

MINUTES OF ENVIRONMENTAL PUBLIC HEARING OF M/s. TWENTYONE SUGARS LTD (UNIT III), (FORMERLY KNOWN AS M/S. DHARASHIV SAKHAR KARKHANA UNIT – III) IN RESPECT OF PROPOSED PROJECT 300 KLPD DISTILLERY ALONG WITH 40 MW CO-GEN POWER PLANT AND PROPOSED EXPANSION OF SUGARCANE CRUSHING CAPACITY FROM 3500 TCD TO 10000 TCD UNIT WAS HELD ON 19TH APRIL 2023 AT 11.30AM AT THE SITE OF M/S. TWENTYONE SUGARS LTD (UNIT III), AT GUT NO. 313, 317,(321), 322, 325, 326, 327, 329 & 353, SHIVANI (JAMGA) VILLAGE, TQ. LOHA, DIST NANDED MAHARASHTRA (431 708)

The Environmental Public Hearing of M/s. Twentyone Sugars Ltd (Unit III) for their proposed project of 300 KLPD Distillery along with 40 MW Co-gen Power Plant and proposed expansion of sugarcane crushing capacity from 3500 TCD to 10000 TCD unit was held on 19th April, 2023 at 11.30 AM at the factory site at Gut No. 313, 317, (321), 322, 325, 326, 327, 329 & 353, Shivani (Jamga) Village, Tq. Loha, Dist Nanded.

The Notice regarding the Environmental Public Hearing was published in Local Marathi News Paper in Dainik Sakal & in English National Newspaper Times of India on dated 17/03/2023 are hereby attached as **Annexure – I**.

The Environmental Public Hearing was held on 19th April, 2023 at 11.30 AM at Factory Site under the Chairmanship of Shri. Abhijeet Raut, District Magistrate, Nanded, Shri. Dilip. K. Khedkar, Regional Officer, Maharashtra Pollution Control Board, Aurangabad, Member & Shri. Rajendra U. Patil, Sub- Regional Officer, Maharashtra Pollution Control Board, Nanded worked as convener of Public Hearing panel was formed as per MPCB Office Order No. BO/JD(WPC)/PH/B-230324FTS0173 dtd. 24/03/2023 are hereby attached as **Annexure – II**.

The member of public hearing panel environmentalist group, other participant villagers, agriculturist, the representative of project proponent, chairman & convener of said were present at the factory site for the said public hearing. The attendance data sheet for the participants/public present during the said public hearing are attached as **Annexure-III**

• **Purpose & Procedure:-**

The Member of public Hearing panel, the Environmentalist group & other participant, convener has initiated Public Hearing by welcoming the Chairman, Member, Regional Officer, MPCB, Aurangabad, local Citizen & Environmental group who were present for the said Public

Hearing, that the said Public Hearing is conducted as per the MoEF, Gol Notification 14th September 2006 & amended 1st December 2009 accordingly the said notification. The notice for the Public Hearing was given in two local widely circulated newspaper i.e. in Marathi newspaper Dainik Sakal & in English newspaper. The Times of India on dated 17th March 2023.

The copies of Environmental Management plan (EMP)/Executive Summary containing silent features of the project both in English, Marathi & other information/ documents were made available to the public by making these documents available in the various Government Offices as well as local Grampanchayat as per Gol Noitification 14th September 2006, suggestion, views comments & objection of Public Hearing were called in E- mail & in written within 30 days from the publication of this notice. This office has received 05 nos. of suggestions by email & 01 nos. of suggestion by written.

The Public Hearing panel was constituted vide MPCB office order No. BO/JD(WPC)/PH/B-230324FTS0173 dtd. 24/03/2023 dtd. 24/03/2023

Thereafter, convener of the Public Hearing panel was requested to the project proponent to give their presentation about the project & the Environmental issued related with it.

Accordingly, representative of project proponent gave presentation of project & the Environmental issues as follows.

Details of Project

1.0 INTRODUCTION

M/s. Twenty-one Sugar Limited Unit II (TSL II) is an unlisted public limited company incorporated on 26th Aug 2011. The company is registered in the state of Maharashtra under the Companies Act 1956 (No. 1 of 1956) bearing Certificate of Incorporation (CIN) number U15122MH2011PLC221355 dated 26th Aug 2011 and located at Gut No. 313,317,321,322,325,326,327,329 & 353 at Village Shivani (Jamga), Tehsil- Loha, District- Nanded, State- Maharashtra.

The existing industry is in the name of **M/s. Dharashiv Sakhar Karkhana Unit III**. The project is taken over by M/s. Twenty-one Sugar Limited & name the unit as **M/s. Twenty-one Sugar Limited (Unit III)**.

At present, the industry is operated with a sugarcane crushing capacity of 3500 TCD. The management of TSL III decided to expand its sugarcane crushing capacity from 3500 TCD to 10000 TCD.

The industry also proposes to establish 300 KLPD multi feed distillery to consume the available molasses from its own sugar unit and utilize sugarcane juice/syrup for the production of RS/Ethanol and 40 MW Cogeneration power plant to consume additional available bagasse to generate power.

The proposed project will produce RS/Fuel Ethanol from sugarcane syrup /'C' molasses/'B' heavy molasses as raw materials depending on the market demand and availability of raw materials. The configuration of product after

Table 1 Configuration of the proposed unit

Sr. No	Industrial Unit	Product / By-Product	Quantity (Capacity)		
			Existing	Proposed	Total
1	Sugar Unit	Tons Sugarcane Crushing per day (TCD)	3500	6500	10000
a	Product	Sugar (MT/M)	12600	23400	36000
b	By - Product	Molasses (MT/M)	4200	7800	12000
		Press Mud (MT/M)	4200	7800	12000
		Bagasse (MT/M)	31500	58500	90000
		CO2 (MT/D)	0	230	230
2	Cogeneration	Electricity (MW)	0	40	40
3	Distillery	RS/ Ethanol (KLPD)	0	300	300

The distillery process effluent (spent wash) shall be treated based on concentration and incineration to achieve Zero Liquid Discharge (ZLD). The MEE condensates and other dilute effluent streams (Spentlees, Cooling and boiler blow down, and Washings etc.) shall be treated in condensate polishing unit based on primary, secondary and tertiary treatment. The treated condensates shall be recycled back as process water. The sugar process effluent shall be treated in existing ETP after up-gradation and sugar condensate shall be treated in proposed sugar CPU based on primary, secondary and tertiary treatment. The treated condensates shall be recycled back as process water and used for greenbelt/gardening purpose.

The total cost of the project will be around Rs. 540.51 Cr. EMP Cost will be Rs. 81.00 Cr. Allotted for APCM, ZLD, water pollution control, environment monitoring and management, rain water harvesting, greenbelt development, solid waste management, Safety and fire fighting, emergency handling & occupational health etc.

This EIA/EMP report is prepared for obtaining the Environmental Clearance for the proposed expansion of M/s Twenty-one Sugars Limited (Unit III) as per the ToRs issued by the Ministry of Environment, Forest & Climate Change (MoEF&CC) New Delhi

1.1 PROJECT LOCATION

The salient features of the project site are

Table 2 Salient features of the project site

Sr. No.	Particulars	Details
A.	Nature and Size of the Project	Twenty-one Sugar Ltd (Unit III)
B.	Location Details	
1.	Location	Shivani (Jamga)
2.	Plot/ Survey/ Khasra No.	313,317,321,322,325,326,327,329 & 353
3.	Village	Shivani (Jamga)
4.	Tehsil	Loha
5.	District	Nanded
6.	State	Maharashtra
7.	Geographic Location of Project	19°1'40.11"N 77°7'49.75"E
	Four Corner GPS Location	As Above Table
C.	Area Details	
1.	Total Project Area	262929 sqm (26.29 ha)
2.	Existing + Proposed Green belt Area	87643.1967 sqm (8.76 ha)
3.	Type of Land	Industrial Land
D.	Environmental Settings details	
8.	Nearest railway station/ airport along with distance in km.	Railway station: Hujur Sahib Nanded Railway Station, 23 km @NE Airport : Shri Guru Govind Singhji Airport, Nanded, 26 km @ NE
9.	Nearest Town, city, District Headquarters along with distance in km	Nanded 23 km
10.	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (Complete postal addresses with telephone nos. to be given)	Shivani (Jamga) 1 Km
11.	Nearest Water Body	Jhadi Nadi, 0.50 km Godavri River , 4.6 km
12.	Eco-Sensitive Area	No ESZ & EZA Area in 10 km Radius

Sr. No.	Particulars	Details
13.	National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Wildlife Corridors etc. within 10 km radius	None, in Study area
14.	Reserved Forests (RF) / Protected Forests (PF),	None
15.	Interstate boundary	None

2.0 PROJECT DESCRIPTION

The details about the manufacturing capacity of existing unit as well as after the proposed expansion are given in table below

Table 3 Existing and Proposed Products manufacturing quantities

Sr. No.	Industrial Unit	Product / By-Product	Quantity (Capacity)		
			Existing	Proposed	Total
1	Sugar Unit	Tons Sugarcane Crushing per day (TCD)	3500	6500	10000
a	Product	Sugar (MT/M)	12600	23400	36000
b	By - Product	Molasses (MT/M)	4200	7800	12000
		Press Mud (MT/M)	4200	7800	12000
		Bagasse (MT/M)	31500	58500	90000
		CO2 (MT/D)	0	230	230
2	Cogeneration	Electricity (MW)	0	40	40
3	Distillery	RS/ Ethanol (KLPD)	0	300	300

2.1 RESOURCE REQUIREMENT AND INFRASTRUCTURE FACILITIES

A) Raw material requirement

1. Source for Raw Material Procurement: Raw Material is easily available in the local Market and in the surrounding

2. Mode of Transport of Raw Materials: The raw materials will be transported locally by way of road.

3. Storage at the site: Raw materials will be stored in Storage Yard at the project site as per the norms. Details of raw materials requirement is presented

Table 4 Raw material requirement

Sr. No.	Raw Material	Existing	Proposed	Total	Mode of transport	Source	Storage at Site
Sugar							
1	Sugarcane (TCD)	3500	6500	10000	By road	Around factory premises	At site
2	Phosphoric Acid (MT/D)	2.1	3.9	6	By road	Local market	Closed go down
3	Lime (MT/D)	5.6	10.4	16	By road	Local market	Closed go down
4	Bagasse (MT/D)	698	--	698	By Conveyor belt	Own	Bagasse storage yard
Co-generation							
1	Bagasse (MT/D)	-	600	600	By Conveyer belt	Own	Bagasse storage yard
2	Coal (MT/D)	-	264	37.5	By Road	Local market	Coal storage yard
Distillery							
	C Molasses (MT/D)	--	1053	1053	By Pipeline	Own/ Local Market	Tanks
1	Or B Heavy Molasses (MT/D)	--	910	910	By Pipeline	Own/ Local Market	Tanks
	Or Cane Syrup (MT/D)	--	1091	1091	By road	Sugar Unit	At site

Sr. No.	Raw Material	Existing	Proposed	Total	Mode of transport	Source	Storage at Site
2	Bagasse (MT/D)	--	265	265	By Conveyer belt	Own	Bagasse storage yard
3	Coal (MT/D)	--	155	155	By Road	Local market	Coal storage yard

B) Land use Details

Details of existing and proposed land utilization pattern within the project site is given in table below

Table 5 Land use breakup

Sr. No.	Description	Area in sq. m,	% Area
1	Total Plot Area	262929	100.00
	Total Built Up Area		
2	{Admin Building, Process House, Warehouse, Storages}	14015	5.33
3	Total Roads Area {With Dimensions & Turning Radius}	34180	13.00
4	Total Plantation Area (With Proposed & Existing Plant Details)	87643.19	33.33
	Total Utilities Area		
5	{Boiler/ Stack/ DG Set/ Cooling Tower/ ETP/ Canteen etc}	54491	20.72
6	Total Storage Area {Finish Goods/ Raw Material/ Hazardous –Non-hazardous Storage/ Water/ treated effluent/ Fuel/ Ash/Scrap/ Fire Hydrant Storage Etc }	21000	7.99

C) Power requirement

The total power requirement of the sugar complex after the proposed expansion will be 10 MW. The Power requirement will be sourced from own captive power generation from 2*32TPH boiler (Existing) & 1* 55 TPH Boiler (Proposed).

Table 6 Details of the power requirement

Sr. No.	Details	Particular
1.	Total Power Generation	40 MW
2.	Total Power Consumption	10 MW

Also for proposed distillery section Incineration Boiler of 55TPH will be installed. HSD diesel will be used in D.G set in case of power shut down or emergency. Fuel & Power consumption details are given in below **Table**

Table 7 Fuel requirement

Sr. No	Boiler Capacity			Fuel Type		Fuel Requirements (TPD)		
	Existing	Proposed	Total	Existing	Proposed	Existing	Proposed	Total
1	2*32 TPH Boiler	1*55 TPH Boiler	2*32 TPH & 1*55 TPH Boilers	Bagasse	Bagasse	698	600	1298
2	--	55 TPH Incinerator boiler	1* 55 TPH Incinerator Boiler	--	Bagasse + Conc. SW Indian Coal/Imported Coal + Conc. SW	0	265 + 618	265 + 618
						0	155 + 618	155 + 618

D) Water requirement

Table 8 Water requirement

Sr. No.	Plant	Existing Fresh Water Requirements (CMD)	Proposed Fresh Water Requirements (CMD)	Total Fresh Water Requirements (CMD) after expansion
1.	Sugar & Cogeneration	420	00	420
2.	Distillery	000	1083	1083
	Total	420	1083	1503

Water requirement and effluent generation

1. Sugar and Co-generation Unit

Table 9 Water budget for existing Sugar Unit

Sr. No.	Details	Water Requirement (KLD)	Consumption/ Losses (KLD)	Reuse / Recovery (KLD)	Waste Generation (KLD)	Remark
	Domestic Purpose					
	Domestic	30	10	00	20	On land for gardening

						after treatment
Industrial Purpose						
1	Boiler 2*32 TPH	1486	30	1441	15	
2	DM Plant	50	45	0	5	
3	Process water	320	160	0	210	
4	Washing of equipment	55	0	0	55	On land for irrigation after treatment in existing ETP
5	Condenser Water	0	0	350	0	
6	Spray pond blow down	350	250	0	100*	
7	Cooling tower	300	270	0	30	
8	Recycling of Excess Condensate	0	0	350	0	
Total		2561	755	2141	315	

Net Water requirement would be:

Industrial Purpose: 2561 – 2141 = 420 KLD

Due to excess condensate available from Sugar unit, there shall only 420 KLD of requirement for existing sugar unit and co-generation unit.

ii) Domestic Purpose:

At present water requirement is 30 KLD.

Effluent Generation:

Industrial - 315 KLD out of which sugar effluent - 265 KLD, and co-generation power plant effluent 50 KLD (Co-gen effluent-50 KLD, out of which 15 KLD boiler blow-down, 30 KLD cooling tower blow –down and 5 KLD of DM plant reject)

ii. Domestic – 20 KLD

Table 10 Water Budget for proposed 6500 TCD Sugar and 40 MW Cogeneration power plant

Sr. No.	Details	Water Requirement (KLD)	Consumption/ Losses (KLD)	Reuse / Recovery (KLD)	Waste Generation (KLD)	Remark
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Domestic Purpose

Sr. No.	Details	Water Requirement (KLD)	Consumption/ Losses (KLD)	Reuse / Recovery (KLD)	Waste Generation (KLD)	Remark
	Domestic	10	2	00	8	On land for gardening after treatment
Industrial Purpose						
1	Boiler 1*55 TPH	1320	26	1238	13	
2	DM Plant	95	85	0	10	
3	Process water	595	150	0	445	
4	Washing of equipment	70	0	0	70	Will be treated in existing ETP after up gradation to 1000 KLD
5	Condenser Water	0	0	1170	0	
6	Spray pond blow down	500	350	0	150*	
7	Cooling tower	500	450	0	50	
8	Recycling of Excess Condensate	0	0	1170	0	
Total		3080	1211	3578	588	

Net Water requirement would be:

Industrial Purpose: $3080 - 3578 = -498$ KLD. (498 KLD of water shall be saved, out of which 420 KLD shall be used to meet water requirement of 3500 TCD Sugar unit and remaining 78 KLD shall be stored and used for distillery purposes as make up waters for cooling towers and boilers). Therefore, due to excess condensate available from Sugar unit, there shall not be any water requirement for proposed sugar unit.

ii) Domestic Purpose:

At present water requirement is 30 KLD and additional 10 KLD water shall be required after the proposed project for sugar and cogeneration division

Effluent Generation:

Industrial – 588 KLD out of which sugar effluent - 515 KLD, and co-generation power plant effluent 73 KLD (Co-gen effluent-138 KLD, out of which 13 KLD boiler blow-down, 50 KLD cooling tower blow –down and 10 KLD of DM plant reject)

ii. Domestic – 8 KLD

Water requirement and effluent generation

2. Distillery Unit

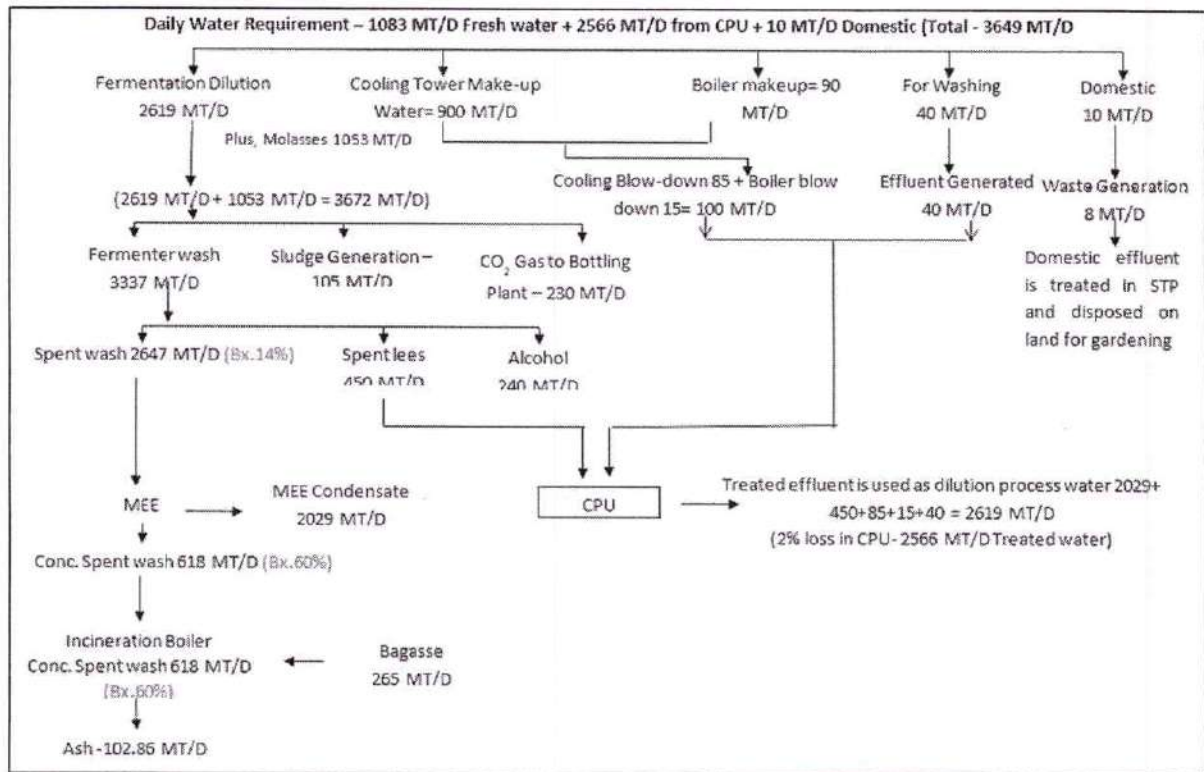


Figure 1 Water/Mass balance flow sheet for distillery unit based on C Molasses as raw material

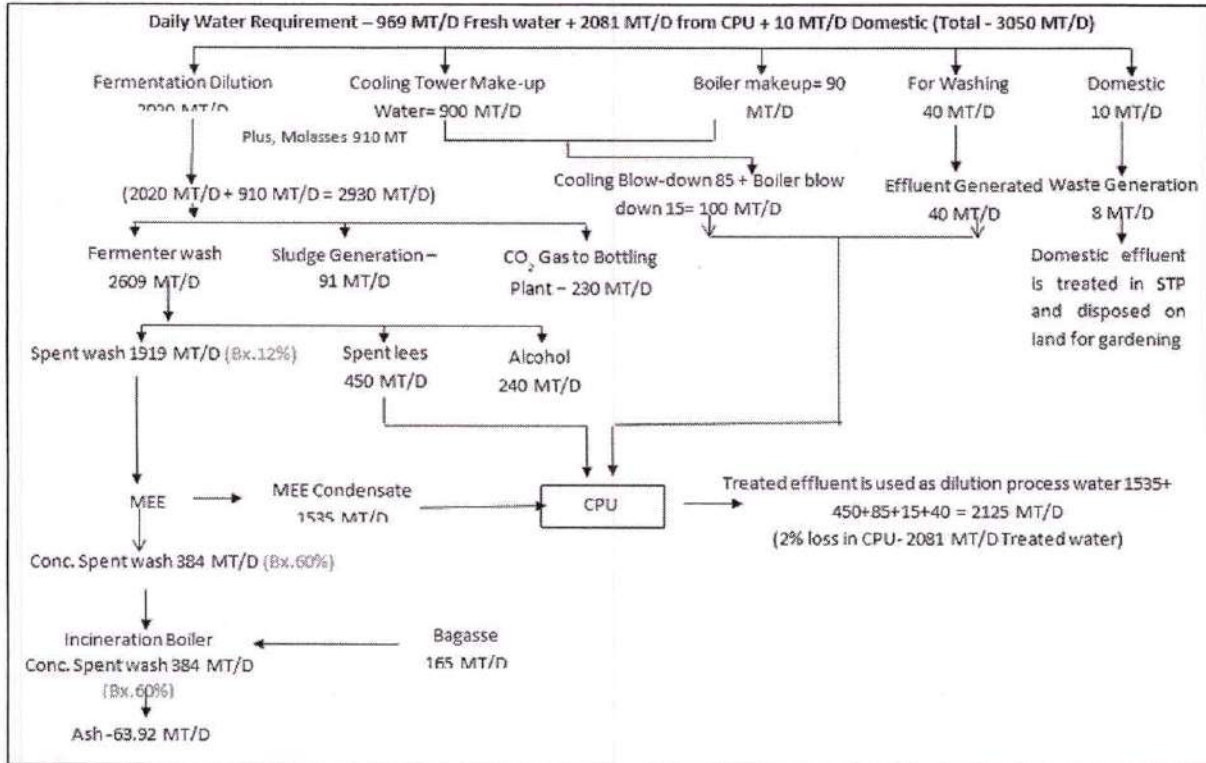


Figure 2 Water/Mass balance flow sheet for distillery unit based on B Heavy Molasses as raw material

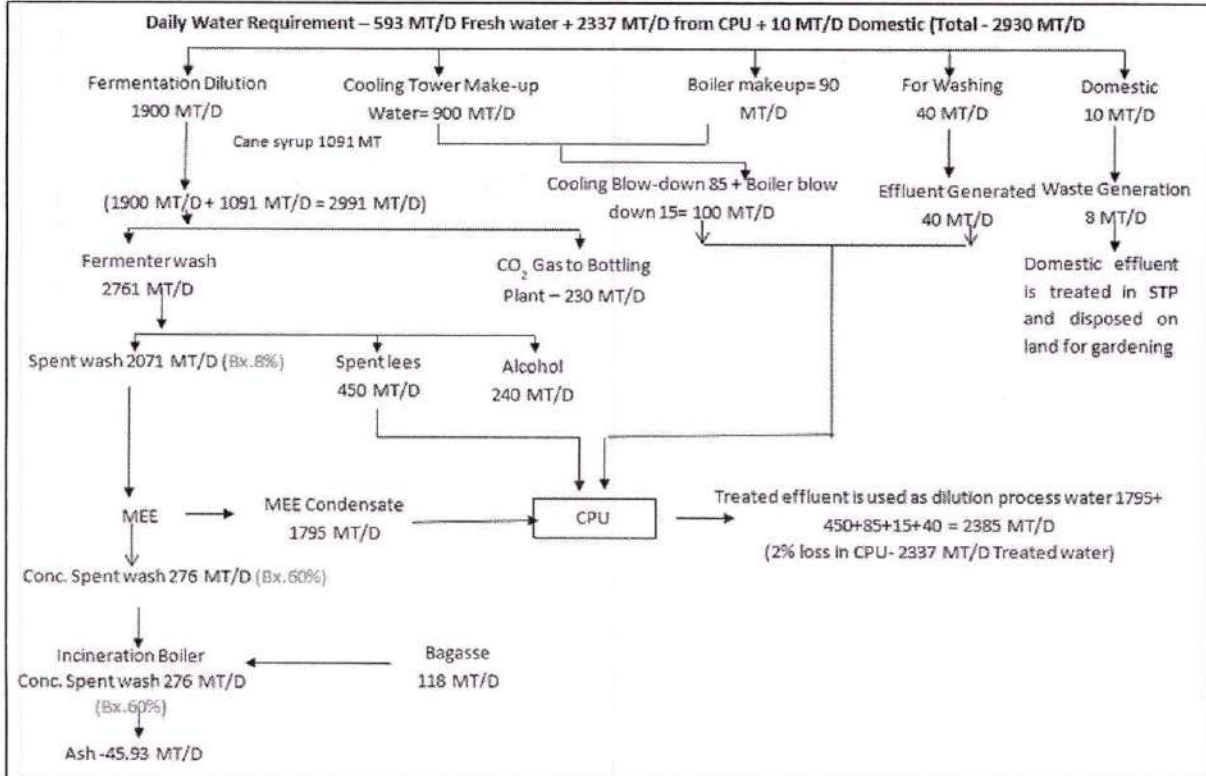


Figure 3 Water/Mass balance flow sheet for distillery unit based on sugarcane juice/syrup as raw material

Table 11 Water consumption details for various raw materials

Sr. No.	Propose	Water consumption (CMD)		
		C Molasses	B heavy molasses	Sugarcane juice/ syrup
Domestic				
1	Domestic	10	10	10
Industrial				
1	Process	2619	2020	1900
2	Boiler make up	90	90	90
3	Cooling tower makeup	900	900	900
4	Washings	40	40	40
	Total	3649	3050	2930

Table 12 Wastewater generation details for various raw materials

Sr. No.	Propose	Wastewater Generation (CMD)			Remarks
		C Molasses	B heavy molasses	Sugarcane juice/ syrup	
Domestic					
1	Domestic	8	8	8	To Septic tank followed by soak pit
Industrial					
1	Process (Spentwash)	2647**	1919**	2071**	** (Raw spentwash)
a	Conc. Spentwash	618*	384*	276*	Incinerated in 55 TPH Incinerator boiler
b	Spentlees	450	450	450	To CPU
c	MEE Condensates	2029	1535	1795	To CPU (Raw spentwash-Conc. Spentwash)
2	Boiler blow down	15	15	15	To CPU
3	Cooling tower blow down	85	85	85	To CPU

4	Washings	40	40	40	To CPU
	Total	2619	2125	2385	

Table 13 Treated effluents recycled from ZLD System for various raw materials

Sr. No.	Propose	Wastewater Generation (CMD)			Remarks
		C Molasses	B heavy molasses	Sugarcane juice/syrup	
1	Treated effluent recycled from CPU	2566	2081	2337	None

Table 14 Net freshwater requirement for various raw materials for industrial purpose

Sr. No.	Propose	Wastewater Generation (CMD)		
		C Molasses	B heavy molasses	Sugarcane juice/syrup
		Industrial		
1	Total water consumption excluding domestic	3649	3050	2930
2	Treated effluent recycled from CPU	2566	2081	2337
	Net fresh water requirement	1083	969	593
	KL/KL of Alcohol	3.61	3.23	1.98

F) Air Emission Management

Table 15 Details of boilers and its APC equipment for existing as well as proposed

Sr. No.	Stack Attached to	Type of Fuel	Quantity (TPD)	stack height in meters	APC Equipment
Sugar and Cogeneration division					
1	Existing 2* 32 TPH boiler	Bagasse	698	65 Meters	Wet Scrubber
2	1*55 TPH Boiler	Bagasse	600	65 Meters	ESP and stack of 65 meters height will be provided

Sr. No.	Stack Attached to	Type of Fuel	Quantity (TPD)	stack height in meters	APC Equipment
Sugar and Cogeneration division					
2	1*55 TPH incinerator boiler	Conc. Spentwash + Bagasse OR Conc. Spentwash + Coal	618 +265 618 +155	70	ESP and stack of 70 meters height will be provided
3	1* 320 kVA & 1* 120 KVA DG Sets	HSD		6 m above roof level	Acoustic enclosure

G) Solid waste Management

Non Hazardous Solid Waste:

Table 16 Details of solid waste generation and its management

Sr. No.	Description of waste	Quantity	Mode of Collection and Disposal
	Boiler Ash (MT/D)		
	Existing boiler of 2*32 TPH and proposed 1*55 TPH Boiler		
1.	Bagasse as fuel	19.47	Sale to brick manufacturers/ Used in Composting as filler material
	Proposed 50 TPH Incinerator boiler (Concentrated spentwash + bagasse /Coal as fuel)		
	Bagasse as fuel Or	102.86	Mixed with press mud and sold as potash rich manure to farmers
	Coal as fuel	114.38	
2.	ETP & CPU Sludge (MT/A)	150	Mixed with boiler ash along with press mud and sold as manure

Other Solid Wastes

Sr. No.	Description of waste	Quantity (Kg/M)	Mode of Collection and Disposal
1.	Paper waste	40	Manually collected and stored in a designated area and sold to scrap vendors
2.	Plastic waste	35	
3.	Municipal Solid waste		

Non-Biodegradable	200	Manually collected and sold to scrap vendors
Bio-degradable	2500	Used in Composting

Hazardous Waste management:

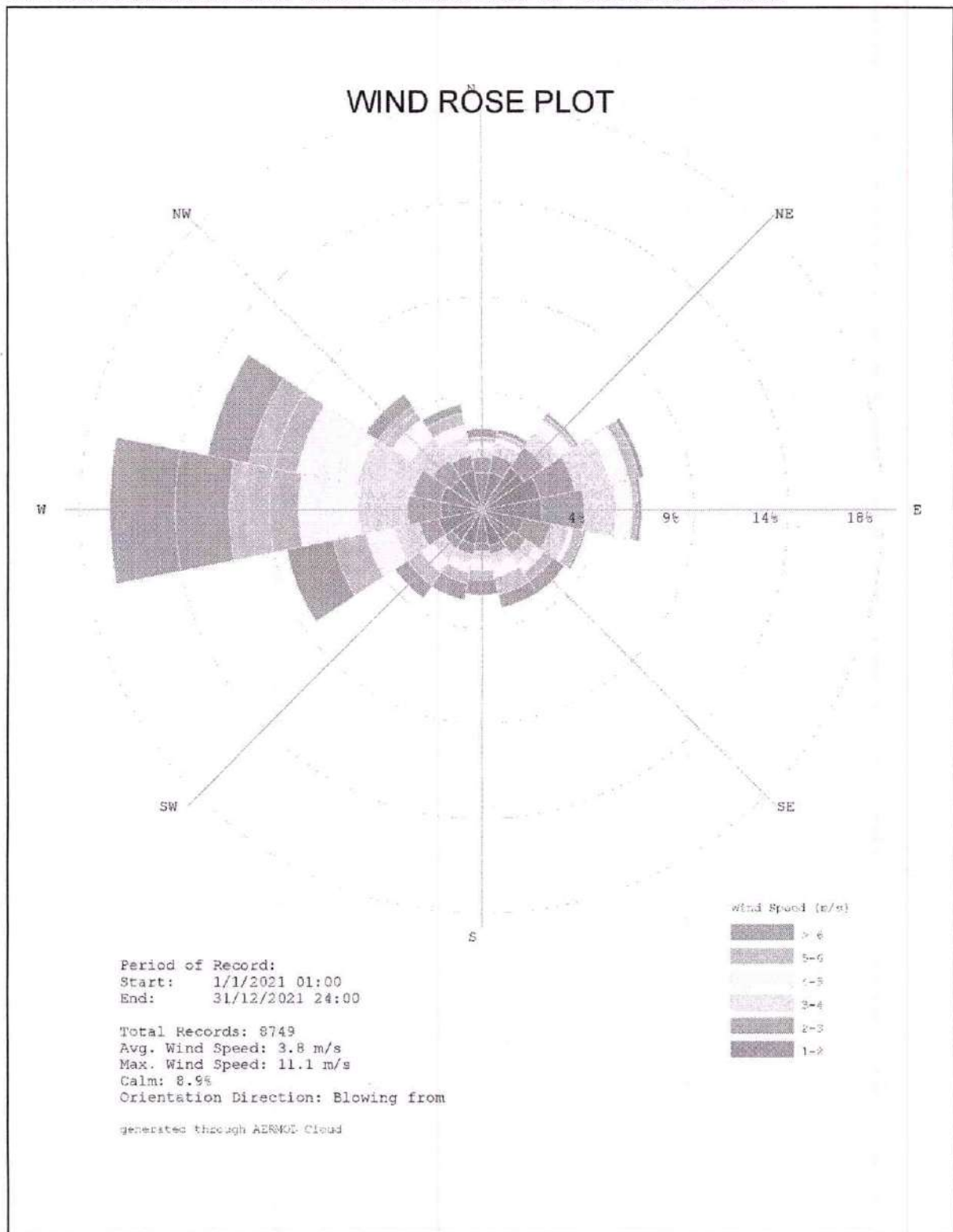
Table 17 Details of hazardous waste generated and its disposal

Sr. No	Category	Waste	Quantity			Disposal
			Existing	Proposed	Total	
1	5.1	Spent Oil	100 Kg/M	200 Kg/M	300 Kg/M	Collected in leak proof container and used as lubricant oil for bullock carts
2	33.1	Empty barrels/ Containers	20 Nos	50 Nos	70 Nos	Sold to authorized recyclers

3.0 BASELINE ENVIRONMENTAL STATUS

3.1 AIR ENVIRONMENT

3.1.1 METEOROLOGICAL CHARACTERISTICS OF THE STUDY AREA



Wind rose diagram for the study area (blowing from)

Table 18 Details of ambient air quality monitoring locations

Sr. No.	Village	Distance from Project Site {km}	Direction with respect to Project Site	Latitude	Longitude
1.	Project Site	--	--	19.025704°	77.1287°
2.	Bhendegaon	3.4	ENE	19.041175°	77.160983°
3.	Pipranwadi (Shelwadi)	6.9	E	19.036732°	77.181757°
4.	Sonkhed	9.1	E	19.030066°	77.21508°
5.	Khadak Manjri	2.3	SE	19.014727°	77.147527°
6.	Hersad	5.4	SE	18.999201°	77.169367°
7.	Shevdi	2.6	NNE	19.048758°	77.140269°
8.	Pangari	3.4	WSW	19.016856°	77.099617°
9.	Adgaon	7.8	WSW	19.014757°	77.05695°

Table 19 Ambient air quality monitoring results

Sr. No	Location name & Type of Location	Parameter	SO2	NOx	PM10	PM2.5	CO
		Unit	µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³
		NAAQ Standards	≤80	≤80	≤100	≤60	≤04
1	Project Site (Source of Pollution)	Minimum	10.22	18.90	55.90	28.40	0.41
		Maximum	17.80	23.60	74.10	40.30	0.71
		Average	13.84	21.95	68.94	32.62	0.56
		98 Percentile	17.43	23.60	74.10	39.52	0.71
2	Bhendegaon	Minimum	4.90	13.60	39.60	14.90	0.39
		Maximum	10.30	17.80	47.30	23.20	0.61
		Average	8.00	15.58	42.89	18.20	0.51
		98 Percentile	10.21	17.52	46.79	22.28	0.6054
3	Pipranwadi (Shelwadi)	Minimum	7.90	12.80	42.70	15.90	0.24
		Maximum	11.30	20.29	50.60	23.50	0.45
		Average	9.72	15.79	46.65	19.15	0.35
		98 Percentile	11.27	19.70	50.49	22.81	0.45
4	Sonkhed	Minimum	5.98	15.30	41.30	18.90	0.19

Sr . No	Location name & Type of Location	Parameter	SO ₂	NO _x	PM ₁₀	PM _{2.5}	CO
		Unit	µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³
		NAAQ Standards	≤80	≤80	≤100	≤60	≤04
		Maximum	13.15	23.60	60.30	30.50	0.68
		Average	9.24	18.48	52.14	24.28	0.42
		98 Percentile	12.69	23.14	60.21	30.50	0.67
5	Khadak Manjri	Minimum	4.40	10.10	40.60	16.50	0.12
		Maximum	11.00	17.65	58.60	23.50	0.50
		Average	7.21	14.25	45.73	20.33	0.26
		98 Percentile	10.69	17.35	54.55	23.46	0.48
6	Hersad	Minimum	6.85	10.90	39.80	18.90	0.29
		Maximum	9.62	16.32	45.10	23.70	0.57
		Average	8.53	13.91	42.72	21.05	0.45
		98 Percentile	9.61	15.80	45.05	23.61	0.57
7	Shevdi	Minimum	6.98	10.50	37.50	16.90	0.25
		Maximum	10.20	16.66	43.20	24.60	0.54
		Average	8.36	14.20	40.58	19.71	0.40
		98 Percentile	10.15	16.45	43.15	24.10	0.53
8	Pangari	Minimum	6.80	12.70	38.10	15.80	0.21
		Maximum	9.00	17.50	47.20	20.30	0.55
		Average	7.80	15.32	40.90	18.02	0.36
		98 Percentile	8.954	17.45	46.69 4	20.3	0.536 2
9	Adgaon	Minimum	6.80	13.54	35.84	17.60	0.29
		Maximum	9.30	17.90	46.10	24.50	0.61
		Average	8.11	15.58	40.96	21.39	0.43
		98 Percentile	9.19	17.81	45.78	24.5	0.60

3.2 WATER ENVIRONMENT

The unit is located at Village Shivani (Jamga), Tehsil- Loha, District- Nanded, State - Maharashtra. Majority of the study area (10 km around site) is under agriculture land use. The industry is lifting fresh water from Godavari River which is 4.6 km away from the industry. The permission is already available with the industry from respective authorities. Jhadi Nadi is flowing at 0.5 Km from the industry.

Godavari River is main source of water for agriculture use. The River is flowing at 4.6 km from the project site Groundwater is used as an alternate source in surrounding villages for domestic

and drinking purposes. Therefore, it is important to assess the existing baseline status of both ground water quality and surface water quality within the study area.

3.2.1 GROUND WATER

Table 20 Details of the ground water quality monitoring sampling locations

Sr No	Symbo l	Village Name	Sample Collecte d from	Distanc e from Project Site {km}	Directio n	Latitude	Longitude
1.	GW-1	Bhendegao n	Bore well (Pipe)	3.4	ENE	19.041058 °	77.16085°
2.	GW -2	Sonkhed	Dug Well	9.3	E	19.031260 °	77.214739 °
3.	GW -3	Khadak Manjri	Bore well (Pipe)	2.5	SE	19.01488°	77.147702 °
4.	GW -4	Shevdi	Bore well (Pipe)	2.4	NNE	19.048794 °	77.140232 °
5.	GW -5	Pangari	Dug Well	2.4	WSW	19.016937 °	77.099986 °
6.	GW -6	Adgaon	Bore well (Pipe)	7.9	WSW	19.015535 °	77.056626 °
7.	GW -7	Sunegaon	Bore well (Pipe)	7.2	SSW	18.96857°	77.107456 °
8.	GW -8	Dadadgaon	Hand Pump	8.7	ENE	19.074353 °	77.199257 °

Table 21 Groundwater analysis report within 10 km radius of the study area

Sr. No	Parameters	Unit	Groundwater quality monitoring locations								Desirable IS 10500:2012 Standards	Permissible
			GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	GW-7	GW-8		
Physical Parameters												
1	Temperature	°C	29.2	31.1	26.5	26.4	32	32.2	32.6	28.3	Not Specified	Not Specified
2	pH	pH Unit	7.31	7.27	7.51	7.48	7.43	7.32	7.31	7.59	6.5-8.5	No relaxation
3	Colour	Hazen	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	Not Specified	Not Specified
4	Turbidity	NTU	0.2	2.9	0.1	5.5	0.1	0.5	0.1	0.6	1	5
5	Total Suspended Solids	mg/l	1.8	3.5	0.6	61.1	7.3	1.8	2.4	8.6	Not Specified	Not Specified
6	Total Dissolved Solids	mg/l	483.4	488.4	652.6	474.8	911.4	510	906.6	588	500	2000
7	Total Solids	mg/l	485.2	491.9	653.2	535.9	918.6	511.8	909	596.6	Not Specified	Not Specified
Chemical Parameters												
8	Total Alkalinity (as CaCO3)	mg/l	220	260	164	352	352	210	292	236	200	600
10	Total Hardness (as CaCO3)	mg/l	292	356	232	364	544	244	352	364	200	600
11	Calcium (as Ca)	mg/l	78.55	96.19	72.14	57.7	153.9	54.5	102.6	105.8	75	200
12	Magnesium (as Mg)	mg/l	23.33	28.19	36.94	53.46	38.88	26.2	23.33	24.3	30	100
13	Chloride (as Cl-)	mg/l	76.52	60.41	149	108.73	145	82.2	181.22	78.53	250	1000
14	Sulphate (as SO4-2)	mg/l	63.2	58.4	97.6	27.6	113.2	66.8	90.6	127.2	200	400
15	Fluoride (as F)	mg/l	0.012	0.009	0.01	0.012	0.009	0.01	0.02	0.014	1-1.5	No relaxation
16	Silica (SiO2)	mg/l	4.18	3.86	3.2	1.81	3.43	2.64	4.75	1.79	Not Specified	Not Specified
Demand And Nutrient Parameters												
17	Biochemical Oxygen Demand (at 27degC for 3 days)	mg/l	ND	3.0	ND	2.0	2.6	3.8	4	3.2	Not Specified	Not Specified
18	Chemical Oxygen Demand	mg/l	ND	7	ND	8	9	8	6	9	Not Specified	Not Specified
19	Phosphate (as PO4)	mg/l	0.01	0.04	0.16	ND	1.14	ND	0.25	ND	Not Specified	Not Specified

Sr. No	Parameters	Unit	Groundwater quality monitoring locations								Desirable	Permissible	
			GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	GW-7	GW-8			
20	Total Kieldhal Nitrogen	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	Not Specified	IS 10500:2012 Standards
21	Sodium (as Na)	mg/l	81	68.4	156	121	129	203	82.4	203	82.4	Not Specified	Not Specified
22	Potassium (as K)	mg/l	17	8.5	23	20.5	22.2	32	11.4	32	11.4	Not Specified	Not Specified
Heavy Metals & Metalloids													
23	Aluminium (as Al)	mg/l	ND	ND	ND	ND	0.04	ND	ND	ND	ND	ND	Not Specified
24	Arsenic (as As)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.05
25	Boron (as B)	mg/l	0.04	0.05	0.03	0.03	0.06	0.04	0.01	0.04	0.01	Not Specified	Not Specified
26	Cadmium (as Cd)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	No Relaxation
27	Chromium (as Cr)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05	No Relaxation
28	Copper (as Cu)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05	1.5
29	Iron (as Fe)	mg/l	ND	0.19	0.24	ND	1.12	0.84	0.04	0.32	0.04	0.3	No Relaxation
30	Manganese (as Mn)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	Not specified	Not specified
31	Mercury (as Hg)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	No Relaxation
32	Nickel (as Ni)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	No Relaxation
33	Selenium (as se)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	Not specified	Not specified
34	Zinc (as Zn)	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	15
Bacteriological Parameter													
35	Total Coliform	/100ml	13	> 1600	< 2	< 2	> 1600	< 2	> 1600	> 1600	13	Not specified	Not specified
36	E. Coli	/100ml	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Not specified	Not specified

3.2.2 SURFACE WATER

Table 22 Details of surface water quality monitoring locations

Sr No	Symbol	Village Name	Type of Water Body	Distance from Project Site {km}	Direction	Latitude	Longitude
1.	SW-1	Bhendegaon	(Bhikar Sangvi River)	3.6	ENE	19.039565°	77.168176°
2.	SW -2	Penur Budruk	(Godavari River)	4.8	NW	19.068227°	77.101472°
3.	SW--3	Kaulagaonwadi	(Godavari River)	7.6	NNE	19.13174°	77.163076°
4.	SW -4	Sathephal	(Godavari River)	9.2	NNW	19.107701°	77.102130°
5.	SW -5	Dhanora Motya	(Godavari River)	5.6	N	19.080368°	77.123999°
6.	SW-6	Near Shivani Abhaga	(Jhod River)	2.0	SSW	19.017799°	77.125848°

Table 23 Surface water analysis report within 10 km radius of the study area

Sr. No	Parameters	Unit	Bhendegaon	Penur Bk.	Kaulagaonwadi	Sathephal	Dhanora Motya	Shivani Abhaga
Physical Parameters								
1	Temperature	°C	29.2	29.5	30.2	30.4	29.7	31.8
2	pH	pH Unit	7.62	8.13	7.71	7.63	7.93	7.11
3	Colour	Hazen	7.5	10	< 5	< 5	<5	<5
4	Turbidity	NTU	13	6.5	5.0	1.9	5.1	7
5	Conductivity	µmhos/cm	912	621	653	648	611	596
6	Total Suspended Solids	mg/l	105.2	110.6	60.7	19.7	126.8	9.3
7	Total Dissolved Solids	mg/l	415	364.6	380.8	280	387	421
8	Total Solids	mg/l	520.2	475.2	441.5	299.7	513.8	430
Chemical Parameters								
9	Total Alkalinity (as CaCO ₃)	mg/l	280	160	172	107	44	312

Sr. No	Parameters	Unit	Bhen degaon	Penu r Bk.	Kaulaga onwadi	Sathe phal	Dhanora Motya	Shivani Abhaga
10	Total Hardness (as CaCO ₃)	mg/l	320	208	216	212	204	284
11	Calcium (as Ca)	mg/l	46.49	33.66	40.1	19.2	25.65	65.73
12	Magnesium (as Mg)	mg/l	49.57	30.13	28.18	39.5	34.02	29.16
13	Chloride (as Cl ⁻)	mg/l	100.7	66.45	62.4	60.41	64.43	12.08
14	Sulphate (as SO ₄ -2)	mg/l	63.2	77.7	85.8	77.9	82.5	13.2
15	Fluoride (as F)	mg/l	0.02	0.007	ND	0.06	0.007	0.012
16	Silica(SiO ₂)	mg/l	1.32	2.85	2.44	2.42	2.36	6.15
Demand And Nutrient Parameters								
17	Dissolved Oxygen	mg/l	5.8	7.6	7.3	7.2	7.7	6.7
18	Biochemical Oxygen Demand (at 27degC for 3 days)	mg/l	3.5	7.4	8.7	2.8	4.0	3.8
19	Chemical Oxygen Demand	mg/l	11.8	10.3	12.1	11.2	10.4	10.3
20	Phosphate (as PO ₄)	mg/l	0.2	0.01	ND	ND	ND	0.1
21	Total Kjeldhal Nitrogen	mg/l	ND	ND	ND	ND	ND	ND
22	Nitrate (as N)	mg/l	2.35	0.03	0.03	0.04	0.06	0.01
23	Sodium (as Na)	mg/l	103	72	78	84	91	18
24	Potassium (as K)	mg/l	12.5	10.3	11.6	13	13.2	7.2
Heavy Metals & Metalloids								
25	Aluminium (as Al)	ND	ND	ND	ND	ND	ND	ND
26	Arsenic (as As)	ND	ND	ND	ND	ND	ND	ND
27	Boron (as B)	ND	0.03	0.15	0.02	0.01	0.04	0.01
28	Cadmium (as Cd)	ND	ND	ND	ND	ND	ND	ND
29	Total Chromium (as Cr)	ND	0.03	0.06	ND	0.02	0.03	0.01

Sr. No	Parameters	Unit	Bhen degaon	Penu r Bk.	Kaulaga onwadi	Sathe phal	Dhanora Motya	Shivani Abhaga
30	Copper (as Cu)	ND	ND	ND	ND	ND	ND	ND
31	Iron (as Fe)	0.05	0.08	ND	0.04	ND	ND	0.42
32	Manganese (as Mn)	ND	ND	ND	ND	ND	ND	ND
33	Mercury (as Hg)	ND	ND	ND	ND	ND	ND	ND
34	Nickel (as Ni)	ND	ND	ND	ND	ND	ND	ND
35	Selenium (as se)	ND	ND	ND	ND	ND	ND	ND
36	Zinc (as Zn)	ND	ND	ND	ND	ND	ND	ND
Bacteriological Parameter								
37	Total Coliform	/100ml	4	23	13	130	< 2	< 2

3.3 SOIL ENVIRONMENT

Table 24 Details of the soil sampling locations

Sr. No	Village Name	Distance from Project Site {km}	Direction	Latitude	Longitude
1.	Project Site	--	--	19.025226°	77.132047°
2.	Sonkhed	9.2	E	19.050924°	77.097695°
3.	Khadak Manjri	2.6	SE	19.014292°	77.148028°
4.	Hersad	5.2	SE	18.999198°	77.173499°
5.	Shevdi	2.2	NNE	19.048895°	77.1402°
6.	Adgaon	7.8	WSW	19.014581°	77.056561°
7.	Penur Budruk	4.5	NW	19.068234°	77.101475°
8.	Sunegaon	7.3	SSW	18.973802°	77.100116°
9.	Kaulagaonwadi	7.2	NNE	19.122623°	77.137694°

Table 25 Soil Analysis report within 10 km radius of the study area

Sr. No.	Parameters	Unit	Project Site	Sonkh ed	Khadak Manjri	Hers ad	Shev di	Adga on	Penur Budruk	Sunega on	Kaulagoan wadi
1	pH	pH Unit	8.3	8.1	7.9	7.7	8	8.2	7.8	7.9	8.2
2	Conductivity	µs/cm	250	215	220	227	237	198	206	285	187
3	Chloride (as Cl -)	mg/kg	16.5	18.5	15.6	17.2	19.3	15.36	25.3	19.5	20.4
4	Organic Carbon	%	0.77	0.82	0.79	1.02	0.98	0.88	0.86	0.76	1.02
5	Available Phosphorus	mg/kg	2.6	1.8	1.9	1	1.8	1.3	1.12	1.05	1.2
6	Available Potassium	mg/kg	6	5	8	4	3	4	5	5	8
7	Sulphate (as S)	%	6.5	8.6	12.3	10.2	10.2	11.2	9.8	11.5	10.5
8	Water Holding Capacity	%	43.6	45	42	50	52.1	49.8	48	39.8	40.8
9	Iron (as Fe)	%	1.2	1.8	1.6	1.4	1.1	1.2	1.3	1.58	1.47
10	Moisture	%	8.5	8.6	8.7	8.6	8.9	8.4	8.1	8	8.3
11	Calcium (as Ca)	mg/kg	52.3	50.4	52.6	53.4	51.4	53.8	54.6	54.7	56.4
12	Magnesium (as Mg)	mg/kg	1.21	3.5	3.4	4.1	2.4	3.5	4.1	3.8	3.8
13	Lead	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
14	Copper (as Cu)	mg/kg	0.3	0.4	0.1	0.1	0.15	0.3	0.2	0.1	0.1
15	Zinc (as Zn)	mg/kg	0.12	0.13	0.18	0.2	0.15	0.12	0.2	0.2	0.2
16	Sodium (as Na)	mg/kg	2	5	5	8	10	5	6	8	5
17	Bulk Density	gm/cu cm	1.23	1.14	1.62	1.45	1.3	1.2	1.4	1.1	1.3
18	Total Organic Matter	%	1.2	1.3	1	1.2	1.26	1.2	0.9	0.98	0.99
19	% of Sand	%	25	24	29	21	27	26	30	23	17
20	% of Clay	%	40	39	41	43	42	39	35	39	45
21	% of Silt	%	35	37	30	36	31	35	35	38	38

Sr. No.	Parameters	Unit	Project Site	Sonkhed	Khadak Manjri	Hershad	Shevdi	Adgaon	Penurbudruk	Sunegaon	Kaulagoan wadi
22	Aluminium	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	Sodium Absorption Ratio	Not Applicable	8.2	8.6	8.4	8.6	7.9	7.5	8.3	8.6	9.5
24	Total Kejeldhal Nitrogen	mg/kg	152.4	156.3	154.2	161.8	160.1	152.3	119.2	126.3	152.0
25	Porosity	%	34.5	36.4	32	32.7	33	34.5	36	34.5	36.5
26	Arsenic	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
27	Nickel	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	Cadmium	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
29	Chromium	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
30	Selenium (as se)	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
31	Manganese	mg/kg	1.4	1.5	1.6	1.4	1.5	1	1.2	1.6	1.4
32	Mercury	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
33	Silver	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of the results

- The finding of the study reveals that pH of soil in the area ranged between **7.7 to 8.3** which is an indicative of the **slightly alkaline soil to moderately alkaline soils**.
- The values for Nitrogen was found to be better to more than sufficient at all locations ranging between **119.2 to 161.8 kg/ha**, which is an indicative of good to Better nitrogen content in soils
- The concentration of Phosphorous was found to be less at all the locations ranging between **1 to 2.6 mg/kg**, i.e 27.84 to 72.38 kg/ha which is an indicative of less to on sufficient phosphorous in soil
- The concentration of organic carbon was found to be medium to on an average sufficient at all the locations ranging between 0.9 to 1.3 %, which is an indicative of sufficient to more than sufficient organic carbon in soil
- It is important to note that the concentration of potassium was found to be less at all locations ranging between 3 to 8 mg/kg i.e. which is an indicative of medium potash content in soil This indicates it is required to use potash rich fertilizers for agriculture purposes

3.4 NOISE ENVIRONMENT

Table 26 Details of noise quality monitoring locations

Sr. No.	Village	Distance from Project Site {km}	Direction with respect to Project Site	Latitude	Longitude
1.	Project Site	--	--	19.027681°	77.13033°
2.	Sonkhed	9.2	E	19.03186°	77.21797°
3.	Khadak Manjri	2.5	SE	19.01524°	77.147621°
4.	Hersad	5.2	SE	18.999715°	77.169939°
5.	Shevdi	2.6	NNE	19.048689°	77.140273°
6.	Adgaon	7.8	WSW	19.015787°	77.056711°
7.	Penur Budruk	4.7	NW	19.05666°	77.098055°
8.	Sunegaon	7.2	SSW	18.956647°	77.125699°
9.	Kaulagaonwadi	7.9	NNE	19.12368°	77.145336°

Table 27 Noise levels of the study area

Sr. No	Location	Category Of Area	(Leq dB(A)) Average		CPCB limit (Leq dB(A))	
			Day time	Night time	Day time	Night time
1	Project Site	Industrial Area	60.9	49.2	75	70

Sr. No	Location	Category Of Area	(Leq dB(A)) Average		CPCB limit (Leq dB(A))	
			Day time	Night time	Day time	Night time
2	Sonkhed	Residential Area	50.3	42.3	55	45
3	Khadak Manjri	Residential Area	51.1	40.6	55	45
4	Hersad	Residential Area	50.7	41.1	55	45
5	Shevdi	Residential Area	50.8	40.1	55	45
6	Adgaon	Residential Area	51.0	40.2	55	45
7	Penur Budruk	Residential Area	49.9	40.6	55	45
8	Sunegaon	Residential Area	50.1	40.5	55	45
9	Kaulagaonwadi	Residential Area	51.3	40.8	55	45

Summary of the results

Daytime Noise Levels (Leq) day

- Industrial Zone: The day time noise level at the Project site was found is 60.9 (A), which is well below the permissible limit of 75 dB (A).
- Residential Zone: The daytime noise levels in all the residential locations were observed to be in the range of 49.9 to 51.3 dB (A).

Night time Noise Levels (Leq) night

- Industrial Zone: The night time noise level in the Project site was observed is 49.9 dB (A), which is well below the permissible limit of 70 dB (A).
- Residential Zone: The night time noise levels in all the residential locations were observed to be in the range of 40.1 to 42.3 dB (A)

The industry is making all efforts to control the noise levels within the limits by providing acoustic measures and silencer pads etc. all the employees in these work places shall be provided with ear plugs / muffs.

3.5 LAND USE/LAND COVER OF THE STUDY AREA

Table 28 Land use/ Land cover areas in km² around 10 km radius for project site

Sr.no.	Classes	Area in Ha.	Percentage
1	Built Up Area	790	2.51
2	Crop Land	16043	51.07
3	Fallow Land	11225	35.73
4	Water Bodies/River	920	2.93
5	Barren Land	745	2.37
6	Scrub Land	1692	5.39
	Total	31415	100.00

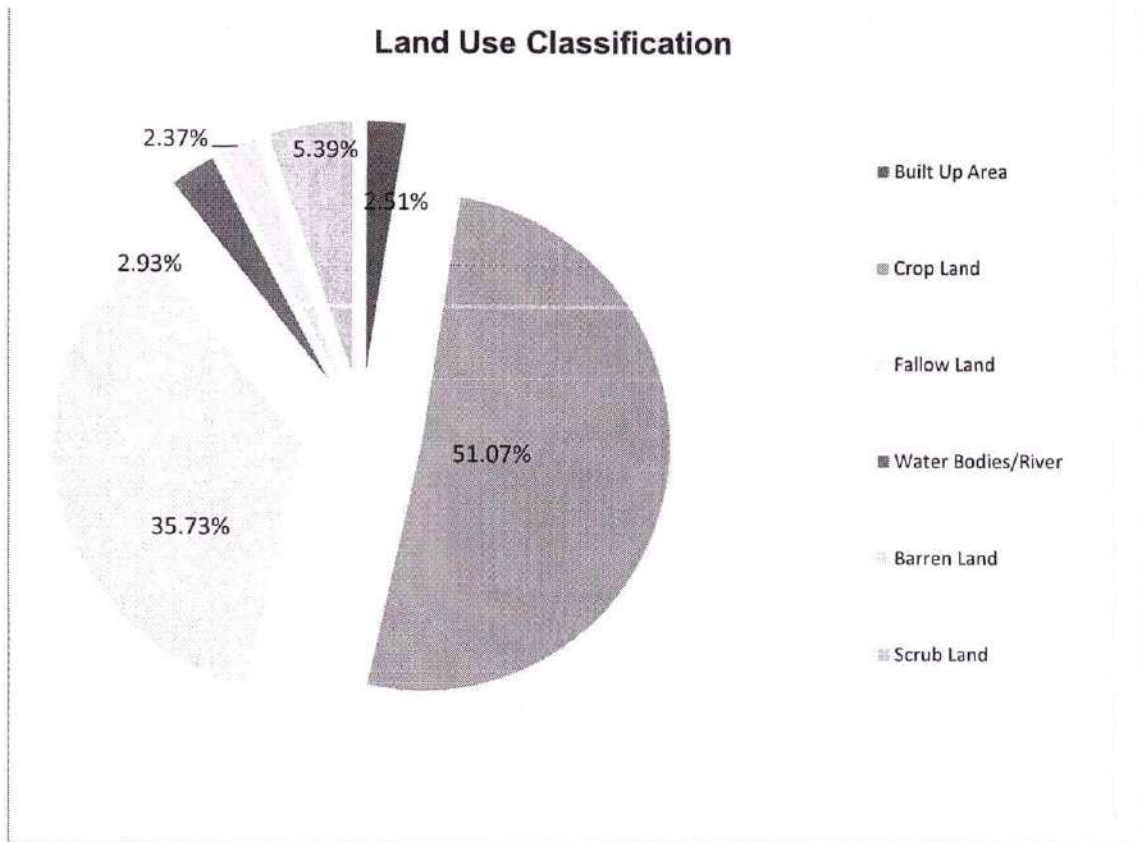


Figure 4 Pie chart of LULC classes around 10 km radius of project site

4.0 IDENTIFICATION, PREDICTION AND MITIGATION MEASURES

The anticipated impacts during construction and operational phase due to the proposed activity on air, water, soil, noise, ecology and biodiversity, and socio-economic environment are assessed and mitigation measures to minimize the impacts on the same are suggested in Chapter 4 in this report.

5.0 ANALYSIS OF ALTERNATIVE (TECHNOLOGY AND SITE)

The technologies for the treatment and safe disposal of spent wash- most polluting element from distilleries and the site selection criteria are discussed in this chapter. This is to understand the available technology options and the option selected by the project proponent. Molasses based distilleries are among the most polluting industries. Therefore, it is important to use state of the art technologies to achieve the Zero Liquid Discharge. The whole process is based on proven technology i.e., Concentration in Multiple Effect Evaporator followed by incineration in incinerator boiler.

For the treatment of effluent from sugar and co-generation unit, the existing ETP will be upgraded. The condensates from sugar unit and distillery unit will be treated in Condensate Polishing Units and recycled back as process water or makeup water for boilers and cooling towers.

M/s. Twenty-one Sugars Limited (Unit III) is located at Gut No. 313, 317, 322, 325, 326, 327, 329 & 353 at Village Shivani (Jamga), Tehsil- Loha, District- Nanded, Maharashtra. The total plot area of the sugar complex is 262929 sq. m. which is already in possession with the industry. The site is located approximately 1.5 Km away from Shivani (Jamga) Village. Nearest railway station is Hujur Saheb Nanded which is approx. 23 km towards the North East of the project site. The Jhadi nadi is located near to site at 500 m in West Direction of the project site. Shri Guru Govind Singhji Airport, Nanded is at 26 km from the project site @ North East Direction. No eco-sensitive zones like tropical forest, biosphere reserve, national park, wild life sanctuary, and coral formation reserves is located within 10 km from project site.

6.0 ENVIRONMENT MONITORING PROGRAMME

Table 29 Environment management plan during construction phase

Impacting activity	Implementation & Management				Records / Remarks
	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	
Air Environment					
1. Dust generation due to Site Preparation/ Excavation work.	- Sprinkling of water for dust suppression. - Sprinkling of water for dust suppressions & barricading of area under excavation to avoid accidents.	At the site only	Once in a day during the work in progress	Random check by Site Engineer	Contractor Water consumption records, Ambient Air Quality, Monitoring Records
2. Transportation of construction materials.	- Ensure that vehicles have a PUC Certificate. - Vehicles shall be covered.	Along the vehicle movement track	During construction phase	Check by security staff	Contractor PUC Certificate, Covering the materials with Tarpaulin.
Noise Environment					
1. Vehicular movement for transportation of materials and equipment	- Vehicles trips during daytime only. - Fixing of route by avoiding populated area.	At entry gate	Daily	Vehicle movement (Manual)	Security officer - Vehicle movement records - Route for safe exit shall be in place

Implementation & Management

Impacting activity	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
2.Noise due to use of construction Equipment	- Ear plugs and Ear muffs to be provided to workers.	Inside plant construction area	Once during week (Hourly reading for 24 hours at each location)	Noise levels using Sound Level Meter	Contractor	Regular Maintenance of equipment to be done.
Land Environment (Solid Wastes)						
1. Soil Erosion	- Level the land by cutting & filling or by importing soil from out side	At Project Site	Prior to vegetation & site clearance as well as completion of work	Periodic monitoring of Soil for Water Holding Capacity & Porosity	Contractor / I/C Civil works	Records of Soil analysis to be maintained
2. Loss of Top soil	- Area to be earmarked for top soil storage, -Protection/conservation of area for storage of top soil	At Project Site	Till it is used for green belt, once in a month	Periodic monitoring of Top soil for EC (Salinity), pH, Organic Carbon (OC) & ESP	Contractor / I/C Civil works	Records of analysis of Top Soil samples be maintained

Implementation & Management

Impacting activity	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
3. Soil Contamination	- Control spillage of construction materials	At Project Site	During construction & Completion of construction work	Periodic monitoring of EC, pH & ESP	Contractor / I/C Civil works	Records of Soil analysis to be maintained
4. Solid Wastes: Construction Materials, Wastes /Debris Generation, Storage & Disposal.	- Dedicated/proper storage Excavated waste from construction activity will be used for the backfilling and levelling in low laying area within the Project Site.	At Project Site	All time	Periodic Workplace monitoring shall be carried out.	Contractor	Records of quantity of construction waste generation and disposal to be maintained
Water Environment						
1. Domestic Effluent Disposal/Use of water for	- Domestic effluent disposed into septic tank followed by soak pit.	At Project Site	All time	Site EHS Manager/EHS Team	Monitoring of water consumption	Records of Water consumption at each unit to be carried out

Implementation & Management

Impacting activity	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
Construction Activity					at intake points	Procurement Schedule
Occupational Health and Safety						
1. Safety Measures during Construction Activity	<ul style="list-style-type: none"> - Training of workers regarding safety before deploying to work. - Compulsory use of PPE's - First Aid Arrangements - Safety Harnesses - Work Permit system 	At the Project Site	All Time	Daily Workplace Monitoring shall be carried out.	Contractor/ Site Engineer	Training & work permit records
2. Hazards while using crane and lifting heavy equipment's and	<ul style="list-style-type: none"> - Licensed and trained crane operators - Use of well-maintained and certified lifting machinery from competitive authority - Lifting and erection work to be done under supervision of safety person. 	At the Project Site	All Time	Daily Workplace Monitoring shall be carried out.	Contractor/ Site Engineer	Work permit records

Table 30 Environment management plan during operational phase

Impacting Activity	Mitigation Measures	Location	Timing / Frequency	Implementation & Management		
				Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
Air Environment						
1. Transportation of raw materials and products	<ul style="list-style-type: none"> - Vehicles will have a PUC Certificate. - Spill control mechanism in place. -Sourcing of raw material from nearby places 	Along the vehicle movement track	At all times during Operational Phase	Check by Security staff at the entry gate	Safety Department	PUC Certificate
2. Operation of Boiler	<ul style="list-style-type: none"> - Stack height of 74 m and Provision of ESP is already provided to existing 110 TPH Boiler & Stack Height of 70m with ESP will be provided for proposed Boiler of 50 TPH 	At site	At all time, during the Production Process	Periodic Stack monitoring	Safety Department	Stack monitoring and emissions record of the stack.
3. VOCs Control & Odour Management	<ul style="list-style-type: none"> - Provision of Double Vent Condensers. - Proper ventilation system shall be provided. 	At Site	At all time, during the Production Process.	Periodic Workplace Monitoring for VOCs shall be carried out.	Plant In charge OR General Manager {Operation}	<ul style="list-style-type: none"> -Workplace monitoring reports -Regular periodic health check-up reports of employee.

Implementation & Management

Impacting Activity	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
	- Volatile material shall be stored in closed containers.					
4. Fugitive dust emissions	-All roads shall be of Tar / Concrete -Bagasse yard shall be provided concrete floor and walls from all sides -Ash shall be stored in silos -Ash disposal shall be through covered trucks -Bagasse feeding shall be by covered conveyor belt	At Site	At all time, during the Production Process.	Periodic Workplace Monitoring for Ambient Air Quality shall be carried out.	Safety Department	Ambient Air Quality monitoring reports
Noise Environment	- Acoustic Enclosures shall be provided to DG Set. - PPEs shall be provided to workers	All plants at strategic locations	Once during week (Hourly reading for 24 hours at	-Noise levels using Sound Level Meter -Periodic maintenance of	Plant In charge OR General Manager {Operation}	-Regular Noise level recording reports , Preventive maintenance of noise generating equipment records

Impacting Activity	Mitigation Measures	Implementation & Management				
		Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
etc. & Equipment Maintenance			each location)	all equipment will be scheduled	& Third Party Contractor	-Periodic health check-up records with Audiometric test, Especially Operators of noise generating equipment
Water Environment						
1. Usage of Water	- Use of water in manufacturing process.	At Project Site	All time	Monitoring of water consumption at intake points	Site EHS Manager/EHS Team	-Records of Water consumption at each unit to be carried out
2. Wastewater Generation, Treatment and Disposal	- Commissioning of CPU. - Spent lees, blow down and condensate will be treated in CPU of capacity 700 CMD and treated water will be recycled. - Treated water is recycled/reused in greenbelt development.	At Project Site	All time	Monitoring of Inlet and Outlet Quality of Wastewater	Site EHS Manager/EHS Team	-Records of wastewater generation and discharge quantity to be maintained. -Also records for recycled treated wastewater to be maintained.
	- Spent wash will be treated in Standalone Multi effect					

Implementation & Management						
Impacting Activity	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
	evaporator (MEE) followed by spray dryer.					
	Land Environment (Solid Wastes)					
1. Soil Quality/ Soil Contamination	- Control spillage of chemicals/oils - Spill control Mechanism shall be in place	At Project Site	Before growing plants & once in a year after post monsoon	EC (Salinity), pH, Organic Carbon (OC), ESP	Garden-in Charge/EHS Officer	Yearly Soil Quality Monitoring Reports
2. Hazardous waste Management and Disposal	- Hazardous waste shall be segregated at source and stored in the area demarcated for hazardous waste with impervious flooring and binding - Spill control mechanism shall be in place. PPE's shall be mandatory while handling the waste	At Project Site	All time	Periodic Workplace monitoring shall be carried out.	EHS Manager OR Site EHS Manager	-Records of quantity of hazardous waste generation and disposal to be maintained.

Impacting Activity	Mitigation Measures	Location	Timing / Frequency	Implementation & Management		
				Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks
	<ul style="list-style-type: none"> - Sale to approved vendors. - ETP Sludge shall be disposed off as per statutory norms 					
3. Non-hazardous waste, Solid Waste	<ul style="list-style-type: none"> - Segregation & storage of Non-hazardous waste as per type. - Sale to approved vendors. 	At Project Site	All time	Periodic Workplace monitoring shall be carried out.	EHS Manager OR Site EHS Manager	Records of Hazardous Waste generation and disposal quantity to be maintained.
Occupational Health and Safety						
1. All Project Activities concerning/ Frightening to Occupational Health & Safety of the employees	<ul style="list-style-type: none"> - Setting up SOPs for all critical operations, reactions & separations. - Training to workers for safe practices. - Appropriate firefighting & fire detection arrangements at production unit., Provision of adequate fire extinguishers at site. 	At Site	All time	Daily Workplace monitoring shall be carried out.	EHS Manager Or EHS Officer	Regular periodic health check-up report of employee

Implementation & Management

Impacting Activity	Mitigation Measures	Location	Timing / Frequency	Monitoring / Emergency Procedure	Resource/ Responsibility	Records / Remarks Procurement Schedule
2. Transportation of raw materials and products	<ul style="list-style-type: none"> - Use of provided PPE's shall be made mandatory. Provision of First Aid Box and trained personnel, - Work zone area to maintain free from any dust/fumes/ Vapours. - Adequate safety measures along with spill control mechanism - Proper personnel protective equipment to be worn by workers at all times 	At site	During Transportation	Periodic monitoring by a party acceptable to regulatory authority	EHS Officer	Type of chemicals, operating condition of chemicals transported, Periodic Workplace Air Quality Monitoring, Record of leak detection

7.0 ADDITIONAL STUDIES

RISK ASSESSMENT

Hazard analysis involves the identification and quantification of the various hazards (unsafe condition) that exist in the plant during both construction and operation phases. On the other hand, risk analysis deals with the identification and quantification of the risk, the plant equipment and Personnel exposed to accidents resulting from the hazards present in the plant. Risk analysis involves the identification and assessment of risks to the population, which is likely to be exposed to as a result of hazards incidence.

This requires an assessment of failure probability, credible accident scenario, vulnerability of population, etc. Much of this information is difficult to get or generate consequently, the risk analysis in present case is confined to worst case and maximum credible accident studies and safety and risk aspect related to sulphitation process, alcohol storage and plant operations. Detailed Quantitative Risk Assessment (QRA) on potentially more hazardous and risky situations have been carried out in details and presented in the report in the later part.

8.0 BUDGETARY PROVISIONS TOWARDS ENVIRONMENTAL MANAGEMENT PLAN

Table 31 EMP Budget

Sr. No.	Component	Particulars	Capital investment in Lakhs	Recurring Cost in Lakhs	
1	Air	Construction of new stack for boiler and ESP	250	25	
2	Water	<ul style="list-style-type: none"> • Up-gradation of Existing Sugar ETP • Distillery CPU. • Anaerobic Digester, MEE & incinerator boiler for Distillery Spent wash treatment 	6000	130	
3	Noise	Acoustic enclosures, Silencer pads, ear plugs etc.	50	5	
4	Environment monitoring and Management	Monthly Environment Monitoring (Per Year)	0	10	
		Ambient air monitoring			PM ₁₀ , PM _{2.5} , SO ₂ , NO _x
		Boiler & DG Set Monitoring			TPM, SO ₂ , NO _x
	Effluent (Distillery CPU) (Treated & Untreated)	pH, COD, BOD, TSS, TDS, Oil & Grease			
5	Occupational Health	Glare, Breathing Masks, Gloves, Boots, Helmets, Ear Plugs etc. & annual health-medical check-up of workers, Occupational Health (training, OH centre)	70	25	

Sr. No.	Component	Particulars	Capital investment in Lakhs	Recurring Cost in Lakhs
6	Greenbelt	Green belt development activity	210	10
7	Solid Waste Management	Solid Waste Management	100	10
8	Rain water harvesting	Rain water harvesting	50	6
9	Storm water drainage	Storm water drainage design and construction	50	6
10	Solar Power & Energy Conservation	Street lights installation with Solar Systems	100	10
11	Fire and Safety	Fire and Safety Management	1000	15
12	Laboratory	Testing and Analysis	20	3
Total Cost (In Lakhs)			8100	250

9.0 GREENBELT DEVELOPMENT PLAN

Total 33.33% of plant area has been developed as green belt and industry will be plant around more 2500 trees per hectares no. of big & small trees (as per CPCB norms) in phase wise manner by M/s Twentyone Sugars Ltd. (Unit III) Total green belt plantation area is about 87643.19 sqm (8.76 Ha). The selection of trees is based upon the climatological conditions of the Study area.

10.0 CORPORATE ENVIRONMENT RESPONSIBILITY PLAN

As per OM dated 01st May, 2018, CER expenditure is to be spent will be Rs. 2.71 Crore. The amount shall be spent within next 3 years. The finalization of the activities shall be done in consultation with the District Collector.

This CER is designed after taking into consideration the view of public. Factory has responsibility towards the people residing in the vicinity to help the nearby villages.

11.0 RAINWATER AND STORMWATER HARVESTING PLAN

Rainwater harvesting is a mechanism involved in collecting, storing and using rainwater when it is most needed. A rainwater harvesting system comprises of various stages – transporting rainwater through pipes or drains, filtration and storage in tanks for reuse or recharge. There are five components in a rainwater harvesting system namely catchment, conveyance, filtration, storage and recharge.

Table 32 Rainwater harvesting system

Sr. No.	Particular	Area (Sq. m)	Average Rainfall* (m)	Runoff Coefficient	Quantum of Runoff available (Cum/Year)
1	Roof Top of building / Shed	14015	0.770	0.85	9172.8
2	Road / Paved area	34180	0.770	0.65	17107.1
3	Open Land	127091	0.770	0.2	19572.0
4	Green Belt	87643	0.770	0.15	10122.8
	Total	262929			55974.7

12.0 CONCLUSIONS

As the industry has provided all the necessary pollution control measures for water, Air and Solid and hazardous waste disposal, the negative impacts on the environment would be minimal/ negligible. The expansion of sugar unit would help to produce good quality of sugar and establishment programme would help to produce good quality of RS/Ethanol and has a great potential for export. Ethanol produced will mainly utilized in blending with petrol (additives).

The Sub Regional Officer, Maharashtra Pollution Control Board, Nanded & Convener of Public Hearing panel asked the participant who were present to raise their views and comments on the project to insure that the objective of the Public Hearing are fulfilled.

The proceeding is as below.

1) Shri Ratnakar Gangadhar Dhage, Residence-Sayal, Taluka – Loha, District – Nanded:-

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	I am a farmer from Sayal. The dust is discharged from the chimney of the project due to the production activities. Due to this, there is pollution in the area. The generated dust falls on the crops of farmers in the area. Due to this, the sunlight and air absorption process of the crops is slowing down and the crops are getting damaged. Due to fall of ash/dust, the quality of cotton is deteriorating. It is not getting a fair price in the market. Hence, the release of dust/ash should be stopped immediately.	Project Environmental Consultant replied that the said factory was acquired from Dharashiv Management. We have just completed our first season. The age-old pollution control system of the previous management has been replaced and now we have installed most advanced pollution control system. In this project most advanced air pollution control system i.e. ESP (Electro Static Precipitator) will be installed in the chimney for air pollution control. Its efficiency is 99.9%. So, the ash will not go out from the chimney. Crops in the area will not be damaged.
		Environment Consultant said that according to the new directives of the Central Government, the Online Monitoring Pollution Control system (OCEMS) will be implemented in the project and it is mandatory to connect it to the servers of the Central Pollution Control Board at New Delhi and Maharashtra Pollution Control Board at Mumbai. Therefore, if the prescribed standards are violated, then further action is immediately initiated. Therefore, due to the expansion, there will be no disturbance in the area, dust/ash from the project will not be released outside the project.



**2) Shri Ganesh Devrao Mudgule, Residence – Dagadgaon, Taluka – Loha, District –
Nanded :-**

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	I am a farmer. There is no problem of this factory in the area. 150-200 people from the locality are employed in the factory, whether they are sugarcane cutters, tractor operators, laborers. They got employment due to this factory. This is my intuition.	Suggestion is noted.

**3) Shri Shivaji Shankarrao More, Residence – Sonkhed, Taluka – Loha, District –
Nanded**

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	We have got lot of benefits from this factory. This year the factory has given us a price of Rs. 2,200/-. Local people are working in the factory and we expect that local people, educated youth, young women residing in the 10 k.m. radius of the project should be given job opportunities in the project. Sons of soil residing at Sonkhed, Khadak Manjari, Shevdi, Adgaon, Sunegaon should be given employment opportunity.	Environmental Consultant said that 265 people are needed for the expansion project and this need will be met by giving job opportunities to the people of the surrounding villages.

**4) Shri Aniket Shankararao Hande, Residence – Sonkhed, Taluka – Loha, District –
Nanded :-**

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	What measures will be planned for rain water harvesting?	Environmental Consultant said that the rain water that falls on our roofs, on the ground, will be intercepted and stored. A large tank will be constructed as the farm has a Shet Tale i.e. Small lake in the farm. The stored rain water will be used instead of fresh water for the production process. Therefore, the need for fresh water will be reduced.

5) Shri Gangadhar Kashinath Jogdand, Residence – Anteshwar, Taluka – Loha, District – Nanded :-

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	Today we are gathered for the expansion project of Twentyone Sugars Limited (Unit-III). Sugarcane crop is grown in 400-500 acres of land in our area and it should sold in time. Due to this project expansion, the sugarcane will be sold in time, its weight will not decrease and the sugarcane crop will bring a fair price. So, this project is going to be a boon to our local farmers. Hence, the said project should be approved at the earliest.	Suggestion is noted.

6) Shri Prakash Bhanudas Pawar, Residence – Jawala Deshmukh, Taluka – Loha, District – Nanded:-

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	Sugarcane is grown in our Godavari river basin. The opening of the factory eased the pressure on our minds, because sugarcane crop is sold to the factory. However, the request is to allow the expansion of the said factory as soon as possible.	Suggestions have been noted.

7) Shri Kishan Eknathrao Dhavale, At Post – Dagadgaon, Taluka -Loha, District – Nanded :-

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	This project proved as Kamdhenu (Blessing Cow) for our locality, 300-400 persons in the area, be it contractors, workers, employees, got job opportunities. Now there is request that ITI passed, young boys and girls whom have knowledge of computer of the area should be given job opportunities in the expansion project.	Suggestions are noted.

8) Shri Sunanda Reddy, Environmentalist, Hyderabad :-

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	I am supporting the project and wishing the project administration all the best for project expansion. I am the first environmentalist in India to support the project, because in my opinion, the biggest pollution in India is unemployment. Along with environmental protection, industrial development is also necessary. Central Government and various State Governments provide about 5-6 lakh jobs all over the country, but in India every year about one crore youths are available for employment. Therefore, it is necessary to develop industries in India. Hence, I request the Ministry of Environment, Forest and Climate Change to approve the project immediately.	Suggestions have been noted.
2)	Accordingly, I thank the company for hiring an experienced Environmental Consultant to prepare an Environmental Impact Assessment report. I am thankful to the Environment Environmental Consultant for properly surveying and preparing the Environmental Impact Assessment Report. I request here that the company should survey the present health status of the area, present status of crops, as well as present status of ground water.	Suggestions have been noted.
3)	Water conservation, conservation of water is very important. This will increase the ground water level in the area. It is mandatory to project officials to develop 33% green belt. I request the company management here to develop more green belt in the company area. Similarly, green belts should be developed in nearby villages on both sides of the road and in nearby villages. While developing the green belt, medicinal plants and fruit bearing plants should be planted in large quantities. This expenditure can be met from the company's CSR fund.	Suggestions have been noted
4)	I request Project Management to give job opportunities to the local unemployed youth. Finally, I request the Government to approve the said project.	Suggestions have been noted

**9) Shri Honaji Bhimrao Wankhede, Residence – Bet Sangavi, Taluka – Loha, District
– Nanded –**

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	It is very good that the project is going to be expanded. But the factory should preferably take maximum sugarcane crop from the local farmers for crushing. It means that the sugarcane crop in the area of 40-50 k.m. distance should be preferably taken by the company for crushing. This is a request from the local farmers to the company management. Local farmers have to sell the same to long distance sugar companies.	Project Proponent replied that the question raised by the local farmers is genuine. We are going to take sugarcane from the local farmers in the area for crushing. Sugarcane crop will be brought from outside only if needed only after the nearby sugarcane crop is exhausted.
2)	Similarly, the factory is paying the monthly salary as per old factory management system. Inflation has made so that it difficult to maintain the standard of living and hence it should be considered sympathetically.	Suggestions have been noted.

10) H. Madhu Babu, Environmentalist, Hyderabad -

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	Two days ago I sent a letter to Sub Regional Officer, Maharashtra Pollution Control Board, Nanded and gave some suggestions regarding the project. Those suggestions should be considered while granting permission. I support for company expansion.	Suggestions should be noted.

11) B. Chandrasekhar, Environmentalist, Hyderabad -

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	I am making some suggestions for the environmental public hearing conducted by Sub-Regional Officer, Maharashtra Pollution Control Board, Nanded. Some suggestions have been given regarding the project by sending a letter. CSR funds should be used only for local people. 100% job opportunities should be given to local young boys and girls in the project. The	Suggestions have been noted.

	ETP system in the project should be operated efficiently. All workers in the project should be provided Personal Protective Equipment's (PPEs). I recommend to approve the said project by the Ministry of Environment.	
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12) Shri Shriman Bhaurao Wankhede, Residence – Bet Sangavi, Taluka – Loha, District – Nanded -

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	I am speaking on behalf of the farmers. The factory management is requested that sugarcane crop is planted on the banks of the Godavari River. Any vehicle, tractor cannot go there. Hence, the factory should make available a bullock cart to lift the sugarcane crop. Further to request that local people should be given job opportunities. The previous management has taken wrong entries. The present management has taken actual entries of the farmers by visiting the agriculture fields. Thanks for their efforts. The entries should be correct and perfect. If the farmers of Western Maharashtra Region are getting the rate of Rupees 2700-2800, why we cannot get? Local farmers should get the same rate.	Project Proponent replied that we bought the factory last year itself. Therefore, the previous management may have made wrong records. Shri Wankhede has thanked us for going to farmers' fields this year and taking notes. Project Proponent further said that the farmers here should plant more sugarcane and make it available to this factory. So that the company will not need to buy sugarcane from outside. We will give as much price as we can.
2)	Local people should be given job opportunities.	Project Proponent further said that as suggested by Shri Wankhede, we will provide job opportunities to the local people for technical work only if they have the educational qualification.
3)	The previous management of the Dharashiv factory has taken the deposit cess from the local farmers. But they have not given any receipt for the same. It is requested that the money of the farmers should be returned back.	Project Proponent promised that they will try to find a compromise solution as per the Law in the next 15-20 days by checking the cess deposit taken from the farmers by the previous management.

13) Shri Abhijit Raut, Chairman, Environment Public Hearing Committee :-

Sr. No.	Objection-/ Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion

1)	What are your plans regarding CSR activities? Because due to expansion of the project, there will be increase for the requirement of water and electricity for production activities. Are you going to implement your CSR activities for it?	Environmental Consultant said that 2.71 crores has been reserved for the Corporate Environment Responsibility (CER) Fund. As per the Rules, the amount will be spent in the radius of 10 km of the project site in three years for various environmental schemes as per the directives of the District Collector Office.
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14) Shri Dilip Khedkar, Member, Environment Public Hearing Committee -

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	I am attending this meeting as a Representative of Maharashtra Pollution Control Board. He asked that there is 26.29 hectares i.e. 65-66 acres of land is available for the proposed project. So how much land will be required for the project and the road? After that, how much land will remain for green belt development and treated sewage disposal?	Environment Consultant replied that the entire green belt would be on 21.65 acres. The existing land is 4,382 square meter. Now 615 trees have been planted at the project site and there is an intention to plant 12,000 trees in the proposed project. Project Environmental Consultant said that the existing built-up area is about 15 acres. He said that 18 acres would go into the proposed and operational project.
2)	Member asked that 22 acres of green belt is shown in the Presentation. So how much waste water will be generated?	Environment Consultant informed that from sugar and co-generation of power project, there will be effluent generation of 420.0 M3/day.
3)	Member asked that how much space would require for the said sewage disposal?	Project Environmental Consultant answered that 21.0 acres of land will require.
4)	Member opined here that land falls short. Because further things happen like sewage coming out of the tank, going to the nearby fields. However, there must be a proportional space for waste water. Member suggested that additional land would have to be acquired or an agreement with neighboring farmers would have to be made. But you need the right land.	Environmental Consultant said that the factory is going to implement some measures to reduce the waste water. This will reduce the waste water generation by 100.0 cubic meters. Similarly, a greenhouse will be developed.
5)	Member suggested that a study should be conducted on the requirement of land assuming 12-15 M3/day. Member asked that the green belt will be developed, where is its location in the project? Member said that a green belt should be developed around the project leaving the width. Green belt plan should be approved accordingly. Environment Department also passes terms and conditions in Environmental Clearances. At least 33% green belt has to be developed.	Environmental consultant said that green belt development will be done along with the boundary of the project on all four sides of the project.

	Then green belt, lawn should be developed in the remaining space. A lawn is not included in the green belt. However, green belt development should be planned accordingly. A green belt plan should be prepared before starting the construction. Environment Department also passes the same terms and condition.	
6)	Member further suggested that there is a boiler which is in operation in the existing working project. Besides this, a new boiler of 55.0 TPH has been proposed. In the presentation, it is stated that the new boiler will be installed with ESP, a most advanced air pollution control system. So present boiler working in operation has wet scrubber. Many times, there are complaints of air pollution. Hence, are you going to run the present working boiler? If so, you can install an ESP or a good scrubber to it. Apart from new boiler, present boiler which is in operation also have to be considered.	Suggestions have been noted.

15) Shri Rajendra Patil, Convener, Environment Public Hearing Committee :-

Sr. No.	Objection / Information / Question	Answers / Assurances given by Project Promoter / Environmental Consultant / Environmental Public Hearing Committee as per discussion
1)	How much total wastewater will be generated from your operational and proposed expansion projects, as well as how much wastewater will be generated from various sources within the project?	Environmental Consultant informed that the effluent of the distillery will be 1083.0 M3. The project is a ZLD (Zero Liquid Discharge) project
2)	At that time, Convener suggested that an explanation should be given to the public about what is ZLD? Similarly, what will be done with the water that is going to be released from various sources in the project, which is going to be processed by the factory and where are you going to discharge the waste water?	

At this time, Member, Environment Public Hearing Committee expressed the opinion that many times people want to speak, but they are unable to do so. Previously, if there is sugar factory, then it means smell of spent wash used to start from 4-5 k.m. long distance. It is necessary for the people here to understand what is the change that you have made in this project. Earlier, the spent wash is used to spread on the fields, then sometimes the farmers would fill them and carry them away. But now the process will be completely closed and it is necessary to clarify that Zero Liquid Discharge means not a single drop of waste water will go out of the project and will not fall on the ground.

Also, just saying that ESP will be installed to the boilers is not at all desired, but it should be explained how air pollution will not occur. Because if there is no air pollution control system, the dust particles from the chimney fly away to the distance of 5-6 k.m.

Project Environmental Consultant while giving information said that earlier the waste water from the distillery which is called spent wash, was used to store in a lagoon. The spent wash used to percolate into the nearby fields and mix with the nearby water bodies. The orange colored water used to spoil the nearby wells.

Now the Government of India & the Government of Maharashtra have made it mandatory for the distillery plant to be Zero Liquid Discharge. The generated spent wash will be heated in the MEE (Multi Effective Evaporation) to form its vapour & vaporised water treated in CPU (Condensate Polishing Unit). The treated water later reuse in the production process, while the solid spent wash will be as a fuel in the boiler. Therefore, there will be no smell in the area and there will be no water pollution due to spent wash.

In the sugar factory, the steam from the condensate will be converted into water and treated in advance pollution control system. It will be reused in the production process. This will reduce the need for fresh water. Therefore, there is no question of taking farmers water for factories.

Regarding air pollution, Environmental Consultant said that most advanced air pollution control system will be implemented in the project. Therefore, the air pollution will not affect the surrounding farmers.

Similarly, the connection of the said pollution control system is to be connected to the office of Central Pollution Control Board at New Delhi and Maharashtra Pollution Control Board at Mumbai. Therefore, if there is a slight change beyond the prescribed standards, a notice is immediately issued to the company. So there will be no pollution of water and air.

Here, Member, Environment Public Hearing Committee told the participants that the Maharashtra Pollution Control Board is giving clarity here.

Earlier it was happening that MPCB officials used to visit the company within the prescribed time limit and collect the water and air samples and send them to the MPCB laboratory for analysis and get the pollution information every month. The procedure is becoming history now.

Now it has been made mandatory for Large-scale factories, sugar and distilleries to set up and implement Continuous Online Monitoring Systems. The sensor is installed on the top of the chimney and is connected to the servers of Central Pollution Control Board at New Delhi and Maharashtra Pollution Control Board at Mumbai. So, we are going to understand online quality of smoke/air pollution and effluent.

The next step is that in case of pollution, the production process of that factory will automatically shut down. It is informed here. So that the public can know about these matters

Member appealed the participants to raise any environmental suggestions, objections, if any, regarding the proposed project. There was no response from the audience.

Convener, Environmental Public Hearing Committee, also appealed to the participants to register any environmental suggestions, objections, if any, regarding the proposed project. He appealed that if anyone desires to submit written complaints, they can hand over it. There was no response from the participants.

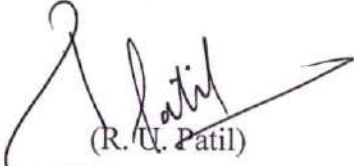
At that time, Convener informed that the suggestions, objections raised in the meeting have been recorded and it will be included in the minutes of the meeting. The minutes of the meeting will be submitted alongwith written suggestions/objections as received, Final Environmental Impact Assessment Report after approval of Chairman, Environment Public Hearing Committee through Head Office, MPCB, Mumbai to Ministry of Environment, Forests and Climate Change, Government of India, New Delhi. An expert committee will take appropriate decision in this regard.

Convener, Environmental Public Hearing Committee thanked all the participants, project officers and government officials for attending the meeting and registering their

suggestions and objections and on behalf of Chairman, Environmental Public Hearing Committee declared that the meeting is completed.

The Member of the Environment Public Hearing Committee thanked all the local people, project officials and environmentalists and declared that the meeting is concluded.

The meeting ended extending thanks to the Chair.



(R. U. Patil)
Convener,

Environment Public Hearing Committee
Sub Regional Officer, MPCB, Nanded



(D. K. Khedkar)
Member,

Environment Public Hearing Committee
Regional Officer, MPCB, Aurangabad



(Shri. Abhijeet Raut, IAS)
Chairperson ,
Environment Public Hearing Committee
District Magistrate, Nanded