GOVERNMENT OF GUJARAT

सत्यमेव जयते
ગુજરાત સરકાર
Government of Gujarat

NATIONAL GREEN TRIBUNAL

ORIGINAL APPLICATION NO. 606 /2018

COMPLIANCE OF MUNICIPAL SOLID WASTE MANAGEMENT RULES, 2016 AND OTHER ENVIRONMENTAL ISSUES

Subject	Compliance to NGT Order (Liquid Waste Management)
Reference	NGT Order (O.A. 606/2018) (I.A. No. 163/2021)

A. Compliance to observations of Hon'ble NGT on hearing dated 21, March 2024:

Sr. No.	Observation Dated 21-03-2024	Compliance
1.	Sewage generation of 3,307 MLD is estimated for eight Municipal Corporation and to treat the sewage, Sewage Treatment Plants (STPs) of 4,324 MLD capacities have been installed. However, there is a gap of 46 MLD in three Municipal Corporations namely, Jamnagar (10 MLD), Junagadh (24 MLD) and Gandhinagar (12 MLD). Performance of STPs may not be effective due to inadequacy of sewage fed in STPs.	Among the eight municipal corporations, only Jamnagar and Junagadh currently have treatment gaps of 10 MLD and 21 MLD, respectively. Both Municipal Corporations have ongoing projects: Jamnagar is constructing a 20 MLD plant, scheduled for completion in June 2025, while Junagadh is building a 30 MLD plant, which will be completed by January 2025.
2.	In case of Municipalities (157 Nagarpalika) falling under 6 Regional Commissioners of Municipalities (RCM) Zones, sewage generation is 1099 MLD of which, only 595 MLD is treated against the total installed treatment capacity of 1113 MLD with a gap of 504 MLD.	Currently, the installed sewage treatment capacity in Nagar Palikas has increased to 1,249 MLD, with 707 MLD of sewage being treated. This achievement has reduced the treatment gap to 392 MLD, a significant improvement from the 808 MLD gap identified in the NGT order in March 2023. To further bridge this gap, plans are underway to develop additional sewage treatment plants across the six zones, targeting a total capacity of 497 MLD.
3.	There are 192 STPs in existence with installed capacity of 5434 MLD treating 3857 MLD but, the performance results of these STPs have not been disclosed with reference to compliance of fecal coliform standards as directed by the Tribunal on 30.04.2019 in O.A. No.	There are currently 199 operational Sewage Treatment Plants (STPs) with an installed capacity of 5,692 MLD, treating 4,107 MLD of sewage. These STPs undergo regular monitoring to ensure they meet the fecal coliform standards set by the Tribunal's order dated April 30, 2019, in O.A. No. 1069/2018. The attached reports in **Annexure 1** provide

Sr. No.	Observation Dated 21-03-2024	Compliance
	1069/2018. The next report must include this information.	examples of the ongoing compliance efforts across various STPs. In addition, several municipal corporations have taken proactive steps to upgrade their STPs to meet the National Green Tribunal (NGT) standards (as directed by the Tribunal on 30.04.2019 in O.A. No. 1069/2018). Details of these upgrade projects are provided in **Annexure 2**.
4.	We find that 41 STPs with installed capacity of 912 MLD by December, 2025 would be completed. Efforts should be made to squeeze the timelines as disposal of sewage without treatment is violation of Water (Prevention and Control of Pollution) Act, 1974.	The progress of under construction and planned STPs is being closely monitored at various levels, including through monthly reviews chaired by the Hon'ble Chief Secretary and weekly review chaired by Principal Secretary of Urban Development and Urban Housing Department (UD&UHD). To further streamline the construction and commissioning processes of these projects, along with ongoing underground drainage projects, Gujarat Urban Development Company (GUDC) has appointed Project Management Consultants (PMC). The primary responsibility of these consultants is to monitor the progress of all projects rigorously and ensure that they adhere to the established timelines.
5.	We find that still 17 lakhs households are to be connected with sewerage system. This should be done on priority basis to ensure that capacities of STPs are fully utilized.	Since March 2024, 4,77,980 new sewer connections have been made operational. Remaining 12.5 lakh connections have been planned under various schemes. These include centrally and state sponsored schemes. Around 5.8 Lakhs connections are planned under AMRUT 2.0 scheme, 2.07 Lakhs under Janbhagidari scheme and remaining 3.6 Lakhs under SJMMSVY.

Sr. No.	Observation Dated 21-03-2024	Compliance
6.	Along with the utilization of treated sewage, reutilization of treated sewage should also be taken up simultaneously.	Currently, 1,206 MLD of treated wastewater is being reused at both municipal corporations and Nagarpalika. As more and more STPs are being made functional concentrated efforts are being made for identification of potential projects to increase the amount of wastewater reuse and identify potential projects at the Nagarpalika level

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ANNEXURE - I

155 MLD CAPACITY SEWAGE TREATMENT PLANT AT PIRANA SITE OF AMC

LABORATORY ANALYSIS OF MONTH APRIL - 2024

DATE	INLET SAMPLE									OUTLET SAMPLE									
	PH	PH	BOD (mg/l)	COD	TSS	TP	TN	FECAL COLIFORM	O&G	PH	PH	BOD	COD	TSS	TP	TN	FECAL COLIFORM	O&G
	S-1	S-2	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	S-1	S-2	mg/l	mg/l	mg/l	mg/l	mg/l	MPN	mg/l
01-May-24	2.00	6.00	136	388	250	5.85	54	10^6	BDL	6.00	6.80	9	38	10	1.06	6	≤100	BDL
02-May-24	4.50	5.60	122	392	280	6.11	55		BDL	6.20	7.00	8	39	10.5	1.15	6		BDL
03-May-24	5.10	6.20	138	329	160	5.72	49		BDL	6.80	7.10	7	30	3.0	1.02	5		BDL
04-May-24	5.40	6.50	150	344	275	5.96	43		BDL	6.60	7.00	10	34	8.5	1.11	4		BDL
05-May-24	5.90	6.30	158	316	230	5.65	51		BDL	6.70	7.00	10.5	32	6.0	1.2	6		BDL
06-May-24	6.40	6.70	160	248	140	5.45	42		BDL	6.90	7.20	5	28	4.5	1.23	5		BDL
07-May-24	6.80	6.90	148	320	190	5.64	49		BDL	7.30	7.50	7	31	6.0	1.25	5		BDL
08-May-24	3.40	6.10	134	348	185	5.53	42	10^6	BDL	6.60	6.90	6	32	8.5	1.11	4	≤100	BDL
09-May-24	2.70	7.20	54	265	145	5.22	44		BDL	7.40	7.50	4	34	10.0	1.00	5		BDL
10-May-24	7.10	7.00	96	328	220	5.02	42		BDL	6.60	7.00	5	50	10.0	0.98	6		BDL
11-May-24	6.10	6.40	112	275	205	5.18	45		BDL	7.20	7.50	7	32	9.0	1.08	6		BDL
12-May-24	5.50	5.80	124	306	235	5.05	47		BDL	7.00	7.40	8	38	9.5	0.99	6		BDL
13-May-24	6.00	6.30	148	296	265	4.96	38		BDL	6.90	7.00	10	40	10.0	0.98	4		BDL
14-May-24	4.00	5.70	108	268	175	5.09	39		BDL	7.00	7.20	7	32	8.5	0.97	4		BDL
15-May-24	6.30	6.70	110	272	105	4.23	52	10^6	BDL	6.80	7.00	6	34	10.0	0.92	5	≤100	BDL
16-May-24	5.60	6.00	112	296	240	4.35	50		BDL	6.40	6.90	7	32	10.5	0.98	4		BDL
17-May-24	5.80	6.30	84	228	305	4.10	47		BDL	6.40	7.00	3	34	9.0	0.72	4		BDL
18-May-24	3.20	5.50	152	224	85	3.57	37		BDL	6.30	6.70	6	36	3.0	0.59	3		BDL
19-May-24	3.70	4.50	144	279	298	3.90	59		BDL	6.80	7.20	7	32	9.0	0.72	6		BDL
20-May-24	6.00	6.30	152	268	310	3.98	62		BDL	7.10	7.20	8	30	10.5	0.67	7		BDL
21-May-24	4.20	6.90	162	308	190	4.06	58		BDL	7.70	7.60	10	44	9.5	0.82	8		BDL
22-May-24	6.90	7.10	94	312	115	3.46	48		BDL	7.60	7.80	9	48	7.0	0.72	6		BDL
23-May-24	6.30	6.90	84	348	220	3.75	54	10^6	BDL	7.50	7.70	7	50	10	0.67	7	≤100	BDL
24-May-24	3.50	6.70	128	372	150	3.88	46		BDL	7.40	7.70	3	54	9.5	0.72	5		BDL
25-May-24	6.10	6.70	108	256	240	3.67	42		BDL	7.30	7.60	6	40	10.0	0.55	6		BDL
26-May-24	6.00	6.30	120	248	215	3.54	47		BDL	7.40	7.60	7	32	7.0	0.44	5		BDL
27-May-24	4.90	7.00	96	256	295	3.72	49		BDL	7.80	8.00	5	28	9.0	0.58	6		BDL
28-May-24	3.20	6.80	114	444	195	3.61	52		BDL	7.40	7.20	5	28	7.0	0.58	6		BDL
29-May-24	7.00	7.1	66	288	100	3.21	57		BDL	7.20	7.30	6	22	0.5	0.49	7		BDL
30-May-24	3.80	6.9	150	244	200	3.49	52		BDL	7.50	7.60	8.00	46.00	9.00	0.54	5.00		BDL
31-May-24	6.70	7.0	145	348	175	3.68	45		BDL	7.20	7.50	7.00	32.00	10.50	0.70	4.00		BDL
AVERAGE	**5.1**	**6.4**	**122.1**	**302.2**	**207.3**	**4.6**	**48.4**			**7.0**	**7.3**	**6.9**	**36.0**	**8.4**	**0.9**	**5.4**		
Minimum	**2.0**	**4.5**	**54.0**	**224.0**	**85.0**	**3.2**	**37.0**			**6.0**	**6.7**	**3.0**	**22.0**	**3.0**	**0.4**	**3.0**		
Maximun	**7.1**	**7.2**	**162.0**	**444.0**	**310.0**	**6.1**	**62.0**			**7.8**	**8.0**	**10.5**	**54.0**	**10.5**	**1.3**	**8.0**		

ANNEXURE - II

155 MLD CAPACITY SEWAGE TREATMENT PLANT AT PIRANA SITE OF AMC

LABORATORY ANALYSIS OF MONTH APRIL - 2024

DATE	MLSS - SBR BASIN SAMPLE								SVI - SBR BASIN SAMPLE							
	SBR-1	SBR-2	SBR-3	SBR-4	SBR-5	SBR-6	SBR-7	SBR-8	SBR-1	SBR-2	SBR-3	SBR-4	SBR-5	SBR-6	SBR-7	SBR-8
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
01-May-24	1660	1470	2255	1780	1380	1860	1075	1295	60	50	70	60	50	60	50	50
02-May-24	1815	2370	1905	1625	1545	1405	1255	1780	60	70	60	50	50	50	40	60
03-May-24	1105	1860	1635	2415	1630	3140	1920	3025	50	60	50	90	80	110	60	100
04-May-24	2405	2305	2475	2365	1770	2620	1955	3620	90	90	90	90	80	90	80	160
05-May-24	2210	2575	2680	2350	2020	2720	2030	3345	80	80	90	80	90	80	80	130
06-May-24	2005	2660	2715	2335	2210	2620	2150	3080	80	90	90	80	90	100	80	100
07-May-24	2265	2510	2695	2720	2340	2850	2890	3355	80	80	90	90	100	120	90	130
08-May-24	2535	2675	2640	2940	2550	2270	3635	3665	80	90	90	90	90	110	160	160
09-May-24	2505	2870	2765	2945	2710	2620	2665	3175	80	90	85	90	80	110	100	110
10-May-24	2640	2985	2510	3185	2690	2520	2540	4010	85	90	80	110	90	100	80	200
11-May-24	2260	2535	2740	2925	2850	2620	2285	3515	80	80	90	90	100	100	80	150
12-May-24	1875	2105	3075	2800	3020	2800	2165	3035	70	80	100	90	100	110	80	100
13-May-24	1485	1730	3220	2785	3010	3240	2045	2530	70	70	120	90	90	120	80	80
14-May-24	1410	1850	3500	2980	3420	3250	2420	2515	70	70	150	90	90	110	90	90
15-May-24	1545	2030	3065	3580	3675	3595	2770	2325	70	80	100	150	160	150	90	80
16-May-24	1710	2300	3315	2875	1560	2310	2070	2570	70	80	130	90	70	80	80	90
17-May-24	1520	1890	3075	3430	1375	1815	2760	2705	70	70	100	140	60	70	90	90
18-May-24	1540	2150	3355	2845	1595	1960	2375	2745	70	80	130	80	70	70	80	90
19-May-24	1815	2075	3460	3125	1680	2030	3045	3255	70	70	140	110	70	80	100	120
20-May-24	2155	2160	3555	3400	1760	2185	3670	3580	80	80	150	140	70	80	160	150
21-May-24	2035	1775	3730	3865	2315	2990	2080	3105	80	70	170	180	80	90	80	110
22-May-24	1960	2030	2805	2950	1650	2800	2425	3615	70	80	90	90	70	90	80	160
23-May-24	1670	1640	3530	2680	2380	2445	2260	2940	70	70	150	90	80	80	80	90
24-May-24	2285	2280	3700	3615	1555	224	3395	3695	80	80	170	160	70	80	130	160
25-May-24	1690	2275	2435	2630	2365	2840	3220	3420	70	80	80	90	80	90	120	110
26-May-24	2470	2365	2735	3140	2585	2955	3550	3610	80	80	90	110	90	90	150	160
27-May-24	3010	2205	3180	3590	2840	3175	3945	3855	100	70	110	150	90	110	190	180
28-May-24	3255	2325	3945	2465	1930	2645	3020	3230	120	80	190	80	70	90	100	120
29-May-24	2435	2530	3270	3670	2380	2950	2650	3540	80	90	120	160	80	90	100	150
30-May-24	2600	2310	3135	3590	3320	2615	2745	3875	90	80	130	150	130	90	90	180
31-May-24	1770	1850	3550	3265	3370	3455	2575	3740	70	70	150	120	130	140	90	170
AVERAGE	**2062.3**	**2228.0**	**2970.0**	**2920.0**	**2270.3**	**2535.6**	**2567.0**	**3133.7**	**76.8**	**77.7**	**110.2**	**105.3**	**84.0**	**93.3**	**95.7**	**122.0**
Minimum	**1105.0**	**1470.0**	**1635.0**	**1625.0**	**1375.0**	**224.0**	**1075.0**	**1295.0**	**50.0**	**50.0**	**50.0**	**50.0**	**50.0**	**50.0**	**40.0**	**50.0**
Maximun	**3255.0**	**2985.0**	**3945.0**	**3865.0**	**3675.0**	**3595.0**	**3945.0**	**4010.0**	**120.0**	**90.0**	**190.0**	**180.0**	**160.0**	**150.0**	**190.0**	**200.0**

01/05/2024 TO 31/05/2024

MONTHLY LAB REPORT OF 70 MLD SEWAGE TREATMENT PLANT - JAMNAGAR (MAY- 2024)

SR.	PARAMETER	pH		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		O&G (mg/l)		Total kjeldhal nitrogen (mg/l)		Ammonium Nitrogen (mg/l)		Total Phosphorus (mg/l)		FECAL COLIFORM (MPN/100ml)		TOTAL COLIFORM (MPN/100ml)		REMARKS
	BID VALUE	6.5-8.5	6.5-8.5	480 mg/l	<250 mg/l	250 mg/l	<20 mg/l	400 mg/l	<30 mg/l	10-15 mg/l	<10 mg/l	55 mg/l	<10 mg/l	30 mg/l	<50 mg/l	10 mg/l	<5 mg/l	10^6 MPN/100ml	<1000 MPN/100ml	10^7 MPN/100ml	<1000 MPN/100ml	
	Date	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	
1	01/05/2024	7.17	7.64	280	48	105.4	9.2	481	17	0.44	0	32.2	4.2	19.88	3.64	0.99	0.47	240	17	350	22	
2	02/05/2024	7.26	7.57	296	48	109.6	9.6	488	19	0.39	0	36.4	5.6	19.04	3.08	1.04	0.43	350	22	540	27	
3	03/05/2024	7.17	7.62	280	48	105.4	9.2	481	17	0.44	0	37.8	7	18.2	3.64	0.88	0.49	180	11	220	14	
4	04/05/2024	7.18	7.84	304	40	115.8	8.7	493	18	0.59	0	36.4	7	18.76	3.36	0.94	0.35	170	22	220	26	
5	05/05/2024	7.43	7.79	296	40	107.3	8.9	481	18	0.64	0	33.6	4.2	20.44	3.92	0.95	0.56	180	11	240	17	
6	06/05/2024	7.29	7.64	280	48	105.2	9.5	489	19	0.58	0	35	4.2	19.88	3.64	1.09	0.59	180	14	540	26	
7	07/05/2024	7.28	7.68	312	40	107.4	9.4	478	18	0.49	0	36.4	7	20.18	3.92	1.08	0.53	350	21	540	26	
8	08/05/2024	7.38	7.74	296	40	111.3	8.9	491	19	0.53	0	37.8	7	18.2	3.64	0.99	0.52	220	21	350	22	
9	09/05/2024	7.30	7.59	296	40	105.2	9.6	486	17	0.41	0	35	4.2	19.88	3.64	0.93	0.36	170	13	280	17	
10	10/05/2024	7.28	7.67	304	40	107.4	9.4	478	18	0.49	0	36.4	7	19.88	3.08	1.08	0.53	350	21	540	26	
11	11/05/2024	7.32	7.74	280	40	103.7	8.9	487	19	0.39	0	25.2	2.8	18.48	3.36	1.08	0.65	220	14	180	17	
12	12/05/2024	7.19	7.55	312	48	107.4	8.6	482	17	0.39	0	26.6	4.2	17.08	3.64	1.04	0.46	140	26	170	27	
13	13/05/2024	7.39	7.76	304	40	105.4	9.4	493	18	0.42	0	36.4	5.6	20.16	3.08	0.99	0.58	350	21	540	26	
14	14/05/2024	7.28	7.73	320	48	117.4	9.0	481	19	0.64	0	32.2	7	18.76	3.36	0.81	0.49	220	23	350	31	
15	15/05/2024	7.19	7.74	304	40	107.4	9.4	491	19	0.59	0	36.4	7	19.88	3.08	0.99	0.53	170	22	220	26	

Deputy Executive Engineer
Underground Drainage Department
Jamnagar Municipal Corporation

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MONTHLY LAB REPORT OF 70 MLD SEWAGE TREATMENT PLANT - JAMNAGAR (MAY- 2024)

SR.	PARAMETER	P^{H}		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		O&G (mg/l)		Total kjeldhal nitrogen (mg/l)		Ammonium Nitrogen (mg/l)		Total Phosphorus (mg/l)		FECAL COLIFORM (MPN/100ml)		TOTAL COLIFORM (MPN/100ml)		REMARKS
	BID VALUE	6.5-8.5	6.5-8.5	480 mg/l	<250 mg/l	250 mg/l	<20 mg/l	400 mg/l	<30 mg/l	10-15 mg/l	<10 mg/l	55 mg/l	<10 mg/l	30 mg/l	<50 mg/l	10 mg/l	<5 mg/l	10^{6} MPN/100ml	<1000 MPN/100ml	10^{7} MPN/100ml	<1000 MPN/100ml	
	Date	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	
16	16/05/2024	7.20	7.68	304	40	123.2	9.6	482	18	0.47	0	37.8	7	20.44	3.36	0.95	0.41	280	13	350	21	
17	17/05/2024	7.29	7.59	312	48	119.7	9.3	492	19	0.63	0	37.8	7	20.16	3.36	1.07	0.38	280	22	350	26	
18	18/05/2024	7.24	7.57	296	48	109.6	9.6	488	19	0.39	0	33.6	4.2	19.32	3.64	0.92	0.38	180	14	220	17	
19	19/05/2024	7.20	7.68	320	48	117.4	9.0	486	19	0.64	0	32.2	7	18.76	3.36	0.85	0.48	220	23	350	31	
20	20/05/2024	7.18	7.59	296	40	103.3	8.9	479	19	0.56	0	29.4	5.6	16.8	3.92	0.92	0.35	350	22	540	27	
21	21/05/2024	7.28	7.66	312	48	121.2	8.8	472	17	0.31	0	36.4	5.6	19.04	3.08	1.13	0.49	350	14	540	17	
22	22/05/2024	7.49	7.77	320	48	117.4	9.0	481	18	0.65	0	32.2	7	18.76	3.36	0.81	0.48	220	23	350	31	
23	23/05/2024	7.34	7.71	328	40	113.3	8.9	474	19	0.56	0	36.4	4.2	19.88	3.36	0.96	0.32	350	27	540	33	
24	24/05/2024	7.17	7.62	280	48	105.4	9.2	481	17	0.44	0	32.2	4.2	19.88	3.64	0.99	0.47	240	17	350	22	
25	25/05/2024	-	-	-	-	109.6	9.6	-	-	-	-	-	-	-	-	-	-	180	14	220	17	
26	26/05/2024	-	-	-	-	103.3	8.9	-	-	-	-	-	-	-	-	-	-	350	22	540	27	
27	27/05/2024	-	-	-	-	119.7	9.3	-	-	-	-	-	-	-	-	-	-	170	22	220	26	
28	28/05/2024	7.32	7.63	320	40	-	-	460	16	0.53	0	25.2	2.8	18.76	3.64	0.82	0.27	220	14	280	17	
29	29/05/2024	7.19	7.81	304	40	-	-	493	19	0.59	0	36.4	7	20.16	3.36	0.91	0.39	-	-	-	-	
30	30/05/2024	7.20	7.72	320	48	-	-	481	19	0.64	0	32.2	7	19.88	3.08	1.08	0.53	-	-	-	-	
31	31/05/2024	7.18	7.68	280	40	115.8	8.7	480	18	0.48	0	36.4	7	18.76	3.36	0.94	0.35	-	-	-	-	
Monthly Average		**7.26**	**7.68**	**302**	**43.71**	**111**	**9.16**	**483**	**18.18**	**0.51**	**0.00**	**34.00**	**5.70**	**19.26**	**3.45**	**0.97**	**0.46**	**246**	**18.79**	**362**	**23.64**	

01/06/2024 TO 30/06/2024

MONTHLY LAB REPORT OF 70 MLD SEWAGE TREATMENT PLANT - JAMNAGAR (JUNE- 2024)

SR.	PARAMETER	P^{H}		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		O&G (mg/l)		Tqtal kjeldhal nitrogen (mg/l)		Ammonium Nitrogen (mg/l)		Total Phosphorus (mg/l)		FECAL COLIFORM (MPN/100ml)		TOTAL COLIFORM (MPN/100ml)		REMARKS
	BID VALUE	6.5-8.5	6.5-8.5	480 mg/l	<250 mg/l	250 mg/l	<20 mg/l	400 mg/l	<30 mg/l	10-15 mg/l	<10 mg/l	55 mg/l	<10 mg/l	30 mg/l	<50 mg/l	10 mg/l	<5 mg/l	10^{6} MPN/100ml	<1000 MPN/100ml	10^{7} MPN/100ml	<1000 MPN/100ml	
	Date	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	
1	01/06/2024	7.20	7.60	328	40	113.3	8.9	475	19	0.64	0	36.4	5.6	18.76	3.36	0.96	0.39	170	17	180	21	
2	02/06/2024	7.24	7.68	296	40	111.3	8.9	491	19	0.53	0	37.8	7	18.2	3.64	0.99	0.52	280	12	350	21	
3	03/06/2024	7.18	7.64	304	40	119.5	9.1	479	19	0.47	0	33.6	4.2	19.04	3.08	1.04	0.44	180	14	540	27	
4	04/06/2024	7.21	7.68	320	40	115.8	8.7	475	17	0.53	0	29.4	7	18.76	3.64	0.82	0.27	350	21	540	26	
5	05/06/2024	7.29	7.59	312	48	119.7	9.3	492	19	0.63	0	37.8	7	20.16	3.36	1.07	0.38	280	22	350	26	
6	06/06/2024	7.28	7.65	312	40	103.7	8.9	481	16	0.53	0	37.8	7	18.76	3.64	0.95	0.41	180	14	350	21	
7	07/06/2024	7.32	7.74	280	40	103.7	8.9	487	19	0.39	0	25.2	2.8	18.48	3.36	1.08	0.65	350	21	540	26	
8	08/06/2024	7.38	7.68	296	40	123.2	9.6	474	17	0.42	0	37.8	7	20.44	3.36	0.95	0.41	280	13	350	21	
9	09/06/2024	7.22	7.56	312	48	119.3	9.7	480	18	0.63	0	36.4	5.6	19.04	3.64	0.90	0.30	280	26	540	27	
10	10/06/2024	-	-	-	-	111.3	8.9	-	-	-	-	-	-	-	-	-	-	220	21	350	22	
11	11/06/2024	7.20	7.70	304	40	119.7	9.3	491	19	0.59	0	36.4	7	20.16	3.36	1.07	0.38	170	22	220	26	
12	12/06/2024	7.28	7.60	312	48	119.3	9.7	480	18	0.63	0	36.4	5.6	18.2	3.64	0.90	0.30	280	26	540	27	
13	13/06/2024	7.30	7.72	296	40	-	-	477	18	0.56	0	35	5.6	20.16	3.92	1.08	0.53	170	22	220	26	
14	14/06/2024	7.44	7.66	312	40	109.1	9.1	480	18	0.58	0	36.4	5.6	20.44	3.92	1.15	0.36	-	-	-	-	
15	15/06/2024	7.16	7.59	296	40	103.3	8.9	479	19	0.56	0	25.2	2.8	18.48	3.36	1.08	0.65	350	21	540	26	

Deputy Executive Engineer
Underground Drainage Department
Jamnagar Municipal Corporation

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MONTHLY LAB REPORT OF 70 MLD SEWAGE TREATMENT PLANT - JAMNAGAR (JUNE- 2024)

SR.	PARAMETER	P^{H}		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		O&G (mg/l)		Total kjeldhal nitrogen (mg/l)		Ammonium Nitrogen (mg/l)		Total Phosphorus (mg/l)		FECAL COLIFORM (MPN/100ml)		TOTAL COLIFORM (MPN/100ml)		REMARKS
	BID VALUE	6.5-8.5	6.5-8.5	480 mg/l	<250 mg/l	250 mg/l	<20 mg/l	400 mg/l	<30 mg/l	10-15 mg/l	<10 mg/l	55 mg/l	<10 mg/l	30 mg/l	<50 mg/l	10 mg/l	<5 mg/l	10^{6} MPN/100ml	<1000 MPN/100ml	10^{7} MPN/100ml	<1000 MPN/100ml	
	Date	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	
16	16/06/2024	7.32	7.64	320	40	109.4	9.6	480	18	0.39	0	33.6	4.2	19.04	3.08	1.04	0.44	180	14	540	27	
17	17/06/2024	7.38	7.84	304	40	115.8	8.7	493	18	0.65	0	36.4	7	18.76	3.36	0.95	0.39	170	22	220	26	
18	18/06/2024	7.38	7.60	320	40	109.4	9.6	480	18	0.39	0	33.6	4.2	19.04	3.08	1.04	0.44	180	14	540	27	
19	19/06/2024	7.49	7.80	280	48	105.4	9.2	481	17	0.44	0	32.2	4.2	19.88	3.64	0.99	0.47	240	17	350	22	
20	20/06/2024	7.17	7.63	296	40	111.3	8.9	491	19	0.53	0	35	5.6	20.16	3.92	0.96	0.45	180	12	220	14	
21	21/06/2024	7.49	7.84	320	48	117.4	9	492	18	0.64	0	32.2	7	18.76	3.36	0.91	0.49	220	23	350	31	
22	22/06/2024	7.38	7.69	320	40	121.5	9.1	482	18	0.56	0	36.4	5.6	19.04	3.08	1.04	0.43	350	22	540	27	
23	23/06/2024	7.43	7.79	312	48	105.4	9.4	489	19	0.49	0	36.4	5.6	20.16	3.08	0.92	0.38	240	26	540	27	
24	24/06/2024	7.35	7.68	296	40	119.5	9.1	482	17	0.42	0	25.2	2.8	18.48	3.36	0.82	0.27	350	21	540	26	
25	25/06/2024	7.17	7.60	280	48	105.4	9.2	481	17	0.44	0	37.8	7	18.2	3.64	0.88	0.49	180	11	220	14	
26	26/06/2024	7.31	7.69	304	40	119.7	9.3	493	18	0.59	0	36.4	7	20.16	3.36	0.93	0.49	170	22	220	26	
27	27/06/2024	7.34	7.63	320	40	109.4	9.6	480	18	0.39	0	32.2	7	18.76	3.36	0.81	0.49	220	23	350	31	
28	28/06/2024	7.40	7.62	304	40	119.5	9.1	480	19	0.47	0	25.2	2.8	18.76	3.64	1.08	0.65	180	14	350	21	
29	29/06/2024	7.39	7.72	296	40	103.3	8.9	479	19	0.56	0	36.4	5.6	20.44	3.92	1.15	0.36	240	26	540	27	
30	30/06/2024	7.17	7.62	280	48	105.4	9.2	481	17	0.44	0	32.2	4.2	19.88	3.64	0.99	0.47	240	17	350	22	
Monthly Average		**7.31**	**7.67**	**304.6**	**42.21**	**112.8**	**9.17**	**482.9**	**18.10**	**0.52**	**0.00**	**33.89**	**5.50**	**19.26**	**3.48**	**0.98**	**0.44**	**237.2**	**19.17**	**395.9**	**24.52**	

01/07/2024 TO 30/07/2024

MONTHLY LAB REPORT OF 70 MLD SEWAGE TREATMENT PLANT - JAMNAGAR (JULY- 2024)

SR.	PARAMETER	pH		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		O&G (mg/l)		Total kjeldhal nitrogen (mg/l)		Ammonium Nitrogen (mg/l)		Total Phosphorus (mg/l)		FECAL COLIFORM (MPN/100ml)		TOTAL COLIFORM (MPN/100ml)		REMARKS
	BID VALUE	6.5-8.5	6.5-8.5	480 mg/l	<250 mg/l	250 mg/l	<20 mg/l	400 mg/l	<30 mg/l	10-15 mg/l	<10 mg/l	55 mg/l	<10 mg/l	30 mg/l	<50 mg/l	10 mg/l	<5 mg/l	10^6 MPN/100ml	<1000 MPN/100ml	10^7 MPN/100ml	<1000 MPN/100ml	
	Date	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	
1	01/07/2024	7.17	7.68	272	40	119.5	9.4	472	19	0.66	0	35	5.6	20.16	3.92	0.96	0.45	180	12	220	14	
2	02/07/2024	7.28	7.67	304	40	123.2	9.6	474	17	0.42	0	25.2	2.8	18.48	3.36	0.82	0.27	350	21	540	26	
3	03/07/2024	7.40	7.70	296	40	111.3	8.9	491	19	0.53	0	37.8	7	18.2	3.64	0.99	0.52	220	21	350	22	
4	04/07/2024	7.39	7.73	320	48	117.4	9	481	19	0.64	0	32.2	7	18.76	3.36	0.81	0.49	220	23	350	31	
5	05/07/2024	7.18	7.68	304	40	107.4	9.4	491	19	0.59	0	36.4	7	19.88	3.08	0.99	0.53	170	22	220	26	
6	06/07/2024	7.40	7.73	296	40	111.3	8.9	491	19	0.53	0	25.2	2.8	18.76	3.64	0.95	0.41	280	12	350	21	
7	07/07/2024	7.16	7.83	304	40	115.8	8.7	493	18	0.59	0	36.4	7	18.76	3.36	0.94	0.35	170	22	220	26	
8	08/07/2024	7.28	7.67	320	40	109.4	9.6	480	18	0.39	0	33.6	4.2	19.04	3.08	1.04	0.44	180	14	540	27	
9	09/07/2024	7.22	7.61	280	48	113.1	9.5	477	18	0.47	0	35	4.2	18.2	3.08	0.96	0.44	170	22	220	26	
10	10/07/2024	7.48	7.86	320	48	117.4	9	495	19	0.64	0	32.2	7	18.76	3.36	0.91	0.48	220	23	350	31	
11	11/07/2024	7.39	7.68	296	40	103.3	8.9	478	19	0.56	0	35	5.6	20.16	3.92	0.99	0.46	220	11	280	14	
12	12/07/2024	7.43	7.61	304	40	119.5	9.1	480	19	0.47	0	37.8	7	18.2	3.64	0.95	0.41	180	14	350	21	
13	13/07/2024	7.25	7.59	296	48	109.6	9.6	488	19	0.39	0	36.4	5.6	19.04	3.08	1.04	0.43	350	22	540	27	
14	14/07/2024	7.31	7.71	272	40	107.3	8.9	475	19	0.64	0	33.6	5.6	18.2	3.64	0.92	0.34	180	14	280	17	
15	15/07/2024	7.31	7.69	288	48	109.5	9.5	493	17	0.35	0	37.8	5.6	19.32	3.64	0.99	0.44	220	11	280	14	

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MONTHLY LAB REPORT OF 70 MLD SEWAGE TREATMENT PLANT - JAMNAGAR (JULY- 2024)

SR.	PARAMETER	P^H		COD (mg/l)		BOD (mg/l)		TSS (mg/l)		O&G (mg/l)		Total kjeldhal nitrogen (mg/l)		Ammonium Nitrogen (mg/l)		Total Phosphorus (mg/l)		FECAL COLIFORM (MPN/100ml)		TOTAL COLIFORM (MPN/100ml)		REMARKS
	BID VALUE	6.5-8.5	6.5-8.5	480 mg/l	<250 mg/l	250 mg/l	<20 mg/l	400 mg/l	<30 mg/l	10-15 mg/l	<10 mg/l	55 mg/l	<10 mg/l	30 mg/l	<50 mg/l	10 mg/l	<5 mg/l	10^6 MPN/100ml	<1000 MPN/100ml	10^7 MPN/100ml	<1000 MPN/100ml	
	Date	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	
16	16/07/2024	7.29	7.68	320	40	121.5	9.1	482	18	0.56	0	36.4	5.6	19.04	3.08	1.04	0.43	350	22	540	27	
17	17/07/2024	7.21	7.67	296	40	103.3	8.9	479	19	0.56	0	29.4	5.6	16.8	3.92	0.92	0.35	350	22	540	27	
18	18/07/2024	7.17	7.62	280	48	105.4	9.2	481	17	0.44	0	32.2	4.2	19.88	3.64	0.99	0.47	240	17	350	22	
19	19/07/2024	7.31	7.58	304	40	107.4	9.4	478	18	0.58	0	37.8	4.2	20.16	3.92	1.08	0.53	350	21	540	26	
20	20/07/2024	7.26	7.59	296	48	109.6	9.6	488	19	0.39	0	33.6	4.2	19.32	3.64	0.92	0.38	180	14	220	17	
21	21/07/2024	7.31	7.63	304	40	107.4	9.4	478	18	0.49	0	36.4	7	19.88	3.08	1.08	0.53	350	21	540	26	
22	22/07/2024	7.39	7.74	320	48	117.4	9.0	481	19	0.64	0	32.2	7	18.76	3.36	0.81	0.49	220	23	350	31	
23	23/07/2024	7.17	7.59	296	40	103.3	8.9	479	19	0.56	0	29.4	5.6	16.8	3.92	0.92	0.35	350	22	540	27	
24	24/07/2024	7.49	7.64	296	40	111.3	8.9	491	19	0.53	0	37.8	7	18.2	3.64	0.99	0.52	220	21	350	22	
25	25/07/2024	7.39	7.73	320	48	117.4	9.0	486	19	0.64	0	32.2	7	18.76	3.36	0.85	0.48	220	23	350	31	
26	26/07/2024	7.21	7.64	320	40	115.8	8.7	475	17	0.53	0	29.4	7	18.76	3.64	0.82	0.29	350	21	540	26	
27	27/07/2024	7.44	7.74	296	40	111.3	8.9	491	19	0.53	0	37.8	7	18.2	3.64	0.99	0.52	220	21	350	22	
28	28/07/2024	7.49	7.84	320	48	117.4	9.0	492	18	0.64	0	32.2	7	18.76	3.36	0.91	0.49	220	23	350	31	
29	29/07/2024	7.16	7.59	296	40	103.3	8.9	479	19	0.56	0	29.4	5.6	16.8	3.92	0.92	0.35	350	22	540	27	
30	30/07/2024	7.38	7.75	296	40	119.5	9.1	478	18	0.42	0	33.6	5.6	18.2	3.64	0.92	0.34	180	14	280	17	
31	31/07/2024	7.34	7.71	328	40	113.3	8.9	474	19	0.56	0	36.4	4.2	19.88	3.36	0.96	0.32	350	27	540	33	
Monthly Average		**7.31**	**7.68**	**301.9**	**42.58**	**112.2**	**9.13**	**482.9**	**18.48**	**0.53**	**0.00**	**33.74**	**5.74**	**18.78**	**3.51**	**0.95**	**0.43**	**251.9**	**19.29**	**387.4**	**24.35**	

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Checklist for Monitoring of Performance of Sewage Treatment Plants (STPs)

Date:	01-08-2024	Name and Designation:	V.S. RATHORE - DEE GWSSB
RCM Zone	Junagadh	ULB/MC	Junagadh

Sr No	Details	Observation		Units	Max Limits
1	Name/Location of STP	11.00 MLD STP, ZANZARADA		1	
2	Year of Commissioning of STP	2023			
3	Ownership of STP (Please note that if the ownership of the STP is not with ULB, Please make sure to furnish all the data from relevant department)	G.W.S.S.B			
4	Design Capaity of STP	11		MLD	
4.1	Present Design Capacity	11		MLD	
4.2	Intermidiate Design Capacity	11		MLD	
4.3	Ultimate Design Capacity	11		MLD	
5	Capacity Utilisation (Please Attach SCADA report (Last 3 months report) as supporting, If No then attach details of measurement with sign and stamp of concern authority)	6		MLD	
6	O&M Carried Out By (Agency or ULB)	P.Das Infrastructure PVT. LTD. Ahemadabad			
7	Plant Functioning Timings (no of hours)	24x7x365			
8	Type of STP - Please Mention Process of Sewage Treatment (i) ASP - Activated sludge process (ii) TF - Trickling filter (iii) AL - Aerated lagoon (iv) UASB - Upflow anaerobic sludge blanket (v) OP - Oxidation pond/waste stabilization ponds (vi) EA - Extended Aeration (vii) SBR – Sequential Batch Reactor (viii) MBR – Membrane Bio Reactor (ix) MBBR – Moving Bed Bio Reactor	SBR – Sequential Batch Reactor			
9	Influent Wastewater Charachterstics	Observation	Test Dates		
i	pH	7.14	25-07-2024		
ii	BoD_5 @ 20°C	140	25-07-2024	mg/L	
iii	CoD	212	25-07-2024	mg/L	
iv	TSS	110	25-07-2024	mg/L	
v	TKN	15	25-07-2024	mg/L	
vi	Total Phosphorous	2.8	25-07-2024	mg/L	
vii	Total Coliform	>1600	25-07-2024	MPN/100 ml	
10	Point of treated water Disposal	in nearest river			
11	Bypass arrangements at STP, if any	-			
12	Method of Sludge Disposal & Status	Centrifuge Machine			
13	Volume of Industial Waste being mixed, if any	No			
14	Treated Sewage Quality @ Outlet of Chlorine Contact Tank	Observation	Test Dates		
i	pH	7.2	25-07-2024		6.5 to 9
ii	BoD_5 @ 20°C	7	25-07-2024	mg/L	Less than 10
iii	CoD	28	25-07-2024	mg/L	Less than 50
iv	TSS	7	25-07-2024	mg/L	Less than 10
v	NH_4-N	2.2	25-07-2024	mg/L	Less than 5
vi	N-Total	7	25-07-2024	mg/L	Less than 10
vii	Total Phosphorus (PO_4-P)	0.5	25-07-2024	mg/L	Less than 2
viii	Total Coliform	26	25-07-2024	MPN/100 ml	20% of TC
ix	Fecal Coliform	95	25-07-2024	MPN/100 ml	Less than 100
x	Total Residual Chlorine	0.6	25-07-2024	mg/L	1
15	Status of Miantainance of Log Book	Yes			
	- Updated Frequency	Daily			
	- Data availablity Period	Last 2 month			

16	Availablity of Lab Facility (if Yes, provide last 3 months results of testing of treated waste water performed duly signed by competent authorities)	Yes		
17	Name and Designation of the person carrying out lab tests	Sanjay Naghera-Lab chemist (B.sc chemistry)		
18	Provide lab testing data of last three months			
19	If lab facility is not avaliable in-house, Provide last 3 months results of Testing of Treated Waste Water performed at any private lab/GERI			
20	If no testing is being conducted please provide justification for the same			
21	Any additional comments about the working of STP			

Report Prepared & brought by P.Das Infra

Dy. Ex. Engr. P.S. Sub-Div. GWSSB Junagadh

P.DAS INFRASTRUCTURE PVT. LTD. AHMEDABAD

2810

ENVIRONMENTAL
CONSULTANTS & ENGINEERS

Amendment No: 01	TEST REPORT		Issue No: 04
Amendment Date: 09/08/2022			Issue Date: 10/12/2021
Doc. No: SWA/LAB/PROS/6			Page No: 1 of 1
Company Name	Jay Corporation - Shivam Builders, JV	Sample ID	WQ/405/23
Company Contact Number	7874886393	Condition of sample	Satisfactory
Address	71 first floor, Someshwar mall, Modhera Road, Mahsana, 384002	Sample Drawn By	Customer
		Quantity of Sample	1 L
		Sampling Method	APHA/IS MODE: (GRAB/ COMPOSITE)
Date & Time of Sampling	01-12-2023, 11:00	Date of Sample Received	01-12-2023
Analysis Starts Date	01-12-2023	Analysis Completion Date	06-12-2023
Sample Description	STP Inlet - Kanjari 3.3 MLD	Temperature/ Humidity during testing	Temp.- 25-29 deg C / Humidity <50 %
Report Code:	SWA/LAB/01/12/2023/WQ/405	Report Date:	06-12-2023

S.No.	PARAMETERS	UNIT	RESULTS	Regulatory Limit	Remarks	Testing Method/ Standard
1	pH @27 deg.	-	6.89			APHA 23rd Edition 4500 B: 2017
2	Total Suspended Solids	mg/l	142.68			APHA 23rd Edition 2540 D: 2017
3	Total Kjeldahl Nitrogen	mg/l	24.35			APHA 23rd Edition 4500 NH3 C/Norg B: 2017
4	Total Phosphorous	mg/l	4.35			APHA 23rd Edition 4500 P D: 2017
5	Chemical Oxygen Demand	mg/l	262.42			IS 3025 - Part 58 : 2006
6	Biochemical Oxygen Demand	mg/l	142.62			IS 3025 - Part 44 : 1993
7	Total Coliform *	MPN/100 ml	141.00			IS 1622 - Rea. 2019

Supervised By :	Pankaj Gothi	Authorized Signatory :	Urv Patel
Signature :	Pankaj	Signature :	
Designation :	Technical Manager/COO Lab	Designation :	Quality Manager/CEO

Notes:

1. *The report shall not be reproduced except in full without approval of the laboratory can provide assurance that parts of a report are not taken out of context.*
2. *The results relate only to the items tested and sampled*
3. *Additions to, deviations, or exclusions from the method- NA*
4. *Results which were outsourced to external providers are marked with ** and results which are performed and not in NABL accrediation scope are marked with * in parameter column*
5. *Disclaimer: When the information is supplied by the customer and can affect the validity of results*
6. *Disclaimer: The report that the results apply to the sample as received in case of the sample has been supplied by customer*
7. *Disclaimer: The laboratory shall be responsible for all the information provided in the report, except when information is provided by the customer*
8. *Regulatory limit reference if any:- NA*
9. *Opinion, Interpretation & Statement of Conformity if provided can be refered in the remarks section as "Permissible" "Below acceptable" or whatever is applicable as per the limit*
10. *BDL : Below Detection Limit*

---------- End of the Test Report ----------

SWA ENVIRONMENTAL CONSULTANTS & ENGINEERS AHMEDABAD

2811

ENVIRONMENTAL
CONSULTANTS & ENGINEERS

Amendment No: 01	TEST REPORT		Issue No: 04
Amendment Date: 09/08/2022			Issue Date: 10/12/2021
Doc. No: SWA/LAB/PROS/6			Page No: 1 of 1
Company Name	Jay Corporation - Shivam Builders, JV	Sample ID	WQ/406/23
Company Contact Number	7874886393	Condition of sample	Satisfactory
Address	71 first floor, Someshwar mall, Modhera Road, Mahsana, 384002	Sample Drawn By	Customer
		Quantity of Sample	1 L
		Sampling Method	APHA/IS MODE: (GRAB/ COMPOSITE)
Date & Time of Sampling	01-12-2023, 11:00	Date of Sample Received	01-12-2023
Analysis Starts Date	01-12-2023	Analysis Completion Date	06-12-2023
Sample Description	STP Outlet - Kanjari 3.3 MLD	Temperature/ Humidity during testing	Temp.- 25-29 deg C / Humidity <50 %
Report Code:	SWA/LAB/01/12/2023/WQ/406	**Report Date:**	06-12-2023

S.No.	PARAMETERS	UNIT	RESULTS	Regulatory Limit	Remarks	Testing Method/ Standard
1	pH @27 deg.	-	7.60	6.5-9		APHA 23rd Edition 4500 B: 2017
2	Total Suspended Solids	mg/l	6.80	<10		APHA 23rd Edition 2540 D: 2017
3	Ammonical Nitrogen	mg/l	1.24	<5		APHA 23rd Edition 4500 NH3 C: 2017
4	Residual Chlorine	mg/l	0.60	0.5-1		APHA 23rd Edition 4500 CL B: 2017
5	Chemical Oxygen Demand	mg/l	30.84	<50		IS 3025 - Part 58 : 2006
6	Total Nitrogen	mg/l	3.75	<10		APHA 23rd Edition 4500 NH3 C/Norg B/NO3 B/NO2 B: 2017
7	Total Phosphorous	mg/l	0.41	<1		APHA 23rd Edition 4500 CL B: 2017
8	Biochemical Oxygen Demand	mg/l	6.85	<10		IS 3025 - Part 44 : 1993
9	Faecal Coliform *	MPN/100 ml	BDL	<230		IS 1622 - Rea. 2019

Supervised By :	Pankaj Gothi	Authorized Signatory :	Urv Patel
Signature :		Signature :	
Designation :	Technical Manager/COO Lab	Designation :	Quality Manager/CEO

Notes:

1. *The report shall not be reproduced except in full without approval of the laboratory can provide assurance that parts of a report are not taken out of context.*
2. *The results relate only to the items tested and sampled*
3. *Additions to, deviations, or exclusions from the method- NA*
4. *Results which were outsourced to external providers are marked with ** and results which are performed and not in NABL accrediation scope are marked with * in parameter column*
5. *Disclaimer: When the information is supplied by the customer and can affect the validity of results*
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7. *Disclaimer: The laboratory shall be responsible for all the information provided in the report, except when information is provided by the customer*
8. *Regulatory limit reference if any:- NA*
9. *Opinion, Interpretation & Statement of Conformity if provided can be refered in the remarks section as "Permissible" "Below acceptable" or whatever is applicable as per the limit*
10. *BDL : Below Detection Limit*

---------- End of the Test Report ----------

SWA ENVIRONMENTAL CONSULTANTS & ENGINEERS AHMEDABAD

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Checklist for Monitoring of Performance of Sewage Treatment Plants (STPs)

Date:	14/06/2024	Name and Designation:	CHIEF OFFICER, VIJAPUR NAGARPALIKA
RCM Zone	GANDHINAGAR	ULB/MC	VIJAPUR NAGARPALIKA

Sr No	Details	Observation	Test Dates	Units	Max Limits
1	Name/Location of STP	4.10 MLD STP Near chamunda lake vijapur		1	
2	Year of Commissioning of STP	3/31/2022			
3	Ownership of STP (Please note that if the ownership of the STP is not with ULB, Please make sure to furnish all the data from relevant department)				
4	Design Capaity of STP	4.1		MLD	
4.1	Present Design Capacity	4.1		MLD	
4.2	Intermidiate Design Capacity	4.1		MLD	
4.3	Ultimate Design Capacity	4.1		MLD	
5	Capacity Utilisation (Please Attach SCADA report (Last 3 months report) as supporting, If No then attach details of measurement with sign and stamp of concern authority)	2		MLD	
6	O&M Carried Out By (Agency or ULB)	Krishna Construction Co Ahmedabad			
7	Plant Functioning Timings (no of hours)	20			
8	Type of STP - Please Mention Process of Sewage Treatment (i) ASP - Activated sludge process (ii) TF - Trickling filter (iii) AL - Aerated lagoon (iv) UASB - Upflow anaerobic sludge blanket (v) OP - Oxidation pond/waste stabilization ponds (vi) EA - Extended Aeration (vii) SBR – Sequential Batch Reactor (viii) MBR – Membrane Bio Reactor (ix) MBBR – Moving Bed Bio Reactor	SBR – Sequential Batch Reactor			
9	Influent Wastewater Charachterstics	Observation	Test Dates		
i	pH	7.38	6/6/2024		
ii	BoD_5 @ 20° C	105.2	6/6/2024	mg/L	
iii	CoD	236.7	6/6/2024	mg/L	
iv	TSS	421.9	6/6/2024	mg/L	
v	TKN	18.96	6/6/2024	mg/L	
vi	Total Phosphorous	10.23	6/6/2024	mg/L	
vii	Total Coliform	10^7-10^8	6/6/2024	MPN/100 ml	
10	Point of treated water Disposal	irrigation			
11	Bypass arrangements at STP, if any	yes			
12	Method of Sludge Disposal & Status	ntrifuge& used for agricultural land as manu			
13	Volume of Industial Waste being mixed, if any	no			

14	Treated Sewage Quality @ Outlet of Chlorine Contact Tank	Observation	Test Dates		
i	pH	7.12	6/6/2024		6.5 to 9
ii	BoD_5 @ 20° C	5.32	6/6/2024	mg/L	Less than 10
iii	CoD	17.09	6/6/2024	mg/L	Less than 50
iv	TSS	9.95	6/6/2024	mg/L	Less than 10
v	NH_4-N	2.098	6/6/2024	mg/L	Less than 5
vi	N-Total	3.73	6/6/2024	mg/L	Less than 10
vii	Total Phosphorus (PO_4-P)	1.123	6/6/2024	mg/L	Less than 2
viii	Total Coliform	218	6/6/2024	MPN/100 ml	20% of TC
ix	Fecal Coliform	85	6/6/2024	MPN/100 ml	Less than 100
x	Total Residual Chlorine	0.96	6/6/2024	mg/L	1
15	Status of Miantainance of Log Book	Update weekly			
	- Updated Frequency				
	- Data availablity Period				
16	Availablity of Lab Facility (if Yes, provide last 3 months results of testing of treated waste water performed duly signed by competent authorities)	yes			
17	Name and Designation of the person carrying out lab tests	chemist- vishal patel			
18	Provide lab testing data of last three months				
19	If lab facility is not avaliable in-house, Provide last 3 months results of Testing of Treated Waste Water performed at any private lab/GERI				
20	If no testing is being conducted please provide justification for the same				
21	Any additional comments about the working of STP				

ચીફ ઓફીસર
વિજાપુર નગરપાલિકા

Checklist for Monitoring of Performance of Sewage Treatment Plants

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Date:	29-06-2024	Name and Designation:	Mr. D.V.Dobariya - In Charge Chief Officer
RCM Zone	RAJKOT	ULB/MC	Morbi

Sr No	Details	Observation		Units	Max Limits
1	Name/Location of STP	Mahendra nagar chowk (STP-2, 9.3 MLD, Morbi-2)			
2	Year of Commissioning of STP	2021			
3	Ownership of STP (Please note that if the ownership of the STP is not with ULB, Please make sure to furnish all the data from relevant department)	GWSSB			
4	Design Capaity of STP	9.3 MLD		MLD	
4.1	Present Design Capacity	9.3 MLD		MLD	
4.2	Intermidiate Design Capacity	9.3 MLD		MLD	
4.3	Ultimate Design Capacity	9.3 MLD		MLD	
5	Capacity Utilisation (Please Attach SCADA report (Last 3 months report) as supporting, If No then attach details of measurement with sign and stamp of concern authority)	6.3		MLD	
6	O&M Carried Out By (Agency or ULB)	Krishna Construction pvt.ltd.			
7	Plant Functioning Timings (no of hours)	24		Day	
8	Type of STP - Please Mention Process of Sewage Treatment (i) ASP - Activated sludge process (ii) TF - Trickling filter (iii) AL - Aerated lagoon (iv) UASB - Upflow anaerobic sludge blanket (v) OP - Oxidation pond/waste stabilization ponds (vi) EA - Extended Aeration (vii) SBR – Sequential Batch Reactor (viii) MBR – Membrane Bio Reactor (ix) MBBR – Moving Bed Bio Reactor	SBR			
9	Influent Wastewater Charachterstics	**Observation**	**Test Dates**		
i	pH	8.12	17-06-2024		
ii	BoD5 @ 20o C	212.04	17-06-2024	mg/L	
iii	CoD	680.24	17-06-2024	mg/L	
iv	TSS	303.52	17-06-2024	mg/L	
v	TKN	57.13	17-06-2024	mg/L	
vi	Total Phosphorous	8.87	17-06-2024	mg/L	
vii	Total Coliform	720	17-06-2024	MPN/100 ml	
10	Point of treated water Disposal - River - Lake - Irrigation - Land and Disposal - Please mention if any other	Lake			
11	Bypass arrangements at STP, if any	No			

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12	Method of Sludge Disposal & Status	Horticulture activities			
13	Volume of Industial Waste being mixed, if any	No			
14	Treated Sewage Quality @ Outlet of Chlorine Contact Tank	**Observation**	**Test Dates**		
i	pH	8.35	17-06-2024		6.5 to 9
ii	BoD5 @ 20o C	8.31	17-06-2024	mg/L	Less than 10
iii	CoD	43.18	17-06-2024	mg/L	Less than 50
iv	TSS	7.1	17-06-2024	mg/L	Less than 10
v	NH4-N	-	17-06-2024	mg/L	Less than 5
vi	N-Total	8.14	17-06-2024	mg/L	Less than 10
vii	Total Phosphorus (PO4-P)	8.87	17-06-2024	mg/L	Less than 2
viii	Total Coliform	-	17-06-2024	MPN/100 ml	20% of TC
ix	Fecal Coliform	55	17-06-2024	MPN/100 ml	Less than 100
x	Total Residual Chlorine	0.76	17-06-2024	mg/L	1
15	Status of Miantainance of Log Book				
	- Updated Frequency	Daily basis			
	- Data availablity Period	Daily basis			
16	Availablity of Lab Facility (if Yes, provide last 3 months results of testing of treated waste water performed duly signed by competent authorities)	Yes			
17	Name and Designation of the person carrying out lab tests	Mr. Vipul Sindhav - Junior Manager			
18	Provide lab testing data of last three months				
19	If lab facility is not avaliable in-house, Provide last 3 months results of Testing of Treated Waste Water performed at any private lab/GERI				
20	If no testing is being conducted please provide justification for the same				
21	Any additional comments about the working of STP				

MORBI MUNICIPALITY MORBI

Chief Officer,
Morbi Municipality

9.30 MLD STP at Morbi-2

ent : GWSSB, Morbi

ntractor: M/s Krishna Costruction, Ahmedabad

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Incoming Flow Register

Date	Flow Start Time (Hr:Min)	Flow Stop Time (Hr:Min)	Total Inflow Hours (Hr:Min)	Total Flow (Cum)	SBR No. (1 / 2 / 1 & 2)	pH	BOD	COD	TSS
01-05-2024	8:05 AM	11:45 AM	3:40	3888.00	1	7.37	214.04	679.74	301.04
	4:16 PM	6:37 PM	2:21	2970.00	2	7.38	214.05	679.74	301.04
Total			6:01	6858.00					
MLD				6.86					
02-05-2024	8:30 AM	11:59 AM	3:29	4390.00	1	7.40	216.06	678.72	303.06
	2:10 PM	5:05 PM	2:55	3371.00	2	7.43	218.10	679.70	305.09
Total			6:24	7761.00					
MLD				7.76					
03-05-2024	8:43 AM	12:18 PM	3:35	4240.00	1	7.38	215.05	680.75	302.05
	2:35 PM	4:30 PM	1:55	4011.00	2	7.40	215.21	680.67	305.01
Total			5:30	8251.00					
MLD				8.25					
04-05-2024	7:52 AM	11:43 AM	3:51	3570.00	1	7.37	214.04	679.74	301.04
	3:50 PM	5:05 PM	1:15	3159.00	2	7.40	214.09	678.70	301.06
Total			5:06	6729.00					
MLD				6.73					
05-05-2024	8:59 AM	11:26 AM	2:27	3805.00	1	7.14	201.06	525.09	329.08
	2:20 PM	4:38 PM	2:18	4083.00	2	7.20	201.11	525.21	329.12
Total			4:45	7888.00					
MLD				7.89					
06-05-2024	7:45 AM	11:32 AM	3:47	3830.00	1	7.38	195.08	525.09	302.04
	2:35 PM	5:05 PM	2:30	4109.00	2	7.34	195.10	525.20	305.09
Total			6:17	7939.00					
MLD				7.94					
07-05-2024	8:10 AM	11:20 AM	3:10	4520.00	1	7.01	216.09	428.08	368.09
	3:46 PM	6:46 PM	3:00	2516.00	2	7.17	216.20	428.16	316.04
Total			6:10	7036.00					
MLD				7.04					
08-05-2024	8:03 AM	11:14 AM	3:11	3720.00	1	7.19	208.04	530.04	336.05
	4:03 PM	6:26 PM	2:23	3448.00	2	7.18	208.05	530.04	336.05
Total			5:34	7168.00					
MLD				7.17					
09-05-2024	8:10 AM	11:38 AM	3:28	3565.00	1	7.21	211.02	533.01	340.02
	2:02 PM	5:10 PM	3:08	3495.00	2	7.35	210.08	533.18	341.06
Total			6:36	7060.00					
MLD				7.06					
10-05-2024	9:22 AM	12:40 PM	3:18	4058.00	1	7.23	213.08	536.09	344.05
			0:00	0.00	2	0.00	0.00	0.00	0.00
Total			3:18	4058.00					
MLD				4.06					
11-05-2024	8:00 AM	11:00 AM	3:00	3430.00	1	7.30	215.09	540.04	310.05
	3:54 PM	6:12 PM	2:18	3014.00	2	7.25	230.16	520.01	350.04
Total			5:18	6444.00					
MLD				6.44					
12-05-2024	9:00 AM	11:10 AM	2:10	3354.00	1	7.40	232.18	550.18	331.14
	3:50 PM	7:09 PM	3:19	3450.00	2	7.37	215.08	525.09	352.05
Total			5:29	6804.00					
MLD				6.80					
13-05-2024	8:05 AM	11:35 AM	3:30	3534.00	1	7.48	236.03	562.18	361.05
	3:23 PM	6:15 PM	2:52	3636.00	2	7.41	218.06	531.09	356.02
Total			6:22	7170.00					
MLD				7.17					
14-05-2024	8:25 AM	11:26 AM	3:01	3078.00	1	7.06	216.09	510.06	368.09
	2:30 PM	5:25 PM	2:55	3260.00	2	7.10	219.12	516.14	370.11
Total			5:56	6338.00					
MLD				6.34					
15-05-2024	7:55 AM	11:35 AM	3:40	3730.00	1	7.12	218.05	516.03	361.07
	3:57 PM	6:55 PM	2:58	3670.00	2	7.19	209.01	508.06	352.14
Total			6:38	7400.00					
MLD				7.40					
16-05-2024	7:55 AM	11:50 AM	3:55	4184.00	1	7.22	240.08	542.14	334.14

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2024	4:18 PM	6:50 PM	2:32	3150.00	2	7.10	220.03	521.06	354.01
Total			6:27	3311.00					
MLD				7.37					
17-05-2024	7:48 AM	11:05 AM	3:17	3225.00	1	7.36	220.04	556.14	358.24
	4:23 PM	6:24 PM	2:01	3818.00	2	7.18	210.02	528.06	361.08
Total			5:18	7043.00					
MLD				7.04					
18-05-2024	8:28 AM	11:40 AM	3:12	3528.00	1	7.50	210.08	565.06	355.04
	4:50 PM	7:00 PM	2:10	3622.00	2	7.24	204.03	535.02	368.03
Total			5:22	7150.00					
MLD				7,15					
19-05-2024	8:27 AM	11:37 AM	3:10	3154.00	1	7.71	209.01	542.18	308.04
	4:46 PM	7:03 PM	2:17	3536.00	2	7.88	220.04	556.08	316.05
Total			5:27	6690.00					
MLD				6.69					
20-05-2024	7:39 AM	10:35 AM	2:56	3502.00	1	7.60	219.14	639.70	321.29
	4:23 PM	6:30 PM	2:07	2928.00	2	7.30	210.00	670.73	300.00
Total			5:03	6430.00					
MLD				6.43					
21-05-2024	9:13 AM	11:25 AM	2:12	3678.00	1	7.37	214.09	675.73	301.12
			0:00	0.00	2	0.00	0.00	0.00	0.00
Total			2:12	3678.00					
MLD				3.68					
22-05-2024	7:53 AM	11:25 AM	3:32	4318.00	1	7.40	217.03	678.70	304.01
	4:16 PM	6:16 PM	2:00	2942.00	2	7.51	221.06	670.31	310.05
Total			5:32	7260.00					
MLD				7.26					
23-05-2024	7:19 AM	11:52 AM	4:33	4160.00	1	7.46	229.09	652.61	315.09
	4:34 PM	6:30 PM	1:56	3128.00	2	7.42	220.03	678.70	307.03
Total			6:29	7288.00					
MLD				7.29					
24-05-2024	7:13 AM	11:17 AM	4:04	3460.00	1	7.62	202.06	435.18	321.04
	4:02 PM	6:00 PM	1:58	2640.00	2	7.46	195.08	428.07	310.07
Total			6:02	6100.00					
MLD				6.10					
25-05-2024	7:22 AM	11:12 AM	3:50	4472.00	1	7.38	199.05	430.07	312.01
	1:50 PM	4:35 PM	2:45	3042.00	2	7.41	199.12	430.18	314.12
Total			6:35	7514.00					
MLD				7.51					
26-05-2024	9:44 AM	11:04 AM	1:20	3234.00	1	7.76	209.16	460.17	327.15
	4:35 PM	6:31 PM	1:56	2632.00	2	7.39	205.08	432.08	314.07
Total			3:16	5866.00					
MLD				5.87					
27-05-2024	7:23 AM	10:26 AM	3:03	3236.00	1	7.45	210.04	435.01	316.06
	4:10 PM	6:45 PM	2:35	2660.00	2	7.49	206.02	521.02	311.01
Total			5:38	5896.00					
MLD				5,90					
28-05-2024	8:33 AM	11:58 AM	3:25	4514.00	1	7.59	214.01	438.09	318.04
			0:00	0.00	2	0.00	0.00	0.00	0.00
Total			3:25	4514.00					
MLD				4.51					
29-05-2024	7:58 AM	11:07 AM	3:09	3770.00	1	7.81	220.04	559.07	316.04
	2:49 PM	4:58 PM	2:09	2760.00	2	7.89	235.06	556.08	321.08
Total			5:18	6530.00					
MLD				6.53					
30-05-2024	8:25 AM	11:35 AM	3:10	4626.00	1	7.01	216.09	510.06	368.09
	2:45 PM	5:20 PM	2:35	4110.00	2	7.06	221.15	514.17	370.19
Total			5:45	8736.00					
MLD				8.74					
31-05-2024	9:05 AM	12:14 PM	3:09	4072.00	1	7.44	199.01	430.20	305.07
	3:35 PM	6:03 PM	2:28	3712.00	2	7.38	195.07	428.08	302.04
Total			5:37	7784.00					
MLD				7.78					

Note: Please enter time in 24 Hrs format

Total of this Month		168:50	210717.00					
Avg. MLD			6.80					

MORBI MUNICIPALITY MORBI

Chief Officer,
Morbi Municipality

2818

excel enviro tech

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Web : www.excelenviro.com
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Off. Ashram Road, Ahmedabad - 380009.

TEST REPORT

FORMAT NO.	F/LID/57
REPORT DATE	17/06/2024
REPORT NO.	EET/2024

Customer's Name and Address
M/S. Krishna Construction Co.
A/905, Empire Business Hub, Opp. Shakti Arcade, Science City Road, Sola, Ahmedabad-380060.

Description of sample	**Waste Water (9.3 MLD-Morbi)**	Lab ID Code	**WE/10/754- STP Inlet WE/10/755- STP Outlet**
Date of sampling	11/06/2024	Sampling time	--
		Sampling method	--
Sample collected by	Client	Packing/seal	Satisfactory
Quantity and no. of sample/s	2 ltr in plastic carboys (2 Nos.)	Date of starting of test	12/06/2024
		Date of completion of test	17/06/2024

RESULT TABLE

Sr	Parameter	Unit	Test method	Result		GPCB Norms
				STP Inlet 9.3 MLD	STP Outlet 9.3 MLD	
1	pH	mg/L	IS 3025 (part-11) – 1983/ Reaffirmed 2017	8.12	8.35	6.5-9.0
2	Total Suspended Solids	mg/L	IS 3025 (part-17) 1984/ Reaffirmed 2017	303.52	7.1	Less Than 10.0
3	Chemical Oxygen Demand	mg/L	IS 3025 (part-58)- 2006/ Reaffirmed 2017	680.24	43.18	Less Than 50.0
4	Biochemical Oxygen Demand (3 day 27^0C)	mg/L	IS 3025 (part-44) -1993/ Reaffirmed 2019	212.04	8.31	Less Than 10.0
5	Residual Free Chlorine	mg/L	IS 3025 (part-26) -1986/ Reaffirmed 2019	Nil	0.76	1.0
6	Ammonica Nitrogen	mg/L	IS 3025 (part-34) -1988/ Reaffirmed 2019	32.59	3.47	Less Than 5.0
7	Total Nitrogen	mg/L	APHA 23rd Edition 2017 4500- N B	57.13	8.14	Less than 10.0
8	Total Phosphate	mg/L	IS 3025 (part-31) -1988/ Reaffirmed 2019	8.87	1.78	Less than 2.0
9	Fecal Coliform	MPN/ 100ml	IS 1622:1981/ Reaffirmed 2019	720	55	Less than 100

B.J.2
Analyzed By

H. Testani
Authorized Signatory

Source of Prescribed Norms: GPCB Norms | Field re

MORBI MUNICIPALITY MORBI

Checklist for Monitoring of Performance of Sewage Treatment Plants (STPs)

Sr No	Details	Observation	Units	Max Limits
1	Name/Location of STP	Mandvi, district-Surat.		
2	Year of Commissioning of STP	2022		
3	Design Capaity of STP	3.5	MLD	
4	Actual Treatment	2.00	MLD	
5	Type of STP - Please Mention Process of Sewage Treatment (i) ASP - Activated sludge process (ii) TF - Trickling filter (iii) AL - Aerated lagoon (iv) UASB - Upflow anaerobic sludge blanket (v) OP - Oxidation pond/waste stabilization ponds (vi) EA - Extended Aeration (vii) SBR – Sequential Batch Reactor (viii) MBR – Membrane Bio Reactor (ix) MBBR – Moving Bed Bio Reactor	SBR – Sequential Batch Reactor		
6	Influent Wastewater Charachterstics			
i	pH	7.2		
ii	BoD_5 @ 20°C	198	mg/L	
iii	CoD	360	mg/L	
iv	TSS	315	mg/L	
v	TKN	29	mg/L	
vi	Total Phosphorous	1.45	mg/L	
7	Point of treated water Disposal - River - Lake - Irrigation - Land and Disposal - Please mention if any other	River		
8	Bypass arrangements at STP, if any	Yes		
9	Method of Sludge Disposal & Status			
10	Volume of Industial Waste being mixed, if any	Not Applicable		
11	Treated Sewage Quality @ Outlet of Chlorine Contact Tank			
i	pH	7.7		6.5 to 9
ii	BoD_5 @ 20°C	8.1	mg/L	Less than 10
iii	CoD	32	mg/L	Less than 50
iv	TSS	6.89	mg/L	Less than 10
v	NH_4-N	1.5	mg/L	Less than 5
vi	N-Total	7.5	mg/L	Less than 10
vii	Total Phosphorus (PO_4-P)	0.8	mg/L	Less than 2
viii	Fecal Coliform	BDL	MPN/100 ml	Less than 100
ix	Total Residual Chlorine	BDL	mg/L	1
12	Status of Miantainance of Log Book			
	- Updated Frequency			
	- Data availablity Period			
13	Availablity of Lab Facility	Yes		

Chief Officer
Mandvi Nagarpalika,
Dist. Surat.

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Enviro Control LLP
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Website: www.cometconserve.com

Ref No.: RJT/SEW/APRIL/2024-25/64 **Date: 09/04/2024**

REPORT OF WATER ANALYSIS

Name of Company : Madhapar STP (80 MLD)

Source of Sample : STP Inlet

Sr. No.	Parameters	Unit	Result
1	Date Of Sampling	-----	03/04/2024
2	pH	pH Units	7.00
3	Suspended Solids	mg/L	350
4	Chemical Oxygen Demand	mg/L	448
5	Biochemical Oxygen Demand @ 20 C	mg/L	142
6	TKN	mg/l	28
7	Total Coliform	MPN/100 ml	368
8	Total Phosphorus	mg/L	3.2

Reference Standard Methods for the Examination of Water & Waste Water - Prepared & Published jointly by American Public Health Association., American Water Works Association & Water Env. Federation (23rd Edition - 2017)

CCS Enviro Control LLP

CCS ENVIRO CONTROL LLP * RAJKOT *

Analyst

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Website: www.cometconserve.com

Ref No.: RJT/SEW/APRIL/2024-25/65 **Date: 09/04/2024**

REPORT OF WATER ANALYSIS

Name of Company : Madhapar STP (80 MLD)

Source of Sample : STP Outlet

Sr. No.	Parameters	Unit	Permissible Limit	Result
1	Date Of Sampling	-----	-----	03/04/2024
2	pH	pH Units	6.5 - 7.5	7.36
3	Suspended Solids	mg/L	10	07
4	Chemical Oxygen Demand	mg/L	50	28
5	Biochemical Oxygen Demand @ 20 C	mg/L	10	08
6	Ammonical Nitrogen	mg/l	10	4.9
7	Total Nitogen	mg/l	10	5.8
8	Total Phosphorus	mg/L	02	0.7
9.	Fecal Coliform	MPN/100 ml	230MPN/100ml	48
10	Total Coliform	MPN/100 ml	230MPN/100ml	56
11	Residual Chlorine	mg/L	0.5 – 1.0	0.6

Reference Standard Methods for the Examination of Water & Waste Water - Prepared & Published jointly by American Public Health Association., American Water Works Association & Water Env. Federation (23rd Edition - 2017)

CCS ENVIRO CONTROL LLP * RAJKOT *

CCS Enviro Control LLP **Analyst**

2822

SURAT MUNICIPAL CORPORATION

DRAINAGE DEPARTMENT

255 MLD SINGANPORE SEWAGE TREATMENT PLANT

O&M CONTRACTOR: GHARPURE ENGINEERING & CONSTRUCTION PVT LTD

MONTH : FRBRUARY-2024.

SHEET G SEWAGE PERAMETER

Statement showing the rsults of RAW sewage & Treated sewage :

DATE	RAW SEWAGE PARAMETERS						FINAL TREATED SEWAGE PARAMETERS						
	TEMP	PH	TDS	TSS	COD	BOD	TEMP	PH	TDS	TSS	COD	BOD	FECAL COLIFORM
	(^{0}C)	UNIT	PPM	(mg/l)	(mg/l)	(mg/l)	(0C)	UNIT	PPM	(mg/l)	(mg/l)	(mg/l)	MPN/100 ML
01-02-2024	28.60	7.18	755.00	104.00	446.88	157.80	29.10	7.30	720.00	4.00	39.20	4.20	46.00
02-02-2024	28.90	7.08	839.00	316.00	497.84	196.40	28.90	7.30	797.00	4.00	47.04	2.00	42.00
03-02-2024	30.30	7.10	786.00	226.00	537.68	156.80	30.20	7.35	773.00	2.00	48.88	2.60	44.00
04-02-2024	28.50	7.01	816.00	220.00	356.12	168.80	28.00	7.40	721.00	4.60	32.00	3.80	46.00
05-02-2024	26.30	7.02	760.00	230.00	485.04	174.50	26.50	7.32	730.00	4.00	45.12	2.60	40.00
06-02-2024	23.30	7.21	969.00	226.00	500.08	156.00	23.60	7.32	701.00	2.00	33.84	3.00	38.00
07-02-2024	24.20	7.13	925.00	272.00	552.72	187.40	24.00	7.26	777.00	4.00	22.56	3.10	32.00
08-02-2024	26.30	7.12	795.00	250.00	492.56	168.30	26.40	7.36	815.00	4.00	15.04	3.20	46.00
09-02-2024	26.90	7.18	755.00	314.00	529.92	210.40	26.80	7.35	720.00	4.60	30.72	4.30	42.00
10-02-2024	26.20	7.02	765.00	316.00	447.44	183.90	26.30	7.32	720.00	4.20	11.28	3.70	46.00
11-02-2024	25.80	7.00	980.00	308.00	400.00	145.90	26.20	7.45	708.00	4.80	16.00	4.70	48.00
12-02-2024	26.30	7.12	795.00	318.00	473.76	154.80	26.40	7.36	815.00	4.00	48.88	3.90	42.00
13-02-2024	26.30	7.12	780.00	258.00	439.92	187.20	26.40	7.35	820.00	4.00	22.40	3.80	52.00
14-02-2024	24.20	7.13	925.00	272.00	624.16	164.40	24.00	7.26	777.00	4.60	15.04	4.20	54.00
15-02-2024	24.40	7.03	945.00	276.00	612.88	210.40	24.60	7.20	787.00	4.00	37.60	4.00	42.00
16-02-2024	25.90	6.93	657.00	204.00	454.96	162.40	26.00	7.11	732.00	5.00	22.40	2.10	36.00
17-02-2024	24.60	7.02	842.00	220.00	432.40	178.30	24.40	7.30	729.00	4.60	18.80	4.60	48.00
18-02-2024	25.50	6.90	896.00	210.00	400.00	158.30	25.50	7.38	688.00	4.80	24.00	4.20	54.00
19-02-2024	26.00	6.98	681.00	269.00	443.68	140.60	26.30	7.20	639.00	4.00	37.60	4.80	54.00
20-02-2024	27.20	6.83	688.00	144.00	436.16	138.40	27.50	7.15	650.00	5.00	48.88	4.40	56.00
21-02-2024	27.00	7.11	782.00	184.00	398.50	176.00	27.50	7.44	640.00	4.60	46.40	4.20	58.00
22-02-2024	26.90	7.09	815.00	213.00	413.60	170.00	26.70	7.53	705.00	4.80	48.88	4.00	46.00
23-02-2024	26.80	6.95	942.00	244.00	436.16	217.60	26.50	7.25	810.00	4.00	37.60	3.90	48.00
24-02-2024	26.20	6.89	842.00	212.00	424.80	201.80	26.50	7.32	770.00	5.01	26.32	4.50	44.00
25-02-2024	26.30	7.18	928.00	200.00	416.00	156.80	26.30	7.42	630.00	4.00	40.00	4.20	46.00
26-02-2024	27.20	7.03	932.00	278.00	406.80	173.70	27.00	7.39	786.00	4.00	18.80	4.10	50.00
27-02-2024	27.80	6.90	940.00	268.00	454.96	164.60	27.80	7.25	835.00	4.50	45.12	4.00	48.00
28-02-2024	27.80	7.05	920.00	242.00	500.00	163.80	28.00	7.25	789.00	5.00	36.00	4.30	46.00
29-02-2024	28.00	6.78	1039.00	264.00	568.00	159.40	28.10	7.49	816.00	4.00	28.00	4.00	40.00
AVERAGE	**26.54**	**7.04**	**844.62**	**243.38**	**468.38**	**171.89**	**26.60**	**7.32**	**744.83**	**4.21**	**32.57**	**3.81**	**46.00**
MINIMUM	**23.30**	**6.78**	**657.00**	**104.00**	**356.12**	**138.40**	**23.60**	**7.11**	**630.00**	**2.00**	**11.28**	**2.00**	**32.00**
MAXIMUM	**30.30**	**7.21**	**1039.00**	**318.00**	**624.16**	**217.60**	**30.20**	**7.53**	**835.00**	**5.01**	**48.88**	**4.80**	**58.00**
GPCB VISIT													
GECPL													
08.02.2024	26.30	7.12	795.00	250.00	492.56	168.30	26.40	7.36	815.00	4.00	15.04	3.20	46.00
CPCB VISIT													
SMC LAB													

LABORATORY CHEMIST
GECPL

SUPERVISOR
GECPL

PLANT INCHARGE
GECPL

Executive Engineer
Surat Municipal Corporation

50 MLD CHHANI NEW SEWAGE TREATMENT PLANT - VADODARA

July 2024

DATE	RAW SEWAGE WATER								TREATED SEWAGE AFTER TERTIARY TREATMENT (FINAL OUTLET)												
	INLET FLOW (MLD)	PH (6.5 - 7.5)	T.S.S (288 mg/lit.)	B.O.D (218 mg/lit.)	C.O.D (480 mg/lit.)	TKN (35 mg/lit.)	TP (8 mg/lit.)	FecalColi Forms (2 X 10^7 MPN/100 ml)	OUTLET FLOW (MLD)	PH (7.0 - 8.5)	T.S.S (< 10 mg/lit.)	BOD (< 10 mg/lit.)	COD (<50 mg/lit.)	TKN (< 10 mg/lit.)	TP (<2 mg/lit.)	FecalColi Forms (<100 MPN / 100 ml.)	FRC (0.5 mg/lit.)	TREATED REUSE WATER (LITRE)	SOLID WASTE (TONNE)	GRIT WASTE (TONNE)	SLUDGE GENRATED (TONNE)	KWH DIFFRENCE
01/07/2024	39.71	7.25	180	170	296	12.88	2.30		38.90	7.38	5	3	36	1.12	0.40		0.30					321315.00
02/07/2024	39.95	7.30	196	170	260	12.32	2.40		40.27	7.40	5.0	2	32	1.68	0.30		0.30				11.70	321810.00
03/07/2024	41.09	7.29	192	179	288	11.76	2.20		38.26	7.42	4.0	3	36	1.68	0.30		0.20					322301.00
04/07/2024	33.53	7.21	204	173	260	13.44	2.50		36.85	7.37	5.0	4	40	1.12	0.40		0.30					322793.00
05/07/2024	41.63	7.30	194	166	240	12.32	2.40		36.61	7.42	5.0	3	40	1.12	0.30		0.40			3.90		323090.00
06/07/2024	37.93	7.28	210	173	248	12.88	2.20		40.72	7.40	6.0	4	28	1.68	0.40		0.30					323560.00
07/07/2024	37.06	7.32	216	176	268	12.88	2.30		36.74	7.45	5.0	5	32	2.24	0.30		0.40		1.50			324050.00
08/07/2024	36.77	7.27	196	166	256	13.44	2.40		36.90	7.38	6.0	4	36	2.80	0.20		0.20					324552.00
09/07/2024	36.30	7.25	192	170	296	12.32	2.20		33.28	7.45	5.0	4	38	2.24	0.30		0.30				3.90	325026.00
10/07/2024	39.87	7.35	204	173	240	13.44	2.40		35.35	7.50	6.0	2	44	3.36	0.40		0.40					325522.00
11/07/2024	36.67	7.32	240	176	228	12.32	2.30		27.53	7.47	5.0	3	40	2.24	0.20		0.20					326022.00
12/07/2024	32.12	7.35	20	170	240	13.44	2.40		25.60	7.50	6.0	4	40	2.80	0.30		0.30			3.90		326494.00
13/07/2024	26.78	7.25	180	173	296	12.88	2.30		31.18	7.40	5.0	3	32	1.68	0.30		0.20					327029.00
14/07/2024	30.87	7.30	196	176	260	12.32	2.40		33.34	7.42	4.0	4	36	1.68	0.40		0.40					327555.00
15/07/2024	30.46	7.29	192	170	288	11.76	2.30		27.91	7.37	5.0	5	40	2.24	0.20		0.20					328051.00
16/07/2024	28.12	7.30	204	173	288	12.32	1.68	>10^7	29.49	7.40	6.0	4	40	1.68	0.40	<10^2	0.30				3.90	328508.00
17/07/2024	28.91	7.34	210	166	240	12.88	2.40		29.93	7.41	4.0	4	32	2.24	0.50		0.40		1.50			328958.00
18/07/2024	28.02	7.27	194	173	208	13.44	2.30		26.08	7.36	3.0	3	28	2.80	0.30		0.30					329434.00
19/07/2024	27.12	7.30	196	176	260	15.12	2.20		28.47	7.42	6	4	36	3.92	0.20		0.40			3.90		329770.00
20/07/2024	26.05	7.25	186	173	300	15.68	2.50		28.21	7.38	5.0	5	40	4.48	0.40		0.30					330041.00
21/07/2024	32.22	7.32	186	170	300	16	2.50		30.32	7.45	6.0	4	32	2.24	0.50		0.30					330450.00
22/07/2024	33.64	7.27	188	176	244	13.44	2.40		30.87	7.40	4.0	5	40	1.68	0.30		0.30					330889.00
23/07/2024	33.75	7.30	200	180	268	12.88	2.50		33.56	7.42	5.0	5	28	2.24	0.40		0.20					331350.00
24/07/2024	33.31	7.27	184	183	236	14.00	2.50		34.80	7.40	5.0	4	36	2.80	0.50		0.20					331813.00
25/07/2024	37.29	7.35	240	186	320	14.56	2.60		36.15	7.50	7.0	6	44	3.36	0.30		0.40					332330.00
26/07/2024	37.44	7.30	200	180	280	13.44	3.80		37.25	7.45	5.0	5	40	2.24	0.40		0.30			3.90		332807.00
27/07/2024	34.57	7.33	210	170	228	12.32	4.00		37.36	7.48	5.0	4	40	2.24	0.50		0.40					333231.00
28/07/2024	31.61	7.30	234	176	300	11.76	4.1		28.18	7.40	5.0	5	32	1.68	0.40		0.40		1.50			333681.00
29/07/2024	31.70	7.25	196	173	256	13.44	3.92		33.43	7.38	6.0	6	36	2.80	0.30		0.20				7.80	334141.00
30/07/2024	39.31	7.28	200	180	310	12.88	4		37.91	7.50	4.0	5	40	2.80	0.40		0.30					334668.00
31/07/2024	34.57	7.30	224		300	12.32	4.50		34.18	7.45	3.0		44	2.28	0.50		0.40					335183.00
AVG	34.14	7.29	196	174	268	13.11	2.67		33.41	7.42	5.0	4	37	2.30	0.35		0.3		1.50	3.90	6.83	328271.0
MIN	26.05	7.21	20	166	208	11.76	1.68		25.60	7.36	3.0	2	28	1.12	0.20		0.2		1.50	3.90	3.90	321315.00
MAX	41.63	7.35	240	186	320	15.68	4.50		40.72	7.50	7.0	6	44	4.48	0.50		0.4		1.50	3.90	11.70	335183.00
TOTAL	1058.37	-	-	-	-	-	-		1035.63	-	-	-	-	-	11.00		-		4.50	15.60	27.30	10176402.00

2023

Executive Engineer
Ele.-Mech. Dept.
Sewage D. Works
Vadodara Municipal Corporation

2824

Rajkamal Builders & Infrastructure Pvt. Ltd. 50 MLD STP, Bhavnagar	
Daily Laboratory Analysis Record	
Treated Flow - 42.69 MLD	Date - 01/08/24
Raw Sewage Flow - 49.19 MLD	

Raw Sewage Characteristics		
Parameters	Value as per Tender	Actual Measured Value
Biological Oxygen Demand (BOD) mg/l	300	-
Chemical Oxygen Demand (COD) mg/l	600	368
Total Suspended Solid (TSS) mg/l	350	240
PH	6.5 - 7.5	7.10
Total Kjeldahl Nitrogen (As N) in mg/l	40	18.48
Phosporous in mg/l	8.0 - 10.0	3.14
Fecal Coliforms MPN/100ml	2 x 10^7	107

Treated Sewage Characteristics		
Parameters	Value as per Tender	Actual Measured Value
Biological Oxygen Demand (BOD) mg/l	< 10	—
Chemical Oxygen Demand (COD) mg/l	< 50	24
Total Suspended Solid (TSS) mg/l	< 10	03
PH	6.5 - 9.0	7.21
Total Nitrogen (As N) in mg/l	< 10	6.72
Phosporous in mg/l	< 2	1.02
Fecal Coliforms MPN/100ml	< 10^2	10^2
Residual Chlorine mg/l	0.5	0.5

BOD Result after incubation for 72 Hrs. at 27 Temp.		Sample date: 29/07/24
Parameters	Value upto as per Tender	Actual Measured value
Inlet B.O.D.	300	123
Outlet B.O.D	<10	08

Lab. Chemist

Plant Incharge

2825

Annexure 2

#	Municipal Corporations	Total STPs	STPs Required for Treatment Process Upgradation	Remarks/ Issues
1	Ahmedabad	18	7	Work in progress
2	Surat	11	1	Work in progress
3	Vadodara	13	2	Estimate under preparation
4	Rajkot	7	1	Estimate Stage
5	Bhavnagar	4	1	30 MLD to 45 MLD STP Upgradation, DTP preparation
6	Jamnagar	1	0	-
7	Junagarh	4	0	-
8	Gandhinagar	4	1	Consultant appointed to analyse the steps to improve the quality parameters
		62	**13**	

2826

Subject	Compliance to NGT Order (Municipal Solid Waste Section)
Reference	NGT Order (O.A. 606/2018) (I.A. No. 163/2021)

Section: Solid Waste Management

1. Out of total 10,317 TPD of waste generation, 8872 TPD is processed with existence of 1445 TPD of gap. ***We do not find details/breakup of waste processing plants in operation and their nature (composting waste to energy, RDF, etc.).*** On interaction, it was stated that Municipalities are having old plants, and these will be upgraded. ***Further, channelization of product like compost, Biogas and other residues/reject has not been disclosed.***

Response

Sr.	Type of Waste	Total Waste Generation (TPD)			Total Waste Processed (TPD)			GAP (TPD)		
		MC	NPs	Total	MC	NPs	Total	MC	NPs	Total
1	Wet Waste	3,963	1,353	5,316	3,906	661	4,567	57	692	749
2	Dry Waste	3,557	1,444	5,001	3,527	778	4,305	30	666	696
Total Waste		**7,520**	**2,797**	**10,317**	**7,433**	**1,439**	**8,872**	**87**	**1,358**	**1,445**
Note: Units are in TPD (Tonnes Per Day)										
ULB wise detail status on waste generation, waste processed and gap in processing is annexed (Annexure 1)										
In total, there is a processing gap of 1,445 TPD, while this gap exists for 8 Municipal Corporations, it is significantly larger in 157 Nagarpalikas, amounting to 1,358 TPD. Remaining 87 TPD of gap exists in Junagadh Municipal Corporation.										

Breakup of type of operational waste processing plants

Sr No	Operational waste processing Plant Name	Capacity (MT)	
		MC	NPs
1	Waste to Composting Plant	3,401	661
2	Material Recovery Facilities (Dry waste processing) plant	2,027	778
3	Bio-methanation plant	435.56	-
4	Refuse Derived Fuel plant	2,850	-
5	Waste to Energy plant	600	-
	Total	**9,313.56**	**1,439**

Further, channelization of product like compost, Biogas and other residues/reject has not been disclosed.

The state has implemented a comprehensive and structured waste management system aimed at ensuring efficient processing and utilization of various waste materials. This system involves the segregation of waste into distinct categories, including inert materials, Refuse-Derived Fuel (RDF),

compost/soil, construction, and demolition (C&D) waste, metal, and other materials. Each of these categories is managed in a way that maximizes resource recovery and minimizes environmental impact.

Additionally, the Municipal Corporations have established bio-methanation plants with a total processing capacity of 435.56 MT, which generate biogas with a capacity of 84.52 cubic meters. The biogas produced is partially utilized by the Municipal Corporations themselves to meet their energy needs, while the remaining portion is supplied to selected agencies such as Reliance, IOCL, and other relevant industries.

The segregated materials are then channelled to specific destinations for appropriate utilization, as outlined below:

Sr No.	Segregated Material	Quantity (MT)	Utilization
1	Inert	87,36,515	Riverfront work, Dholera NHAI, Landfill site, etc
2	RDF	39,55,288	GGEPIL & WTE plant, Cement industries etc
3	Compost/Soil	44,24,487	compost used in farming by farmers, Gardening & Self utilize etc
4	C&D Waste	21,49,909	Low lying area, Paver block work etc
5	Metal	5,335	Sculpture, waste to best, Waste to art statue etc
6	Other	77,643	Self-utilize ULB

Quality of cost and its destined user

- A total of 19,996 MT of compost has been generated across 8 Municipal Corporations, with 11,836 MT sold to various designated users.
- In 157 Nagarpalikas, 3,958.08 MT of compost has been produced and is being utilized for garden maintenance and roadside beautification.

Sr No.	ULB	Total compost generated/ Month (MT)	Total compost sold/ month (MT)	Destined user
1	AMC	5019	3136	Gardening & Agriculture
2	SMC	3823	3073	Gardening, farming, various companies, sold to farmers and used in biogas/Indian oil etc.
3	BMC	4019	1182	Gardening and filling low lying areas
4	VMC	4390	4390	Gardening and filling low lying area
5	RMC	1888	Self utilize ULBs	Gardening & Agriculture
6	GMC	845	43	Gardening and filling low lying area
7	JuMC	12	12	Gardening & Agriculture

2. It has been disclosed that by October 2024, 156 composting plants and 151 Material Recovery Facilities will be operationalized with expectation that the entire gap of 1445 TPD will be removed.

Under the circumstances, ***it should be ensured that end products like compost, Biogas or otherwise as Energy produced and RDF and residues/rejects are properly utilized with defined destinations.***

Response

- The Remaining gap to be remediated by planned **156 waste to compost plants** with capacity of **5559 MT** have been approved under Swachh Bharat Mission 2.0, with a budget allocation **of 650.68 Crores.**
- To address the gap of dry waste processing **151 Material Recovery Facility (MRF)** plants with capacity of **5477 MT** have been sanctioned under SBM 2.0, with a budget of **471.49 crores**.
- The RFP for selection of successful bidder for **construction and 7 years of O&M of processing plants** includes the **responsibility for the proper utilization** of end products.
- The bidder's responsibilities are to ensure that they are directed to predefined, sustainable destinations. This includes converting organic waste into compost, which is to be utilized for agricultural purposes or landscaping and managing biogas production from bio-methanation processes for energy generation, either for internal use or through supply to external agencies like industries or energy companies. Furthermore, the Refuse-Derived Fuel (RDF) produced from non-recyclable waste must be supplied to industries such as cement factories or power plants, where it serves as an alternative fuel source. The bidder is also responsible for ensuring the proper disposal or management of residues and rejects that cannot be processed or utilized, following environmentally sound practices such as disposal in sanitary landfills. This structured approach within the RFP aims to promote a circular economy, minimize environmental impact, and ensure that all recoverable materials from the waste stream are put to optimal use.

Processing plant | Progress Update

- **Composting Plants & MRF plants**
  - A total of 156 composting plants with a combined capacity of 5,559 MT
  - 151 MRFs with a combined capacity of 5,477 MT
  - 32 projects, totalling approximately 2965 MT (Wet – 1814 MT + Dry – 1151 MT) capacity, are currently under construction.
  - The remaining ULBs are in various stages of tendering, with 71 tenders completed, 39 work orders issued, 37 tenders under evaluation, and 25 tenders live.
  - The 23 smaller ULBs with pending waste management projects are currently undergoing a re-tendering process due to the limited capacity of the proposed plants. The state is actively supporting these ULBs by providing continuous assistance to help finalize the selection of

agencies. This collaborative effort aims to ensure that the re-tendering process is completed efficiently and that appropriate agencies are appointed.

End-Product Utilization

As outlined in the successful bidder's contracts, the proper utilization of all end products, including compost, biogas, energy, RDF, and residues/rejects, is a contractual obligation. Nagarpalikas are working closely with the selected bidders to ensure that they adhere to these commitments and develop sustainable utilization plans.

3. Details of legacy waste remediated with gap of 13.92 lakh MT has been disclosed. It is further disclosed that the remaining 13.92 Lakh MT legacy waste is to be remediated in municipalities and 8 Corporations have cleared the sites. However, we find that while disclosing the facts and figures, the gap existing in waste processing which is 1445 TPD has not been accounted. ***Details of such waste accumulated in MCs and municipalities should be disclosed. We further find that stabilized material and the inerts are filled in low lying areas and also in developing river front sites. The next report should include the nature of such waste dumped so that they remain environmentally safe.***

Response

- **Total legacy waste: 253.76 lakh MT remediated** till date. Remaining **1.24 lakh MT** is under process. Below mentioned material segregated and channelized with as per norms.
- Presently, 98% of legacy waste from the **8 corporations and 148 Nagarpalikas** has been successfully remediated. However, remaining below 2%.i.e. **1.24 lakh MT** of legacy waste pending to be remediated in **7 Nagarpalikas**. The timelines for these pending actions are provided for your reference.

Legacy waste reported in NGT: 255 Lakh MT			
Legacy waste remediated: 253.76 Lakh MT			
Legacy waste remediation pending: 1.24 Lakh MT			
Sr No	**ULB Name**	**Pending Legacy Waste (MT)**	**Timeline (100% legacy remediation)**
1	Palanpur	5425	Dec -2024
2	Chansma	1550	Dec -2024
3	Patan	95024	Jan-2025
4	Dhrol	400	Dec -2024
5	Okha	200	Dec -2024
6	Dhrol	3210	Dec -2024
7	Dahod	18500	Jan-2025
	Total	**1,24,309**	

- The reusable materials recovered from the legacy waste sites are being effectively utilized in various ongoing projects, including construction sites, industrial applications, and the filling of low-lying areas. This approach not only supports waste remediation but also promotes the **sustainable use of recovered materials**, reducing the environmental burden. The details of the quantity of material utilized in each of these sectors are provided below for further reference.

Sr No.	Segregated Material	Quantity (MT)	Utilization
1	Inert	87,36,515	Riverfront work, Dholera NHAI, Landfill site, etc
2	RDF	39,55,288	GGEPIL & WTE plant, Cement industries etc
3	Compost/Soil	44,24,487	compost used in farming by farmers, Gardening & Self utilize etc
4	C&D Waste	21,49,909	Low lying area, Paver block work etc
5	Metal	5,335	Sculpture, waste to best, Waste to art statue etc
6	Other	77,643	Self utilize
We have taken significant steps to ensure that the utilization of these materials aligns with environmental regulations and promotes sustainable practices. For instance, the RDF generated is being used in GGEPIL & WTE plants and cement industries, reducing the need for fossil fuels. Similarly, the compost and soil produced are being utilized in agriculture and gardening, improving soil health and reducing reliance on chemical fertilizers. We are committed to further enhancing our waste management practices and exploring innovative solutions for the effective utilization of end products. We believe that by adopting a holistic approach, we can not only address the legacy waste issue but also contribute to a cleaner and greener environment.			

- **Unprocessed waste is accounted as legacy waste and its processing:** To address the processing gap of 1,445 TPD, which amounts to a total of 41,15,823 tonnes of waste, it has been determined that Municipal Corporations are responsible for 14,08,357 tonnes, while Nagarpalikas are accountable for 27,07,466 tonnes. The Regional Commissioners of municipalities of six defined zones have been instructed to remediate this waste. ULBs have already initiated remediation efforts. Additionally, the reverification of accumulated legacy waste is being carried out and if required an additional funds will be allocated.

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Total Waste Generation and Processed Status (Annexure-I)						
Sr N	**District**	**ULB**	**Class of ULBs**	**Total quantity of MSW generated (TPD)**	**Total quantity of MSW processed (TPD)**	**Gap**
1	Ahmedabad	Ahmedabad MC	MC	2491	2491	0.000
2	Rajkot	Rajkot MC	MC	650.100	650.100	0.000
3	Surat	Surat MC	MC	2455.000	2455.000	0.000
4	Vadodara	Vadodara MC	MC	1103.000	1103.000	0.000
5	Bhavnagar	Bhavnagar MC	MC	225.700	225.700	0.000
6	Gandhinagar	Gandhinagar MC	MC	120.050	120.050	0.000
7	Jamnagar	Jamnagar MC	MC	345.000	345.000	0.000
8	Junaghdh	Junagadh MC	MC	130.015	43.000	87.015
9	Ahmedabd	Bareja	D	2.600	0.000	2.600
10	Ahmedabd	Bavla	C	7.100	2.400	4.700
11	Ahmedabd	Dhandhuka	C	10.372	10.372	0.000
12	Ahmedabd	Dholka	B	30.500	4.200	26.300
13	Ahmedabd	Sanand	C	20.200	0.350	19.850
14	Ahmedabd	Viramgam	B	18.500	0.000	18.500
15	Botad	Barvala	D	4.700	2.500	2.200
16	Botad	Botad	A	30.500	1.000	29.500
17	Botad	Gadhada	C	3.100	0.600	2.500
18	Kheda	Chakalasi	C	3.500	0.000	3.500
19	Kheda	Dakor	C	8.001	0.000	8.001
20	Kheda	Kanjari	D	3.000	0.000	3.000
21	Kheda	Kapadwanj	C	15.000	0.200	14.800

22	Kheda	Kathlal	D	5.500	0.000	5.500
23	Kheda	Kheda	C	6.000	2.900	3.100
24	Kheda	Mahemdabad	C	8.500	4.000	4.500
25	Kheda	Mahudha	D	3.500	0.000	3.500
26	Kheda	Nadiad	A	80.000	17.700	62.300
27	Kheda	Thasra	D	2.005	0.000	2.005
28	Surendranagar	Chotila	D	7.000	0.000	7.000
29	Surendranagar	Dhrangadhra	B	9.400	0.000	9.400
30	Surendranagar	Limbdi	C	7.000	0.000	7.000
31	Surendranagar	Patdi	D	7.000	0.000	7.000
32	Surendranagar	Surendranagar	A	67.000	0.000	67.000
33	Surendranagar	Thangadh	C	13.500	0.000	13.500
34	Arvalli	Bayad	D	2.600	0.550	2.050
35	Arvalli	Modasa	B	14.002	0.130	13.872
36	Banaskantha	Bhabhar	d	8.300	5.600	2.700
37	Banaskantha	Deesa	A	48.000	48.000	0.000
38	Banaskantha	Dhanera	c	11.000	11.000	0.000
39	Banaskantha	Palanpur	A	60.000	60.000	0.000
40	Banaskantha	Thara	D	5.000	5.000	0.000
41	Banaskantha	Tharad	C	12.000	12.000	0.000
42	Gandhinagar	Dahegam	C	8.110	0.000	8.110
43	Gandhinagar	Kalol	A	41.000	0.000	41.000
44	Gandhinagar	Mansa	C	15.000	15.000	0.000
45	Mahesana	Kadi	B	15.100	13.100	2.000
46	Mahesana	Kheralu	D	6.000	3.600	2.400

47	Mahesana	Mahesana	A	88.000	33.000	55.000
48	Mahesana	Unja	B	12.100	12.000	0.100
49	Mahesana	Vadnagar	C	8.020	8.020	0.000
50	Mahesana	Vijapur	C	8.020	8.020	0.000
51	Mahesana	Visnagar	B	20.100	15.000	5.100
52	Patan	Chansma	D	5.800	3.100	2.700
53	Patan	Harij	D	6.000	3.500	2.500
54	Patan	Patan	A	44.600	44.600	0.000
55	Patan	Radhanpur	C	12.100	6.600	5.500
56	Patan	Sidhpur	B	9.600	5.100	4.500
57	Sabarkantha	Himmatnagar	B	28.100	20.100	8.000
58	Sabarkantha	Idar	C	10.500	10.500	0.000
59	Sabarkantha	Khedbramha	c	6.600	6.600	0.000
60	Sabarkantha	Prantij	D	6.000	6.000	0.000
61	Sabarkantha	Talod	D	2.000	2.000	0.000
62	Sabarkantha	Vadali	D	5.500	5.500	0.000
63	Rajkot	Gondal	a	29.000	20.000	9.000
64	Rajkot	Jetpur	A	37.450	37.450	0.000
65	Rajkot	Dhoraji	B	33.100	0.000	33.100
66	Rajkot	Upleta	B	24.000	3.000	21.000
67	Rajkot	Jasdan	C	11.995	8.995	3.000
68	Rajkot	Bhayavadar	D	7.100	0.000	7.100
69	Morbi	Morbi	A	90.000	90.000	0.000
70	Morbi	Wankaner	C	11.000	9.500	1.500
71	Morbi	Halvad	C	7.000	3.700	3.300

72	Morbi	Maliya	D	6.000	5.200	0.800
73	Jamnagar	Dhrol	c	9.030	0.000	9.030
74	Jamnagar	Jam-Jodhpur	c	5.001	5.001	0.000
75	Jamnagar	Kalavad	C	9.510	0.000	9.510
76	Jamnagar	Sikka	C	7.000	7.000	0.000
77	Devbhumi Dwarka	OKha	B	26.000	4.000	22.000
78	Devbhumi Dwarka	Dwarka	C	18.030	7.030	11.000
79	Devbhumi Dwarka	Khambhaliya	C	16.100	7.110	8.990
80	Devbhumi Dwarka	Salaya	C	8.000	1.000	7.000
81	Devbhumi Dwarka	Bhanvad	D	7.610	0.000	7.610
82	Devbhumi Dwarka	Jamraval	D	8.250	5.000	3.250
83	Porbandar	Porbandar	A	69.800	34.300	35.500
84	Porbandar	Ranavav	C	6.350	4.500	1.850
85	Porbandar	Kutiyan	D	3.500	2.700	0.800
86	Kutch	Bhuj	A	30.000	20.000	10.000
87	Kutch	Gandhidham	A	120.000	0.000	120.000
88	Kutch	Anjar	B	28.000	6.500	21.500
89	Kutch	Mandvi_k	B	28.000	20.000	8.000
90	Kutch	Bhachau	C	18.500	16.500	2.000
91	Kutch	Rapar	c	9.002	1.500	7.502
92	Kutch	Mundra Baroi	C	10.000	0.000	10.000
93	Kutch	Nakkhtrana	D	8.000	0.000	8.000
94	Valsad	VAPI	A	75.070	75.070	0.000
95	Valsad	Dharampur	D	12.340	7.010	5.330
96	Valsad	Valsad	A	40.500	0.700	39.800

97	Valsad	Pardi	C	9.000	4.500	4.500
98	Valsad	Umargam	c	8.500	7.000	1.500
99	Narmada	RAJPIPLA	c	10.980	10.100	0.880
100	Bharuch	BHARUCH	A	107.000	0.000	107.000
101	Bharuch	ANKLESHWAR	B	27.000	0.000	27.000
102	Bharuch	JAMBUSAR	c	15.030	2.510	12.520
103	Bharuch	AMOD	D	7.520	0.000	7.520
104	Surat	TARSADI	C	13.220	13.220	0.000
105	Surat	KADODRA	c	11.020	11.020	0.000
106	Surat	BARDOLI	B	30.000	30.000	0.000
107	Surat	MANDAVI	D	6.620	6.620	0.000
108	Tapi	VYARA	C	12.200	12.200	0.000
109	Tapi	SONGADH	C	7.500	6.000	1.500
110	Navsari	NAVSARI	A	101.000	101.000	0.000
111	Navsari	BILIMORA	B	14.572	3.200	11.372
112	Navsari	GANDEVI	D	5.76	1.892	3.867
113	Anand	Anand	A	61.000	41.003	19.997
114	Anand	Anklav	D	3.000	3.000	0.000
115	Anand	Balasinor	C	7.030	7.030	0.000
116	Anand	Boriavi	D	3.020	3.020	0.000
117	Anand	Borsad	B	17.000	0.100	16.900
118	Chhotaudepur	Chhotaudepur	C	8.230	8.230	0.000
119	Vadodara	Dabhoi	B	10.000	10.000	0.000
120	Dahod	Dahod	B	40.000	40.000	0.000
121	Panchmahal	Godhara	A	46.500	46.500	0.000

122	Panchmahal	Halol	B	12.200	8.200	4.000
123	Panchmahal	Kaalol	C	4.206	4.206	0.000
124	Vadodara	Karjan	C	8.700	8.700	0.000
125	Anand	Karamsad	C	9.330	7.830	1.500
126	Mahisagar	Lunavada	C	13.900	13.900	0.000
127	Anand	Ode	D	1.510	1.510	0.000
128	Vadodara	Padra	C	14.000	14.000	0.000
129	Mahisagar	Santrampur	D	6.530	6.530	0.000
130	Panchmahal	Shahera	D	8.000	8.000	0.000
131	Anand	Sojitra	D	3.720	1.200	2.520
132	Anand	Vallabh Vidhyanagar	D	5.520	5.520	0.000
133	Dahod	Zalod	C	1.600	0.000	1.600
134	Dahod	Devgadh Baria	D	21.590	21.590	0.000
135	Anand	Khambhat	B	8.900	8.900	0.000
136	Vadodara	Savli	D	3.510	3.510	0.000
137	Anand	Petlad	B	9.950	7.950	2.000
138	Anand	Umreth	c	9.000	9.000	0.000
139	Amreli	AMRELI	A	65.000	0.000	65.000
140	Amreli	Babra	C	2.100	0.000	2.100
141	Amreli	Bagsara	C	8.000	8.000	0.000
142	Amreli	Chalala	D	3.010	3.010	0.000
143	Amreli	DAMNAGAR	D	4.220	0.000	4.220
144	Amreli	JAFARABAD	C	3.040	0.000	3.040
145	Amreli	LATHI-D	D	3.500	1.700	1.800
146	Amreli	Rajula	C	8.100	2.400	5.700

147	Amreli	Savarkundla	B	11.300	10.000	1.300
148	Bhavnagar	Gariyadhar	C	6.010	0.000	6.010
149	Bhavnagar	Mahuva	B	27.200	13.000	14.200
150	Bhavnagar	PALITANA	B	24.900	24.900	0.000
151	Bhavnagar	Shihor	B	14.100	2.100	12.000
152	Bhavnagar	Talaja	C	14.000	7.500	6.500
153	Bhavnagar	Vallabhipur	D	5.000	0.000	5.000
154	Gir somnath	Kodinar	C	1.101	1.101	0.000
155	Gir somnath	Sutrpada	C	6.780	4.110	2.670
156	Gir somnath	TALALA	D	5.270	0.110	5.160
157	Gir somnath	UNA	B	20.000	20.000	0.000
158	Gir somnath	Veraval-Patan	A	60.000	30.000	30.000
159	Junaghdh	BANTVA	D	1.912	0.000	1.912
160	Junaghdh	Chorvad	D	4.015	0.000	4.015
161	Junaghdh	KESHOD	B	20.000	0.000	20.000
162	Junaghdh	MANAVADAR	C	4.800	0.000	4.800
163	Junaghdh	Mangrol	B	15.000	0.000	15.000
164	Junaghdh	vanthali	D	4.508	0.000	4.508
165	Junaghdh	Visavadar	D	6.700	0.100	6.600
Total				10317	8872	1445