage	As actual	Kg/Day	OWC	Manure
2	Dry Garbage	As actual	Kg/Day	---	Recycle or hand over to local body
3	STP Sludge	As actual	Kg/Day	---	Manure

8. The authorization is granted for generation and disposal of Bio-Medical Waste (BMW) to CBMWTSDF in waste categories and quantities listed here in below:

Sr. No.	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal
1	Yellow	a) Human Anatomical waste	90.0	Yellow colored non-chlorinated plastic bags	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.
		b) Animal Anatomical Waste	---		
		c) Soiled Waste	250.0		
		d) Expired or Discarded Medicines	2.0		
		e) Chemical Waste	---		
		f) Chemical Liquid Waste	---	Separate collection system leading to effluent treatment system	
		g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	9.0	Yellow colored non-chlorinated plastic bags or suitable packing material	
		h) Microbiology Biotechnology and other clinical laboratory waste	5.0	Autoclave safe plastic bags or containers	

2	Red	Contaminated waste (Recyclable)	300	Red colored non chlorinated plastic bags or containers	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.
3	White (Translucent)	Waste sharps including Metals	135	Puncture proof, Leak proof, tamper proof container	
4	Blue	a) Glassware b) Metallic body implants	31 ---	Puncture proof & leak proof boxes or containers with blue colored marking.	

9. If Built up area exceeds more than 20,000 sq. meters and if hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 2006 as Amended.

10. This consent is issued subject to conditions mentioned below,

- a. The "authorized Person" shall comply with provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
- b. Any unauthorized change in equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
- c. If the built-up area exceeds more than 20,000 sq. Mtrs. and if the hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 14.09.2006 by obtaining Environment Clearance.
- d. You shall submit details of Management and Handling of outdated, discarded, unused **Cytotoxic drugs** generated in the Cancer centers, research and health care in the format prescribed by CPCB which is available on [www.cpcb.nic.in](http://www.cpcb.nic.in) along with Annual Report to MPCB with a copy to CPCB before 31<sup>st</sup> January every year.
- e. You shall manage the **Mercury Waste** in the HCE in environmentally sound manner (including storage, spilled collection, transportation and disposal) as per CPCB guidelines published on CPCB website [www.cpcb.nic.in](http://www.cpcb.nic.in) dated: 07.09.2010 as detailed in document entitled "Environmentally Sound Management of Mercury Waste in Health Care Facilities".
- f. You shall ensure phase out of chlorinated plastic bags, gloves and blood bags by HCEs within two years;
- g. You shall establish Bar code system within one year



- h. You shall ensure that the liquid waste is treated and disposed by all the occupier or operator of a CBWTF in accordance with the Water Act, 1974;
- i. You shall maintain day to day basis and display the monthly record Including Annual report on its website within two years from the date of Notification.
- j. You shall submit separate Bank Guarantees towards compliance of condition mentioned at Annexure – IV to Regional Office, within 30 days.
- k. You shall submit compliance of Bank Guarantee conditions every six months to Regional Officer, for verification purpose.
- l. You shall submit application for renewal of Combined Consent and Biomedical Waste authorization before 120 days along with appropriate fees.
11. This Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
12. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government agencies.
13. Project Proponent shall not take effective steps towards establishment prior to obtaining Environmental Clearance As per EIA Notification 2006 and amendment thereto. As per para 2 of EIA Notification dated 14.09.2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MOEF & CC vide office memorandum no.J-1103/41/2006-IA,II (I), Dated 19.08.2010, fencing of the site to protect it from getting encroached and construction of temporary shed (S) for the guard(S) & acquisition of land may not be treated as an effective steps.

For and on behalf of the  
Maharashtra Pollution Control Board

(E. Ravendiran, IAS)  
Member Secretary

Received Consent fee of –

Sr. No.	Amount (Rs.)	D.R. No.	Date	Bank
1	15,49,623	TXN 1812001366	12.12.2018	E- Payment
2	75,000/-	TXN 1812002590	24.12.2018	E- Payment
3	1,00,000/-	TXN 1901000998	09.01.2019	E- Payment
4	1,24,817/-	TXN 19060000847	11.06.2019	E- Payment

Copy to:

1. Regional Officer – MPCB, Aurangabad and Sub –Regional Officer – Aurangabad -1, MPCB – They are directed to ensure the compliance of the CCA conditions.
2. Chief Accounts Officer, MPCB, Mumbai- for information.
3. CAC/CC desk - for record & website updation purposes.

**Schedule-I**

**1) Terms & Conditions for compliance of Water Pollution Control**

1) A] As per your application you have provided Effluent treatment plant ( ETP ) of capacity 30 CMD for the treatment of trade effluent generated from the hospital activity.

B] The applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	100
03	Oil & Grease	10
04	BOD (3 days 27°C )	30
05	COD	250
06	Detergent	2.0
07	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent


C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.

2) A] As per your application you have provided sewage treatment plant ( STP ) of design capacity of 600 CMD for treatment of domestic sewage generated from the hospital and thereafter the treated effluent shall be discharged followed by Chlorination and the treated effluent shall be disposal to Municipal Sewer / Land application after achieving standard prescribed below:

B] The applicant shall operate the sewage treatment plant (STP) to treat the domestic effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	50
03	Oil & Grease	10
04	BOD (3 days 27°C )	30
05	COD	100
06	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.





- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waste water & the system for the disposal of effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps for expansion / modify or establish any modification to treatment and disposal system or an extension or addition thereto.
- 4) You shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
- 5) You shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time.

**Water Consumption details:**

Sr. No.	Purpose for water consumed	Water Consumption quantity CMD
1.	Industrial Cooling and boiler feed etc.,	---
2.	Domestic purpose	670.0
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	27.0
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	--
5	Other such as agriculture, gardening, etc.	--

**Schedule-II**

**Terms & conditions for compliance of Air Pollution Control**

1. As per your application, you have proposed / provided the Air pollution control (APC) system and also proposed to erect/erected following stack (s) to observe the following fuel pattern-

Sr. No.	Stack Attached to	Height in meter	Type of Fuel	Fuel Qty	SO <sub>2</sub> In Kg/Day
1	D.G.Set [ 600 KVA]	4.5	HSD	130 Kg/hrs	62.4
2	D.G.Set [ 600 KVA]	4.5	HSD	130 Kg/hrs	62.4
3	D.G.Set [ 750 KVA]	4.5	HSD	132 Kg/hrs	63.36

2. The applicant shall provide stack height of mtrs operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150 mg/Nm <sup>3</sup>
--------------------	---------------	------------------------

3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).





#### 5. Conditions for D.G. Set

- a. Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
- b. Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- c. Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
- d. Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- e. A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
- f. D.G. Set shall be operated only in case of power failure.
- g. The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
- h. The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.

#### Schedule-IV: Bank Guarantees

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
<b>I (A)</b>	<b>Operation and Maintenance</b>		
1	To Segregate and Handle BMW as per Rule	Continuous	Rs. 1,00,000/-
2	To provide STP adequate capacity within 3 months and Towards Operation and Maintenance of STP/ETP to achieve prescribed discharge standards	Continuous	Rs. 1,00,000/-
<b>I (B)</b>	<b>Records</b>		
1	To Maintain records of BMW and submission of Annual Report in Form -II before 31 <sup>st</sup> January	Continuous	Rs. 25,000/-
2	To maintain records of BMW material delivered to CBMWTSDF	Continuous	Rs. 25,000/-
<b>II</b>	<b>Performance</b>		
1	To provide BMW separate storage facility as per guidelines of CPCB	Continuous	Rs. 75,000/-

Note: You shall submit the B.G. valid for additional 4 month period after the validity of your granted CCA.

**Schedule-V**  
**General Conditions**

The following general conditions shall apply as per the type of the industry

- 1) You shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) You should monitor effluent quality, stack emissions, noise and ambient air quality quarterly.
- 3) You shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) You shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) You shall submit, the Environmental Statement Report for the financial year ending 31<sup>st</sup> March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992 to Regional Office, , the 30<sup>th</sup> day of September every year.
- 7) You shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW (MH&TM) Rules 2008, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) You shall comply with the Hazardous Waste (M, H & TM) Rules, 2008 and submit the Annual Returns to RO- as per Rule 5(6) & 22(2) of Hazardous Waste (M, H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30<sup>th</sup> June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the HCE.
- 10) You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website ([www.mpcb.gov.in](http://www.mpcb.gov.in)).
- 11) You shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent & authorization condition towards Environment Protection.
- 12) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.



- 13) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the HCE.
- 14) You shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 15) You should not cause any nuisance in surrounding area.
- 16) You shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 17) You shall maintain good housekeeping.
- 18) You shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement to Regional Office by 30th September every year on available open plot area, number of trees surviving as on 31<sup>st</sup> March of the year and number of trees planted by September end.
- 19) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 20) You shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. You will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 21) You shall submit Six Monthly statement in respect of obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
- 22) You shall submit official e-mail address and any change will be duly informed to the MPCB, forthwith.
- 23) You shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended
- 24) You shall observe provisions of E-waste (Management and Handling) Rules 2011 and Battery Waste (Management and Handling) Rules 2001, as amended.

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# **E-WASTE MOUs & AGREEMENTS**

## AGREEMENT FOR PURCHASE OF E-WASTE

This Agreement for Purchase of E-Waste (Contract) is entered into on 11 day of October of the year Two thousand sixteen by and amongst-

**green e-bin electronic waste solution** having its Registered office at MGM Institute of Management, MGM Campus, N-6, CIDCO, Aurangabad, Maharashtra 431003 and Project Office at B-18 MIDC Chikalthana Aurangabad 431006 (herein after referred as "GEBEWS" which expression shall unless contrary to the context or meaning thereof, mean and include its successors and permitted assigns) represented by Mr. Ashish Gadekar.

### WHEREAS;

- A. GEBEWS is operating a facility for the collection, transportation, dismantling, refurbishing and disposal of e-waste at B-18 MIDC Chikalthana Aurangabad 431006 by Maharashtra Pollution Control Board.
- B. The Generator in compliance of the E-Waste Management & Handling Rules, 2011, desires to avail the services of GEBEWS for disposal of their segregated E-Waste, more fully detailed hereinafter under this Agreement.
- C. The Generator has approached GEBEWS and desires to appoint GEBEWS for the purpose of collection and disposal of its segregated E-Waste and the same has been accepted by GEBEWS in accordance with the terms of this Agreement.

**NOW THIS AGREEMENT** witnesses as follows;

### I. DEFINITIONS AND INTERPRETATION

1. Electronic Waste (E-Waste) - The term E-Waste will refer to the below mentioned electrical and electronic waste for the purpose of this Agreement which includes;
  - a) Computers & Peripherals (CPU, Keyboard, Mouse& Monitor)
  - b) Laptops
  - c) Servers
  - d) PCBs
  - e) Mobiles or Communication devices



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Opposite CTR Mfg,  
Aurangabad 431006

[ewaste@greenebin.co.in](mailto:ewaste@greenebin.co.in)  
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- f) Mother Boards (Computers & Laptops)
  - g) Security Devices
  - h) Telecom Equipment
  - i) Printers & Scanners
  - j) Military Electronic
  - k) Control Systems
  - l) Data cables & wires
  - m) Batteries
  - n) CD/DVD
2. In this Agreement, unless the subject or context otherwise requires:
- a. Reference to the singular number shall include references to the plural number and vice-versa;
  - b. References to a "person" shall include references to natural persons, partnership firms, companies, bodies corporate and associations, whether incorporated or not or any other organization or entity including any governmental or political sub-division, ministry, department or agency thereof;
  - c. References to recitals, clauses and schedules are to recitals, clauses and schedules to this Agreement;
  - d. Any reference herein to a statutory provision shall include such provision, as is in force for the time being and as from time to time, amended or re-enacted in so far as such amendment or re-enactment is capable of applying to any transactions covered by this Agreement.
  - e. Clause headings used herein are only for ease of reference and shall not affect the interpretation of this Agreement.
3. The Schedules & Annexure shall form an integral part of this Agreement.
4. All capitalized terms used in this agreement shall have the meaning specifically defined in this Agreement shall, unless inconsistent with the context under this Agreement.

## II. SCOPE OF THE AGREEMENT

1. GEBEWS shall collect, transport, and dispose the E-Waste collected from the premises of the Generator. It shall be the responsibility of GEBEWS to demagnetize the hard disks before disposing them off in accordance with the terms of the contract. If the hard disks come along with the CPU the activity would be taken care by GEBEWS at free of cost.

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However, in case of an exclusive consignment of hard disks for demagnetization by the Generator. It shall be chargeable in accordance with the terms of the contract.

2. The Generator shall appoint a dedicated representative who shall be responsible for operational, delivery and day to day management of the Service and act as the principal point of contact under this Agreement. Any notice seeking clarification served on such representative shall be deemed to have been served on the Party concerned. The representative of the Generator shall sign Form 13 under the compliance of the E-Waste Management & Handling Rules, 2011, and such other required documents for acknowledging the E-Waste being handed over to GEBEWS.
3. The Generator shall segregate the E-Waste at one designated place within the premises from where the representatives of GEBEWS shall collect the E-Waste. All the segregated E-Waste shall be stored in the appropriate bins and/or container as prescribed under the applicable law and GEBEWS shall not be liable for any damage caused due to in appropriate storage of E-Waste at the premises by the Generator.
4. Upon intimation from the Generator, GEBEWS shall within 15 days there from, arrange for collection of E-Waste as per the applicable provisions. The Generator shall issue delivery challan before collection of the E-Waste from the designated place by GEBEWS.
5. The E-Waste collected shall be weighed by the Parties at the nearest weighment center available as identified by the Parties. The weighment of the E-Waste shall be done in the presence of the representatives of both the Parties and both the Parties shall acknowledge such weighment slip generated. In case of any discrepancy in the weighment as per delivery challan and the weighment slip, the details as per weighment slip shall be considered for payment by GEBEWS.
6. The Generator liability shall cease once the E-Waste has been collected by GEBEWS from its premises except for any non-disclosure of any material information known to the Generator with regard to E-Waste from GEBEWS during the handover of such E- Waste. It is specifically agreed and understood that compliances of applicable law during transportation and disposal of E-Waste shall be exclusive responsibility of the GEBEWS.
7. GEBEWS shall, issue a safe destruction certificate as prescribed under applicable laws within fifteen (15) days from receipt of such request.

### III. PAYMENTS

1. GEBEWS shall pay according to the agreed rates exclusive of GST ...per each kilogram for payment of E-Waste collected shall be as per the weighment slip submitted and accepted by GEBEWS.

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Aurangabad 431006





2. The payment shall be made by GEBEWS within thirty (30) days of the collection of E-Waste in the form of a electronic transfer/ cheque. GEBEWS may withhold any payment in case of any dispute regarding the weightment of E-Waste and any such withholding of payment shall under this clause shall not be considered as a material breach of this Agreement.

#### IV. TERM AND TERMINATION

1. This Agreement shall be in force for a period of 5 years from the date of signing of this Agreement. Upon completion of the term, the Agreement may be renewed at the option of both the Parties in writing on mutually agreed terms and conditions.
2. The Agreement may be terminated by either party without assigning any reason, by giving fifteen (15) days prior written notice to the other Party.

#### V. COMPLIANCE WITH LAWS

1. GEBEWS represents and warrants to the Generator that it has all necessary statutory permissions, consents, approvals and licenses to carry out business of collection, transportation, storage, management and disposal of E-Waste and it shall maintain all such permissions, consents, approvals and licenses during the term of this Agreement. .
2. GEBEWS further agrees that:
  - i. It shall exercise all safety precaution and best management practices, required by law, in providing service under this Agreement;
  - ii. It shall notify the Generator immediately if any permit, licenses, certificate, consent approval or identification number required for the performance of its service under this Agreement has been revoked, modified, expired, suspended or not been renewed;
  - iii. GEBEWS shall comply with all applicable laws, rules and regulations and shall indemnify and hold the Generator harmless in this regard;

#### VI. ENVIRONMENTAL AND SAFETY AUDITS

1. GEBEWS agrees and acknowledges that the Generator or its authorized agent shall have the right to perform environmental and safety audit at any site at which GEBEWS is conducting E-Waste management services for the purpose of verifying environmental and safety procedures followed by GEBEWS.
2. GEBEWS shall also cooperate with the Generator, in the event any statutory agency

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conducts any audit or inspection to check the Generator's procurement, disposal and management of E-Waste by providing necessary reports, documents, certificates and other relevant information upon giving reasonable notice in advance of any such audits.

#### VII. LIMITATION OF LIABILITY

Notwithstanding anything to the contrary mentioned in this Agreement, in no event shall Parties be liable for any special, indirect, incidental or consequential damage, including but not limited to loss of sales, business or data, lost profits or loss of use or other equipment or goodwill, incurred by any Party or any direct or indirect loss or damage.

#### VIII. DISPUTE RESOLUTION

1. This Agreement shall be governed and construed in accordance with the laws of India.
2. Any dispute or breach arising out of or in relation to this Agreement shall be referred to arbitration to be conducted by a sole arbitrator mutually appointed by the parties herein, in accordance with the Arbitration and Conciliation Act, 1996. The venue of arbitration shall be Hyderabad and the proceedings shall be conducted in English. The decision of the arbitration shall be final and binding on both the Parties. No Party shall make public the award of the arbitration without the prior written consent of the other Party. The Party in default shall bear the cost of arbitration.
3. Subject to the arbitration provisions herein, courts of competent jurisdiction in Hyderabad shall have the exclusive jurisdiction on the matters arising out of or in connection with this Agreement. No Party shall be restrained from approaching the court for seeking interim relief under this Agreement.

#### IX. Execution of this Agreement shall be deemed to be

1. A confirmation by both the Parties that no benefit, either in cash or kind has been provided by either Party to the other Party or to any officer or employee, or any relative/ associate of any officer or employee of either Party or of any of their associate institutions/companies in order to enter into this Agreement;
2. An undertaking by both the Parties not to provide any benefit, either in cash or kind to any officer/employee/relative/associate of any officer or employee of either Party as reward or consideration either for entering into this Agreement or other matter relating to this Agreement.

#### X. MISCELLANEOUS



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Aurangabad 431006

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1. Force Majeure: Neither party shall be liable for any delay or failure to perform its obligations here under, if such delay or failure is due to reasons beyond the control of the concerned party due to any Force Majeure event which shall include but not limited to, strikes, riots, wars, fires, epidemics, quarantine restrictions, unusually severe weather, earth quakes, explosions, acts of God or state or any public enemy or acts mandated by applicable laws, regulation or order of any Governmental body. The Party affected by such Force Majeure event shall immediately notify the other Party who shall have the right to terminate the Agreement with immediate effect upon giving a written notice if such Force Majeure event continues for more than sixty (60) days.
2. Confidentiality: The existence and all terms and conditions of this Agreement are confidential to the Parties, and shall not be disclosed to any third party without the other party's prior written consent, save and except to their respective officers, employees or as required by law on a need to know basis. The confidentiality obligation under this Agreement shall exist during the term of this Agreement and for a period of three (3) years from the expiry of this Agreement.
3. Notice: Any notice or other communication under or in connection with this agreement shall be in writing in the English language and shall be delivered personally or delivered to the party due to receive the notice or communication at its address set out below or such other address as either party may specify by notice in writing to other from time to time.
4. Amendment & Modification: Amendments and modifications to this Agreement shall be valid only if made in writing and signed by the Parties.
5. No Representation: Nothing in this Agreement shall authorize any Party to engage in transactions in the name of the other Party or in any activities, which may create a liability on such other Party.
6. No Assignment: Parties shall not assign or transfer this Agreement or any Order or any parts of its rights and obligations hereunder to any person or corporation without the prior written consent of the other Party.
7. No Waiver: No failure to exercise, nor any delay in exercising, on the part of either Party, any right or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right or remedy prevent any further or other exercise thereof or the exercise of any other right or remedy.
8. Headings: The headings of the Clauses of this Agreement are for convenience only and shall have no effect in the interpretation of this Agreement.
9. Entire Agreement: This Agreement and the Order(s) constitute the entire agreement between the Parties.
10. Duplicate Agreements: This Agreement has been signed in two counterparts, each of which shall be deemed as an original but both of which together shall constitute one and

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Aurangabad 431006





the same instrument.

**IN WITNESS WHEREOF**, this Agreement has been signed by the duly authorized representatives of each Party hereto.

For **green e-bin electronic waste solution**  
B-18 MIDC Chikalthana Aurangabad 431006  
Maharashtra. Contact: 9921040501



Mr. Ashish Gadekar

Owner of GEBEWS

Date: 11-10-2016



For **MGM Medical College and hospital, (MGMMC) N-6 Cidco , Aurangabad -431003.**  
Maharashtra. Contact: 0240-6601100



Dr. Rajendra Bohra

Dean of MGMMCHA

Date: 11 Oct 2016



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Call: 99210 40501

**green e-bin**

electronic waste solution

MPCB Consent: BO/MPCB/RO (HQ)/Aurangabad/CO/B-1806000425  
MPCB Authorization: MPCB/RO(HQ)/HSMD/Author/16/EW-344  
GST: 27AHWPG0991P1ZE

# **RADIATION SAFETY CERTIFICATES**

# Radiation Safety Certificate

भारत सरकार  
परमाणु ऊर्जा नियामक परिषद्  
विकिरण संरक्षा प्रभाग



GOVERNMENT OF INDIA  
ATOMIC ENERGY REGULATORY BOARD  
RADIOLOGICAL SAFETY DIVISION

Case File Number: MH-25439-RF-XR-020

Issuance Date: 07/04/2017

Document Number: 17-LOEE-177549

Expiry Date: 07/04/2022

## REGISTRATION FOR OPERATION OF MEDICAL DIAGNOSTIC X-RAY EQUIPMENT

In exercise of powers conferred under Section 16 and 17 as applicable of Atomic Energy Act, 1962 read in conjunction with Rule (3) of the Atomic Energy (Radiation Protection) Rules {AE(RP)R}, 2004, the Atomic Energy Regulatory Board (AERB) hereby issues **Registration** in favour of Dr. AJIT SHROFF to operate the following medical diagnostic x-ray equipment located at MAHATMA GANDHI MISSION HOSPITAL, N 6 CIDCO, AURANGABAD AURANGABAD, MAHARASHTRA-431003 for medical diagnostic purpose.

Type of Equipment	Manufacturer	Model	Equipment ID
C-Arm	M/s Siemens Healthcare Private Limited	Multimobil-5C	G-XR-66177

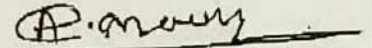
The DEAN, MAHATMA GANDHI MISSION HOSPITAL, AURANGABAD and DR. AJIT SHROFF are hereby identified as the Employer and licensee respectively, for the purpose of assigning the responsibilities specified in the Atomic Energy (Radiation Protection) Rules, 2004, in respect of radiation protection of workers, public and environment because of operation of the above equipment. AJIT GOVINDDAS SHROFF is the designated Radiological Safety Officer (RSO).

### The Employer and Licensee are responsible for,

- I. Ensuring compliance with the relevant provisions of the
  - i. Atomic Energy Act, 1962
  - ii. Atomic Energy (Radiation Protection) Rules, 2004;
  - iii. AERB Safety Code (AERB/SC/Med-2), 2001, Amendment 2012, and the revisions thereof
  - iv. All applicable Safety Codes, Guides issued by AERB for the above practice and regulatory documents issued by AERB from time to time.
  - v. Directives issued by Competent Authority from time to time.
- II. Ensuring compliance with terms and conditions stated overleaf.

### Note:

This Registration is issued ONLY from the RADIATION SAFETY VIEW POINT. All other clearances shall be obtained from concerned state/central/local authorities as applicable.

  
Dr. Avinash U. Sonawane  
Head, RSD

DR. AJIT SHROFF  
MAHATMA GANDHI MISSION HOSPITAL  
N 6 CIDCO, AURANGABAD  
AURANGABAD, MAHARASHTRA-431003  
Copy to: DEAN, MAHATMA GANDHI MISSION HOSPITAL, AURANGABAD



वेबसाइट/Website: www.aerb.gov.in

Note: This document is also available at [www.aerb.gov.in/elora](http://www.aerb.gov.in/elora)  
परमाणु ऊर्जा नियामक परिषद्, नियामक भवन, अणुशक्तिनगर, मुंबई 400094 (महाराष्ट्र)  
Atomic Energy Regulatory Board, Niyamak Bhavan, Anushaktinagar, Mumbai 400094 (Maharashtra)


दूरभाष/Tel: 91-22-2599 0656



फैक्स/Fax: 91-22-2599 0650

**HAZARDOUS  
CHEMICAL  
DISPOSAL SOP**



	<b>MAHATMA GANDHI MISSION HOSPITAL &amp; MCRIAURANGABAD</b>	DOC NO	SOP /MGM/FMS 7
		ISSUE NO	2
	<b>SPILLAGE POLICY</b>	REV NO	3
		DATE	07/12/17
		PAGE NO	1 of 6

## 1 OBJECTIVE

Guidelines to manage Minor and Major spillages in Health care areas of MGM Hospital Including Biohazardous spillages and other hazardous chemical spillages

## 2 POLICY IN THE EVENT OF A MAJOR SPILLAGE:

- 2.1 The member of staff first on the scene will immediately alert other staff, and tell patients or visitors to keep a safe distance away.
- 2.2 Make decision to evacuate the area affected if required using public announcement system
- 2.3 Rapid response major spillage team will be called to control major spillage

## 3 PROCEDURES


### 1) BLOOD AND BODY FLUID SPILLAGE

- Gloves and eye protection should be worn
- Contamination should be wiped up with paper towels soaked in freshly prepared hypochlorite solution (Milton or chlorine releasing tablets) containing 10,000 ppm (1%) available chlorine.
- If broken glass is present, first treat the spillage with 1% hypochlorite for 30 minutes, then carefully remove the pieces of glass with disposable forceps or scoop to a sharps bin, before wiping up as above.
- Towels and gloves should be disposed of in a yellow clinical waste bag for incineration (or an autoclave bag if in a laboratory). Hands must be washed following clearing up

### 2) LARGER SPILLS OTHER THAN URINE (UNLESS BLOODSTAINED)

- Staff, patients and visitors must be kept away from the spillage and if possible a warning sign shown, while preparation is made to handle the spill as outlined below.
- Gloves, eye protection and a disposable apron should be worn.
- If the spillage is extensive, disposable plastic overshoes or rubber boots may be necessary.
- Liquid spills should be covered with dichloroisocyanurate (chlorine releasing) granules and left for at least two minutes before clearing up with paper towels, absorbent mats or incontinence pads.
- A specialised spillage mop with detachable absorbent pads (see under Chemical Spillage- Dealing with the spillage) is a convenient way of absorbing the spillage after disinfection.
- Alternatively, the spill may be covered with paper towels, absorbent mats or incontinence pads and gently flooded with hypochlorite solution (or chlorine releasing tablets) containing 10,000 ppm (1%) available chlorine\* (again this should be left for at least two minutes before attempting to clear up)
- If broken glass is present, first decontaminate the spillage as above, then carefully remove the pieces of glass with disposable forceps or scoop to a sharps bin, before wiping up.



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- Paper towels, gloves, disposable overshoes and any contaminated clothing should be placed in a yellow clinical waste bag for incineration (or an autoclave bag if a laboratory) and hands washed (reusable PPE may need to be decontaminated with dilute disinfectant).
- Finally, the area should be washed with water and detergent and al

### 3 CHEMICAL SPILLAGE IN DEPARTMENTS

- Laboratories which handle infectious micro-organisms (Hazard Group 2 or 3) or fluids which might contain such organisms, must have a risk assessment standard operating procedure for dealing with relevant spillages.
- Further, a spillage control kit for biological hazards, or the appropriate disinfectants, must always be readily available in these laboratories.
- Biological spillages in Containment Level 3 laboratories require specialised fumigation and disinfection procedures. These must be documented and available in the department.

#### A MINOR SPILLAGE

- Minor spillage may only be dealt with locally if the nature of the spillage is known and by staff who are trained in the use of the required PPE and chemical spillage kits.
- For larger spillages a Rapid response spillage management team will be called


#### B. MAJOR SPILLAGE

##### a) CRITERIA

- Injuries that require medical attention
- Poses an immediate danger to life and health
- Potential for fire or explosion
- Properties or hazards of the spilled material are unknown
- .external emergency response for clean-up

##### b) RESPONSE

- Evacuate the area
- If safe
  - Attend to injured persons
  - Shut of possible ignition sources
  - Try to control spread of spill
- Notify Emergency Response Team /Spillage Management Team.
- Inform Telephone operator for announcement ( Major Spillage and name of respective department ) call EHS Officer /Security officer/ Sanitary inspector with trained security and housekeeping staff to manage the spill

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**c) MAJOR SPILLAGE MANAGEMENT TEAM**

Chemical Spill Control team will include

- Environment Health Safety Officer
- Security Officer
- Sanitary Inspector
- Housekeeping Staff/ERT
- Trained housekeeping staff of respective department.

**Incident investigation**

Investigation of incident will be done by Environment Health Safety Officer (EHSO) incident should be reported in incident form with details of analysis as per incident reporting policy.

**C. CHEMICAL SPILLAGE**


**a) WHAT TO DO IN CASE OF CHEMICAL FIRE**

Fire and Emergency Procedures

- Response to Fires and Fire Alarms
- Try to remain calm and DO NOT ENTER AN AREA THAT MAY BE DANGEROUS.
- Pull the fire alarm and begin evacuation of the building in accordance with the fire plan.
- Call Campus safety officer/security officer/sanitary inspector
- Assure complete evacuation using assistance from others & Emergency exit plan (floor monitors)
- Monitor situation until all clear is given by Campus EHS/Security.

**DO NOT LET UNAUTHORIZED PEOPLE ENTER THE AREA**

- Personal Protective Equipment (PPE) to be used, FOR CHEMICAL SPILLAGE listed below:
- Respirator (use half mask, suitable for the fumes\*)
- Chemical resistant Gloves (Do not use latex gloves)
- Nitrile/ Neoprene/ PVC/Butyl gloves give greater protection than nitrile against certain chemicals; for example some concentrated acids.
- Eye protection, Chemical resistant apron or gown { NITRILE}
- Note special attention to the following chemicals: Formaldehyde. Never attempt to deal with large spillages of formaldehyde – evacuate the room and sound fire alarm to call fire brigade.

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**b) CHEMICAL SPILL KIT:**

A spillage kit suitable for the types of chemicals being handled, as well as suitable personal protective equipment (PPE) must be on hand in the laboratory suite.

The Department Safety Officer is responsible for ensuring the kit is maintained and that all staff members are familiar with its use and location.

Information on handling spillages of specific hazardous chemicals should be included in the Department.

**Contents :**

- 1 Goggles
- 2 pair Gloves Neoprene 11", Long, 1 pair Disposable, Nitrile Gloves (Large)
- Bag Large, 2 Plastic Bags, Black, 3ml 23x20x48, Spill collection container.
- 1 Dust Pan with Brush, Polypropylene, 4 Bags Ziploc
- 2 Tags with Ties for Bags
- 2 pairs of Shoe Covers
- Polypropylene Half Mask
- Sand with neutralizer ( Boric Powder, Amonium Sulphate).
- Absorbent Pad.
- Board of "DO NOT ENTER"

**c) IF THE CHEMICAL IS UNKNOWN** or the staffs are unable to deal safely with it


Set the fire alarm off immediately If the nature of the spillage or uncontrolled release is unknown, or if the staff present are not trained in the use of PPE and suitable spillage kits, the fire alarm must be set off immediately. The person who raises the alarm should await the arrival of the Trust Fire Team and the Fire Brigade and provide details of the spillage.

Staff working on the floor directly below should also be informed where possible.

**d) IF THE CHEMICAL IS KNOWN** and the staff trained and equipped

- Deal with the spillage locally only if it is safe to do so
- A spillage may only be dealt with locally if the nature of the spillage is known and by staff who are trained in the use of the required PPE and chemical spillage kits. If there is any doubt about the hazard involved or ability to deal with the size of the spillage, the fire alarm should be raised and details given of the location and nature of the spillage to the fire team on their arrival.



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### e) CONTROL THE SPILLAGE

- Carefully assess the situation.
- First steps should be: · Inform others that you intend to deal with the spill.
- Two trained members of staff should act as a response team.
- Someone should watch from a safe distance, preferably through an observation window.

**If a flammable liquid is spilt:** - Eliminate ignition sources, such as naked flames. –

**If a large spill,** contact Electrical Department, arrange to isolate electrical supply

- Do not use switches in the immediate area as spark from the switch may ignite spill.
- Ventilate area and close doors.
- Open windows (where possible).
- Do not cross the spill or move further into the room to close doors.
- If safe, ask others to close doors from adjacent rooms. ·
- Isolate spill. Consider sealing off the area and displaying warning signs on the doors.
- If there is a possibility the chemical could seep to the floor below, the occupants must be warned and evacuated.

Assemble equipment required and make preparations to deal with the spill in an adjacent but safe room. ·

**Personal Protective Equipment (PPE) to be used is listed below:**

- Respirator (use half mask, suitable for the fumes\*)
  - Gloves (Do not use latex gloves), gloves with wide chemical resistance such as nitrile should be used. However, neoprene, PVC or butyl gloves give greater protection than nitrile against certain chemicals; for example some concentrated acids.
  - Eye protection
  - Chemical resistant apron or gown
- \* NOTE - If vapours penetrate the respirator and the chemical smell becomes apparent, the wearer should leave the area and call the fire brigade. Note special attention to the following chemicals: Formaldehyde. Never attempt to deal with large spillages of formaldehyde – evacuate the room and sound fire alarm to call fire brigade.

### f) Guideline for Handling for Spillage-

Departments are advised that they need to have their own appropriate chemical spillage kits on hand for emergencies (these should include suitable PPE, or PPE needs to be prepared and readily available in the near vicinity). In an emergency, Major spill kit will be available in department of HS Department under Sanitary inspector,

**Types of spillage kits attached as Annexure**





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### g) Clean-Up Procedure

. When the spillage has been contained and it is considered safe to return to the area, proceed with the clean-up procedure below:

- Wearing PPE, place the waste in a suitable container with a tight fitting lid or a suitable sealable plastic bag (which can be later placed in a container with a lid).
- Clearly label and identify the chemical waste. If the waste is volatile or fuming, the waste container must be placed open in a fume cupboard to allow complete evaporation to take place before sealing.
- The floor and contaminated surfaces should then be washed with fresh soapy water.
- On leaving the area all PPE must be removed carefully and either disposed of or washed.
- Care must be taken not to take off the respirator and eye protection until the contaminated gloves are first removed.

### 4. OTHER SPILLAGES MERCURY

In case of mercury spillage trained staff should use minor spillage kit available in respective clinical area. Mercury should be collected after wearing of personal protective equipments by using dust pan and brush the spilt mercury is collect in plastic container provided in spillage kit. Container should be given to bio medical maintenance department for proper disposal of mercury.

### 5 REFERENCE

- Nita Patawardhan, Decontamination of the Environment, Equipment and the Skin infections in Hospital – Associated Infections : Epidemiology , Prevention & Control . 1 st edition 2006 , Published by Jaypee Brothers , page no 82-83.
- Medical School and Trust guidelines  
**SOP for decontamination of spillages Infection Control Manual Para 37 page 86**

### ANNEXURE

Types of spillage kits

Prepared By  
Dr Reeta Kataruka  
Pathologist

Checked by  
Dr P Isaac  
Chief Quality Coord

Approved By  
Medical Director

## Waste Recycling system:

- 1) Sewage treatment Plant
- 2) Effluent treatment Plant
- 3) Water treatment Plant

**Sewage treatment Plant**

**Effluent treatment Plant**

**OPERATION &  
MAINTENANCE MANUAL**

OF

**SEWAGE TREATMENT PLANT**

FOR

**M/s. Mahatma Gandhi Mission**

AT

**Aurandabad, Maharashtra**

BY

**AQUACHEM ENVIRO ENGINEERS PVT LTD**

104, SIDDHACHAL, NEXT TO COSMOS BANK, HANUMAN ROAD, VILE  
PARLE (E), MUMBAI - 400 057

**Prepared on: 28/01/2016**

**Prepared by: VDT**

**Checked by: MMN**

**Revised on:**





## CONTENTS

<b>Chapter No.</b>	<b>Topic</b>
I	Introduction
II	Design Criteria
III	Process Description and Methodology
III	Unit List
IV	Equipment List
V	Drawings
VI	Test Certificates & Manuals of Equipments



**CHAPTER I**

**INTRODUCTION**

**M/s. Mahatma Gandhi Mission (MGM)** is having a facility for Hospital in CIDCO area, Aurangabad . During the daily activities of Hospital various domestic/ effluent streams are generated from the Canteen & Toilet and Hospital departments which are directed to the ETP/STP. The domestic streams generated in the Hospital are treated in the sewage treatment plant to meet the discharge norms. Effluent generated in various departments of Hospital comes to ETP side where after giving Primary Treatment it is going ahead to STP for next treatment.

M/s Aquachem Enviro Engineers Pvt. Ltd is the turnkey contractor for supply and erection of ETP/STP. Entire ETP is designed for 30 m<sup>3</sup>/day capacity followed by STP having capacity of 600 m<sup>3</sup>/day.



## SECTION II

## DESIGN CRITERIA

## POLLUTION LOAD

## Effluent/Sewage Quantity Generated:

Based on the data given by MGM Hospital, the Sewage water generation will be 600 m<sup>3</sup>/day and Effluent generation will be 30 m<sup>3</sup>/day.

Following are the design parameters for the STP 600 m<sup>3</sup>/day and ETP 30 m<sup>3</sup>/day and the operating philosophy is as given under in section III.

## Design Parameters for ETP

Parameter	Unit	Raw Sewage Characteristics	Treated Sewage Characteristics
Flow	m <sup>3</sup> /day	30	30
pH	--	6-8	6.5-8.5
TSS	mg/lit	300	>5
BOD	mg/lit	300	>10
COD	mg/lit	700	>50

## Design Parameters for STP

Parameter	Unit	Raw Sewage Characteristics	Treated Sewage Characteristics
Flow	m <sup>3</sup> /day	600	600
pH	--	5.5-8	6.5-8.5
TSS	mg/lit	300-400	>5
BOD	mg/lit	300-400	>10
COD	mg/lit	700-900	>50
Oil & Grease	mg/lit	30-50	Nil

## Notes:

- All parameters are mg/lit except pH
- The Basis of design is as per the details given by client.
- There is no separate treatment provided for TDS removal in STP. Therefore, as specified, TDS in the sewage will remain un-changed.





### SECTION III

#### PROCESS SCHEME AND DESCRIPTION

**Effluent Treatment Plant (ETP) will consists of following units,**

1. Equalization Tank
2. Flash Mixer
3. Settling Tank

**Sewage Treatment plant (STP) will consist of following units,**

1. Sewage Collection Tank
2. Bar Screen Chamber
3. Oil & Grease Trap
4. Aeration Tank
5. Secondary Clarifier
6. Chlorine Contact Tank
7. Sludge Holding Tank
8. Final Water Holding Tank
9. Final Treated Water Tank

#### **For Proposed Scheme and Description:**

##### **ETP-**

1. **Equalization Tank:** Raw Effluent generated from various departments of Hospital is directed by gravity flow to ETP Equalization Tank. Here all effluent is getting equalized. After equalization effluent will pumped to Flash Mixer Chamber
2. In **Flash Mixer** chemical dosing is happened to raw effluent stream. Alum and Poly dosing is carried out so as to happen chemical reaction and flocculation treatment. After flocculation effluent enters to Primary Settling Tank
3. In **Primary Settling Tank** all suspended matter present in raw effluent get settled down at the bottom and supernatant overflows ahead to Aeration (MBBR) tank for Secondary treatment purpose at STP side.



## STP-

**1. Sewage Collection Tank-** 1 no. is provided to equalize the sewage effluent. Coarse aeration system viz. air grid, blower etc. is provided for pre aeration and to keep solids in suspension. Then, equalized sewage is pumped to the Aeration Tank for Biological treatment.

## **2. Bar Screen chamber:**

Raw sewage effluent is directed to the first treatment unit of STP i.e. Bar Screen Chamber for removal floating matters. Screen chamber comprises of SS screen. The floating matter is removed regularly from the screens manually. Sewage effluent is then entered to Aeration (MBBR) Tank by Gravity.

## **SECONDARY (BIOLOGICAL) TREATMENT:**

Biological treatment (Activated sludge treatment) with MBBR media and diffused aeration is provided to degrade the organic matter in the sewage with the help of bacteria.

Biological treatment, consist of following units;

- **Aeration tank- 1 no with MBBR Media**
- **Diffused aeration system- Diffusers, Air blowers – 2 nos.**
- **Secondary Clarifier – 1 no.**
- **Sludge recycle pumps– 2 nos.**

In Aeration tank , Mixed Liquor Suspended Solids (MLSS) is developed due to presence of Bacteria in sewage and oxygen. The oxygen required for the bacterial growth is supplied through Diffused Aeration system by diffusers connected to the Air blower.

After biological treatment, mixed liquor from Aeration Tank (AT) enters by gravity into adjacent Secondary Settling Tank (SST) for solid liquid separation.

Sludge from the bottom of the SST is recycled to AT to maintain MLSS, by providing Sludge Pumps (SP).

Excess sludge is discharged through Filter Press and disposed off suitably.

Sec. Treated effluent then enters by gravity to Chlorine Contact Tank– 1 no.



**TERTIARY TREATMENT:**

**Dual Media filter**

Clarified Water from CCT is pumped to Dual Media Filter (DMF) – 1 no. for removal solids and so as final finishing Treatment purpose.

Backwash from filter is directed to the Sewage Collection Tank and filtered eater goes ahead to Existing old Treated Water Holding Tank from where it will pumped to Final Treated Water Collection Tank.

**TERTIARY TREATMENT**

Source : Effluent/Sewage after biological treatment  
(after secondary Settling Tank)

Treatment given : Hypochlorite dosing.

Objective of treatment : • Chlorination/disinfection, removal of traces of suspended solids, removal of refractory organics/polishing Removal of BOD/COD from the effluents

Resources involved : • Chlorine contact Tank  
• Filter Feed pumps  
• Multi grade filter  
• Hypo dosing system  
• Final Treated Water Tank

Effluents after secondary treatment are directed to tertiary treatment.

Chlorine contact tank is provided for chlorine dosing. Effluent is pumped to Multi grade filter using Filter feed pumps.

From outlet of MGF filter, treated effluent is directed to Treated Water Tank.

**Filtration**

The effluent will pass through Multi grade filter for removal of traces of suspended solids in the effluent.

**OPERATION MANUAL FOR MULTI GRADE FILTER**

**INTRODUCTION:**





Vertical Multi Grade Filters are designed for efficient working because of properly fabricated distributors. They are meant for increased flow rates compared to Gravity Sand Filters and can treat water of turbidity up to 50 NTU. Fine grade of Filter Sand ensure trapping of suspended solids efficiently. The sand bed is supported by other graded filter media through which water uniformly flows.

**SPECIFICATION:**

These filters are basically consists of a fabricated MS pressure vessel internally painted with anticorrosive paint. The filter consists of necessary nozzles, bottom collecting system and top bell mouth or a header, one charge of filter media. Externally, the unit is provided with frontal pipe-work, a set of valves, gaskets, pressure gauge, sample cocks, and air release pipe.

**INSTALLATION:**

A suitable concrete plinth of height given in the drawing shall be prepared and the vessel is kept on the foundation putting necessary foundation bolts in the foundation pockets. The vessel is plumbed properly and the foundation bolts are grouted. The top cover is opened and filter media shall be charged into it. Piping connection shall be completed as per the diagram given.

**OPERATION:**

NORMAL WORKING:

Before operation of the filter ensure that it has water above the sand bed level. Now open valves V1 and V2. Adjust valve V1 to get desired flow rate at the outlet. The water is flowing from top of the bottom inside the vessel. The suspended particles remain of the top of sand layer. The water flowing from below is collected at the bottom and then comes out through the outlet valves filtering all suspended solids.

open air release valves while starting the unit and close the valve when all air is released from vessel and water starts coming out from the same.



## SEWAGE TREATMENT PLANT OF MGM, AURANGABAD

As the dirt accumulates at the top of sand layer, the pressure difference at inlet and outlet increases. When the pressure difference exceeds  $0.5 \text{ kg/cm}^2$ , the unit requires back-washing.

### BACK WASHING OPERATION:

All the valves are closed. Open valves V3, V4 and V6. When all the air from air release pipe comes out, close valves V6. Now adjust valves V4 to get correct flow rate. The dirty water coming from V4 will go to the drain. Continue this for 5 to 10 minutes till water becomes clear like raw water. Thereafter close valves V3 and V4.

### DOWN RINSE:

Open valve V1 and V5. Adjust valves V1 and V5 so that to get slightly more flow than the normal flow rate. Continue the operation till clear water of turbidity below 5 NTU is obtained. After that, close valve V5 and open valve V2 which connects to activated carbon filter. The unit is ready for normal working.

### CHECK LIST:

- Always open the air release valve during initial start up of filters operation. Remove air completely and then only close the air valve.
- During back wash operation, never open the inlet valve of the filters.
- Check the pressure drop across the filters. When pressure drop is more than  $0.5 \text{ kg/cm}^2$  or when effluent quality is not acceptable, back wash the filter.
- Never pump the effluents at very high rate. Loop line for the pumps is provided to control the flow rate.
- Follow the instructions as given earlier for other equipment operations.





**UNIT / EQUIPMENT LIST OF EFFLUENT TREATMENT PLANT**

**A. UNITS (CIVIL- CLIENT'S SCOPE )**

<b>SR. NO.</b>	<b>DESCRIPTION</b>	<b>SIZE CAPACITY</b>	<b>QTY</b>	<b>MOC</b>
1.	Raw sewage collection tank	10 m x10 m x 3m SWD	1	RCC M30
2.	Screen chamber	1 m x 1 m x 0.75 m SWD	1	RCC M30
3.	Oil and grease tank	2 m x 1 m x 1 m SWD	1	RCC M30
4.	MBBR tanks	8 m x 8 m x4.2m SWD	1	RCC M30
5.	Secondary clarifier	6.5m dia X 3m swd		
6.	Chlorine contact tank with baffles	3 m x 3 m x 3 m SWD	1	RCC M30
7.	Treated effluent tank	Existing to be used		
8.	Sludge tank	2 m x 2m x 2.5 m SWD	1	RCC M30
9.	MCC Room	5 m x 3 m	1	RCC / Brick
10.	Blower/chemical /Pumps room	Suitable	1	RCC/Brick
11.	Filter press shed	4 m x 4 m	1	RCC / Brick
12.	Equipment Foundations	Suitable	lot	Suitable
13.	Puddles, inserts plates, etc	Suitable	lot	Suitable
14.	Platform, railings, approach ladders, concrete blocks	Suitable	lot	Suitable

**B. EQUIPMENT LIST - AEEPL's SCOPE**

<b>SR. NO.</b>	<b>DESCRIPTION</b>	<b>SIZE CAPACITY</b>	<b>QTY</b>	<b>MOC</b>	<b>KW</b>
<b>I</b>	<b>ETP</b>				
1.	Effluent Transfer Pumps	1.5 m <sup>3</sup> /hr@10m head	2	CI	--
2.	Flash Mixer Agitator	1 m x 1 m x 1 m SWD	1	SS	--
3	Tube Settler	2 m x 2 m x 2.5 m SWD	1	MSEP	--
<b>II</b>	<b>STP</b>				
1.	Bar Screen	Suitable	1	SS	--
2.	Sewage transfer pumps	30 m <sup>3</sup> /hr @ 10m head	2	CI,	3.73
4.	Oil belt skimmer	Suitable	1	PP belt	0.375
5.	MBBR tank blowers- without Acoustic hood	350 m <sup>3</sup> /hr @ 0.55 kg/cm <sup>2</sup> head	2	CI	7.5
6.	Secondary clarifier mechanism	Suitable	1	MSEP	0.375
7.	MBBR media	Suitable	Lot	PP	--
8.	Diffusers MBBR tank	Suitable	lot	Suitable	--
9.	Sludge recycle pump	20 m <sup>3</sup> /hr @ suitable head	2	CI,	2.0
10	Chlorine tank	1 m <sup>3</sup> capacity	1	suitable	--
11	Dosing pumps	0.20 LPH electronic type	2	PP	0.5
12.	Filter feed pumps	25 m <sup>3</sup> /hr @ suitable head	2	CI	2.0
13.	Multi grade Filter	1.5 m X1.5 HOS	1	MSEP	--



**SEWAGE TREATMENT PLANT OF MGM, AURANGABAD**

14.	Airline to be provided for Sludge sump	Suitable	1	HDPE	--
15.	Filter press feed pumps	3m <sup>3</sup> /hr @ 60 m head	2	CI, Screw type	1.5
12.	Filter Press	To handle sludge in 16 hrs operation	1		0.5
13.	Dewatering poly dosing tanks with agitators	100 litre capacity	2	HDPE / SS	0.5
14.	Dewatering poly dosing pumps	0.20 LPH (Electronic type)	2	PP	0.5

**Power Installed - 34 KW**  
**Power consumption- 432 KWH/day**  
**Total Area required- about 434 m<sup>2</sup>**

<b>INSTRUMENTATION LIST (IN AQUACHEM SCOPE) (WITHIN BATTERY LIMITS)</b>				
<b>SR. NO</b>	<b>DESCRIPTION</b>	<b>CAPACITY/SIZE</b>	<b>QTY</b>	<b>MOC</b>
1.	Pressure Gauges	Bourdon / Diaphragm	Lot	Suitable
2.	Level Switches	Magnetic Type	Lot	Suitable
3.	Flow meter	Inlet line -	1	Suitable

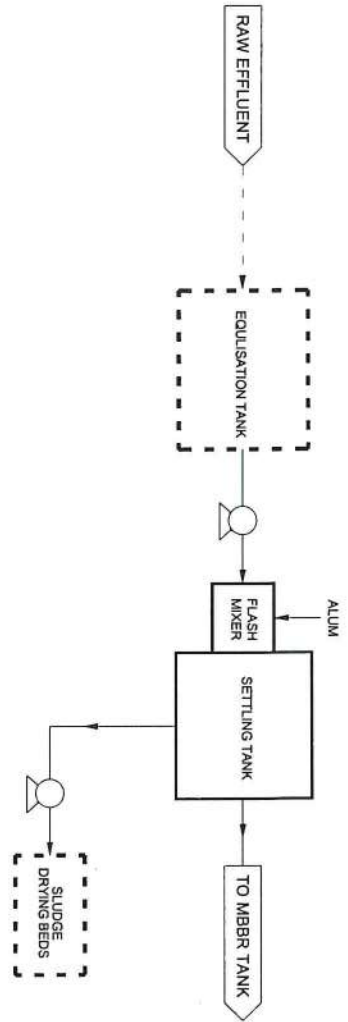


**SECTION V**

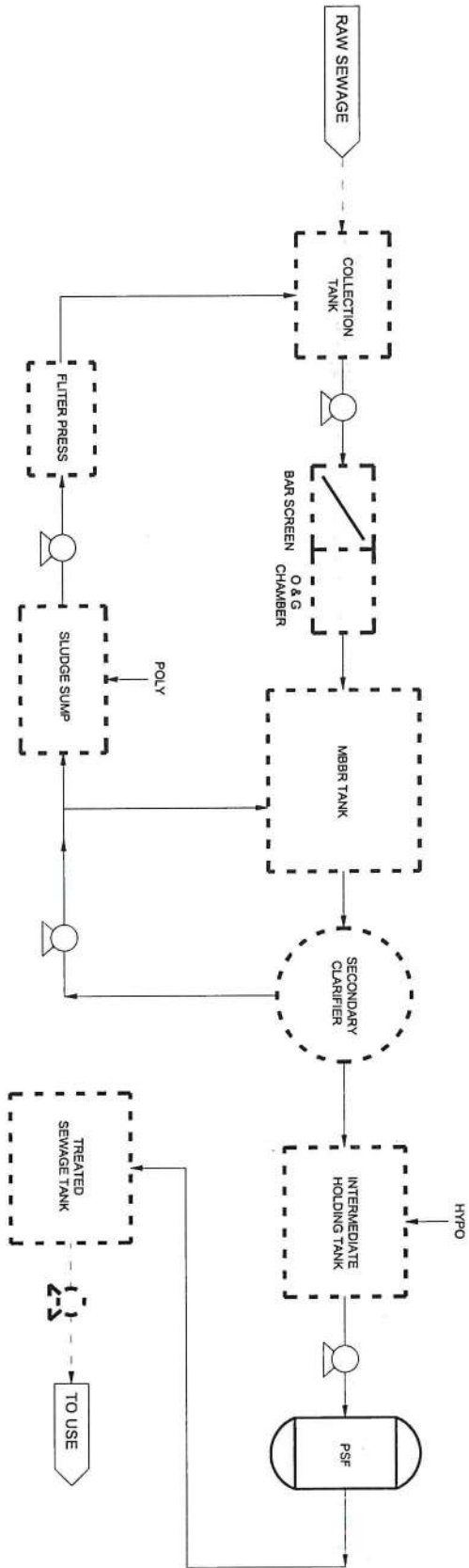
**DRAWINGS**

**LIST OF DRAWINGS**

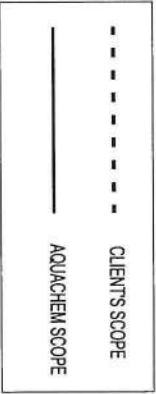
<b>Sr. No.</b>	<b>Drawing No.</b>	<b>Drawing Title</b>
1.	C- 1494/103	Process Flow Diagram
2.	C-1494/102	Process & Instrumentation Diagram for STP/ETP



EFFLUENT TREATMENT PLANT



SEWAGE TREATMENT PLANT



Rev/No	Revision note	Date	Signature	Checked

		<b>AQUACHEM ENVIRO ENGINEERS PVT. LTD.</b> HANUMAN ROAD, VILE PARLE (E), MUMBAI - 400 027 PHONE : (022) 2 811 9788/8789/2 810 1317/2 819 7723 FAX: (022) 2 610 2018	
DRAWN	KABJI	PROJECT	:- SEWAGE & EFFLUENT TREATMENT PLANT
CHECKED	TRG	CLIENT	:- M/S. MGA
APPROVED	MANI	LOCATION	:- AURANGABAD
DATE	1.11.2014	CONSULTANTS	:- M/S. AQUACHEM ENVIRO ENGINEERS PVT. LTD.
SCALE	M/S	TITLE	:- PROCESS FLOW DIAGRAM FOR SEWAGE & EFFLUENT TREATMENT PLANT
SHEET	1 OF 1	DRAWING NO	:- C-1494-103



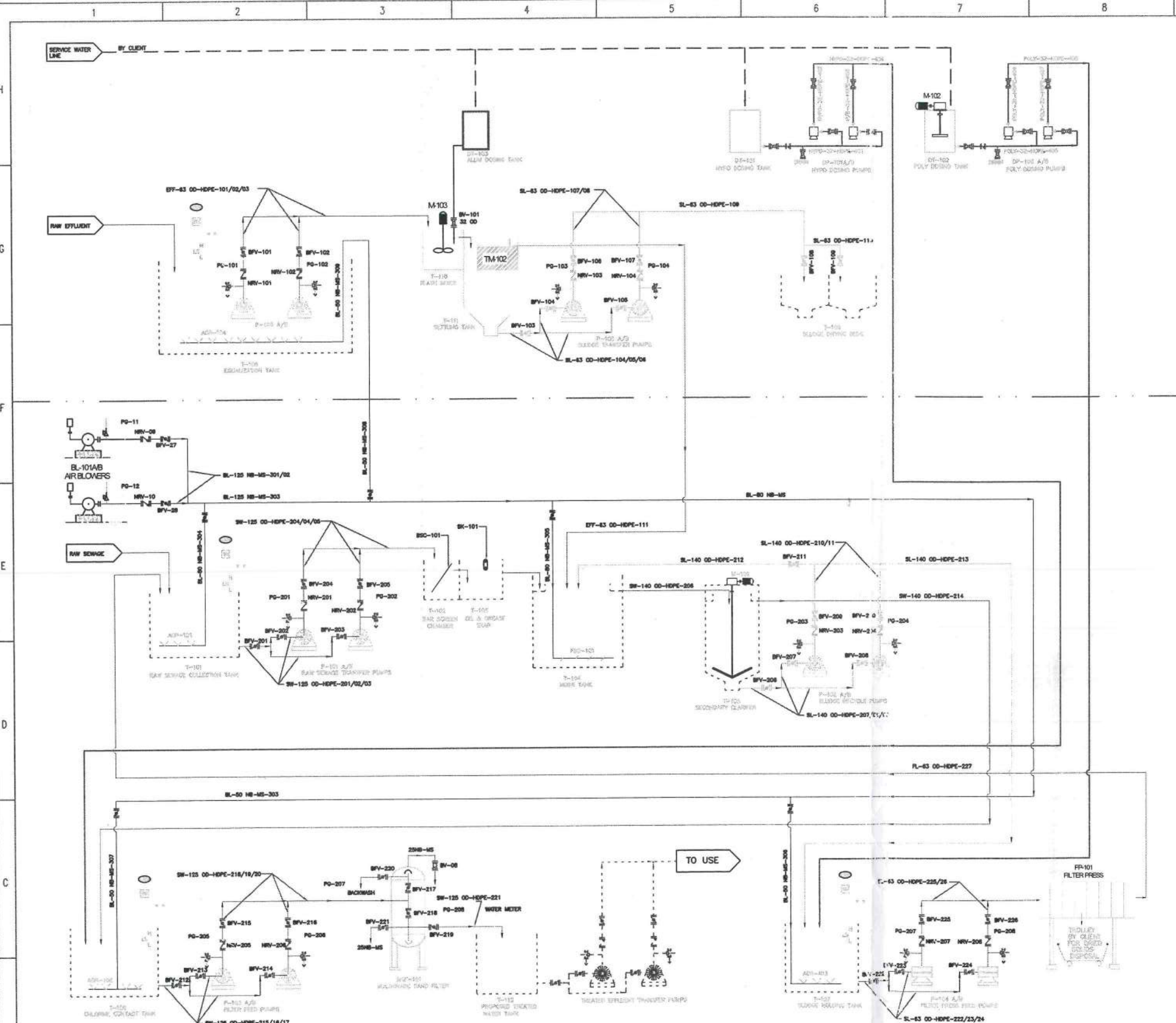


**SECTION VI**

**Test Certificates & Manuals of Equipment**

Test Certificates and Manuals of Equipments are provided in soft copies.

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**STP UNIT LIST**

TAG No.	DESCRIPTION	CAPACITY	QTY.	MCC	SIZE
T-101	RAW SEWAGE COLLECTION TANK	200 m <sup>3</sup>	1	RCC M30	15m x 10m x 2m S/D +0.5m
T-102	BAR SCREEN CHAMBER	0.75 m <sup>3</sup>	1	RCC M30	1m x 1m x 0.75m S/D +0.5m
T-103	OIL & GREASE TRAP	2 m <sup>3</sup>	1	RCC M30	2m x 1m x 1m S/D +0.5m
T-104	MGR TANK	28.5 m <sup>3</sup>	1	RCC M30	8m x 2m x 4.2m S/D +0.5m
T-105	SECONDARY CLARIFIER	89.54 m <sup>3</sup>	1	RCC M30	5.3m x 2m x 3m S/D +0.5m
T-108	CHLORINE CONTACT TANK	27 m <sup>3</sup>	1	RCC M30	3m x 3m x 3m S/D +0.5m
T-107	SUDGE HOLDING TANK	10 m <sup>3</sup>	1	RCC M30	2m x 2m x 2.5m S/D +0.5m
T-112	PROPOSED WATER TANK	504 m <sup>3</sup>	1	RCC M30	18m x 8m x 3.5m S/D +0.5m

**ETP UNIT LIST**

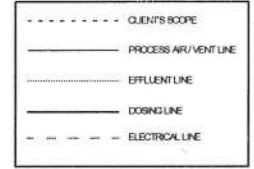
TAG No.	DESCRIPTION	CAPACITY	QTY.	MCC	SIZE
T-106	EQUALISATION TANK	12 m <sup>3</sup>	1	RCC M30	3m x 2m x 2m S/D +3.5m
T-109	SUDGE DRYING BED (EXISTING)	4 m <sup>2</sup>	2	BRICK	2m x 2m
T-110	FLASH MIXER	1 m <sup>3</sup>	1	MSP	1m x 1m x 1m S/D +0.5m
T-111	SETTLING TANK	10 m <sup>3</sup>	1	MSP	2m x 2m x 2.5m S/D +0.5m

**STP EQUIPMENT LIST**

TAG No.	DESCRIPTION	QTY.	MCC	SIZE
BSC-101	BAR SCREEN	1	SS	SUITABLE
AGR-101/102/103	AERATION GRIDS FOR SEWAGE COLLECTION TANK, CHLORINE CONTACT TANK & SUDGE HOLDING TANK	LOT	HDPE	SUITABLE
SK-101	BELT SKIMMER FOR OIL REMOVAL			
P-101 A/B	SEWAGE TRANSFER PUMPS	2	CI	30m <sup>3</sup> /hr @ 10-12 m head
P-102 A/B	SUDGE RECYCLE PUMPS	2	CI	20m <sup>3</sup> /hr @ 10-12 m head
FDG-101	RETRIEVABLE DIFFUSERS SYSTEM FOR AERATION TANK	LOT	EPDM	#50 mm x 1m LONG
BL-101 A/B	AIR BLOWERS FOR AERATION GRIDS IN COLLECT, SHT. ED. & MGR TANK	2	CI	600m <sup>3</sup> /hr @ 0.55 kg/cm <sup>2</sup>
MED-101	MEDIA FOR MGR TANK	LOT	PP/PVC	SUITABLE FOR VOLUME OF TANK
P-103 A/B	FILTER FEED PUMPS	2	CI	25m <sup>3</sup> /hr @ 10-12 m head
MGF-101	MULTIGRADE SAND FILTER	1	MSEP	#1500 x 1500 HT.
M-101	SECONDARY CLARIFIER MECHANISM	1	MSEP	#6.5m x 3m HT.
DT-101	HYPOCHLORITE DOSING TANK	1	HDPE	100 LIT
DP-101 A/B	HYPOCHLORITE DOSING PUMPS	2	PP	0-5 LPH (ELECTRONIC TYPE)
DT-102	DEWATERING POLY DOSING TANK	1	HDPE	100 LIT
M-102	AGITATOR FOR DEWATERING POLY DOSING TANK	1	SS	SUITABLE
DP-102 A/B	DEWATERING POLY DOSING PUMPS	2	PP	0-20 LPH (ELECTRONIC TYPE)
P-104 A/B	FILTER PRESS FEED PUMPS	2	CI	3m <sup>3</sup> /hr @ 60 m head
FP-101	FILTER PRESS	1	SUITABLE	SUITABLE

**ETP EQUIPMENT LIST**

TAG No.	DESCRIPTION	QTY.	MCC	SIZE
M-103	FLASH MIXER AGITATOR	1	MSEP	SUITABLE
AGR-104	AERATION GRIDS FOR EQUALIZATION TANK	LOT	HDPE	SUITABLE
P-105 A/B	EFFLUENT TRANSFER PUMPS (SUBMERSIBLE TYPE)	2	CI	1.5m <sup>3</sup> /hr @ 10 m head
P-106 A/B	PRIMARY SUDGE TRANSFER PUMPS	2	CI	1.0m <sup>3</sup> /hr @ 10-12 m head
DT-103	ALUM DOSING TANK	1	HDPE	100 LIT
TH-102	TUBE MEDIA FOR TUBE SETTLER	LOT	PP/PVC	SUITABLE FOR VOLUME OF TANK



**LEGEND**

	Ball Valve		Disc Diffuser
	High Return Valve		Turbine Diffuser
	Butterfly Valve		Drain
	Flow Control Valve		Air Blower
	Pressure Relief Valve		Air Grid
	Centrifugal Pump		Pitot
	Screw Pump		Programmable Logic Controller
	Meters Pump		Electronic Dose Control Switch
	Flange Connection		Pressure Gauge

**ABBREVIATIONS**

P	PUMP	LS	LEVEL SWITCH	AGR	AIR GRID
T	TANK	EFT	EFFLUENT	MCC	MATERIAL OF CONSTRUCTION
MS	MILD STEEL	TE	TREATED EFFLUENT	SL	SUDGE
MSEP	MILD STEEL EPOXY PAINTED	AG	AGITATOR	FL	FILTRATE
SW	SERVICE WATER	OG	OIL SKIMMER		
HDPE	HIGH DENSITY POLYETHYLENE	BSC	BAR SCREEN		
PP	POLYPROPYLENE	CM	CLAMPING MECHANISM		
CI	CAST IRON	OD	OUTER DIAMETER		
SS	STAINLESS STEEL	NW	NON RETURN VALVE		
PG	PRESSURE GAUGE	WM	WATER METER		
BL	BLOWER				

**LEGEND FOR LINE NO.**  
**SERVICE - LINE SIZE - MCC - SEQUENCE NO.**

Rev No	01	DATE	21.11.14	DESIGNED BY	MANISH	CHECKED BY	TRG
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**AQUACHEM ENVIRO ENGINEERS PVT. LTD.**  
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 PHONE : (022) 2 611 9768 / 9752 / 2 610 1217 / 2 610 7723 FAX: (022) 2 610 3616




DRAWN	KIRAN	CHECKED	TRG	PROJECT	:- SEWAGE & EFFLUENT TREATMENT PLANT
CHECKED	TRG	CLIENT		SCALE	:- 1/4" = 1' MGA
APPROVED	MAN	LOCATION		DATE	18.11.2014
DATE	18.11.2014	CONSULTANTS		TITLE	:- P & I DIAGRAM FOR SEWAGE & EFFLUENT TREATMENT PLANT
SCALE	1/4" = 1'	DISCIPLINE		REV.	01



### TEST CERTIFICATE

Report No: GESEC/PRO/2019-20/01/53	Date of Report	17/01/2020
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.	Date of Sampling	10/01/2020
	Start Date of Analysis	11/01/2020
	End Date of Analysis	16/01/2020
	Sample Details	ETP Inlet
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

### Water Analysis Report

Sr. No.	Parameter	Result	Unit(s)	Standard Method
<b>Physical Parameter</b>				
1.	TDS	819.6	ppm	APHA 2540-C
2.	Total Suspended Solid	45	mg/lit	APHA 2540-D
<b>Chemical Parameter</b>				
3.	pH	7.71	--	APHA 4500-H <sup>+</sup>
4.	BOD at 27°C for 3 days	28	mg/lit	APHA 5210 B
5.	Oil and grease	1	mg/lit	APHA 5520 B
6.	COD	56	mg/lit	APHA 5220 B
7.	Detergent	0.01	mg/lit	Methylene blue extraction method
ANALYZED BY-		AUTHORIZED SIGNATORY		
		 		

#### Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not revel to third party unless required by the statutory or legal requirement
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.








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Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.	Date of Sampling	10/01/2020
	Start Date of Analysis	11/01/2020
	End Date of Analysis	16/01/2020
	Sample Details	STP Inlet
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

### Water Analysis Report

Sr. No.	Parameter	Result	Unit(s)	Standard Method
<b>Physical Parameter</b>				
1.	Total Suspended Solid	59.2	mg/lit	APHA 2540-D
<b>Chemical Parameter</b>				
2.	BOD at 27°C for 3 days	140	mg/lit	APHA 5210 B
3.	COD	272	mg/lit	APHA 5220 B
4.	Residual chlorine	NA	ppm	Chlortext Method
ANALYZED BY-		AUTHORIZED SIGNATORY		
				
				

#### Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not revel to third party unless required by the statutory or legal requirement
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



### TEST CERTIFICATE

Report No: GESEC/PRO/2019-20/01/54	Date of Report	17/01/2020
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.	Date of Sampling	10/01/2020
	Start Date of Analysis	11/01/2020
	End Date of Analysis	16/01/2020
	Sample Details	ETP OUTLET
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

### Water Analysis Report

Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
<b>Physical Parameter</b>					
1.	TDS	545.4	2100	ppm	APHA 2540-C
2.	Total Suspended Solid	12	100	mg/lit	APHA 2540-D
<b>Chemical Parameter</b>					
3.	pH	7.7	5.5-9.0	--	APHA 4500-H <sup>+</sup>
4.	BOD at 27°C for 3 days	16	30	mg/lit	APHA 5210 B
5.	Oil and grease	BDL	<10	mg/lit	APHA 5520 B
6.	COD	38	<250	mg/lit	APHA 5220 B
7.	Detergent	BDL	2	mg/lit	Methylene blue extraction method

**Remark(s):**

➤ All parameters are within the MPCB limit.

ANALYZED BY-

*[Signature]*

AUTHORIZED SIGNATORY



*[Signature]*

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Report No: GESEC/PRO/2019-20/01/55	Date of Report	17/01/2020
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.	Date of Sampling	10/01/2020
	Start Date of Analysis	11/01/2020
	End Date of Analysis	16/01/2020
	Sample Details	STP OUTLET
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

### Water Analysis Report

Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
<b>Physical Parameter</b>					
1.	Total Suspended Solid	07	10	mg/lit	APHA 2540-D
<b>Chemical Parameter</b>					
2.	BOD at 27°C for 3 days	08	<10	mg/lit	APHA 5210 B
3.	COD	20	<50	mg/lit	APHA 5220 B
4.	Residual Chlorine	Absent	1	ppm	Chlortext Method

Remark(s): All parameters are within the MPCB limit.

ANALYZED BY-

*[Handwritten Signature]*



AUTHORIZED SIGNATORY

*[Handwritten Signature]*

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