



P-596-SBPL-EIA-DISTILLERY-72022

**SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT
(EIA) REPORT
(IN ENGLISH AND MARATHI)**

FOR

**Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) /
Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup
approved under B2 Category along with 3 MW Power Generation**

BY

SURESHWARAM BIOFUEL PVT. LTD.

Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra

PREPARED BY



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An ISO 9001 : 2015 & QCI - NABET Accredited Organization



MARCH - 2023



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North Solapur, Dist. Solapur 413 222

Ref. No. *PH/Teel-2023*

Date - *17/03/2023*

To,
The Member Secretary
Maharashtra Pollution Control Board (MPCB);
3rd & 4th Floor, Kalpataru Point,
Sion Circle, Sion (E),
Mumbai - 400 022

Sub.: Application for conducting 'Public Hearing' for Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation by - **Sureshwaram Biofuel Pvt. Ltd. (SBPL)**; Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State.

Ref.: 'Terms of Reference'(ToR) granted vide letter no. IA-J-11011/97/2022-IA-II(I) dated 15.03.2023. Copy is enclosed at **Enclosure - I**.

Dear Sir,

We - "Sureshwaram Biofuel Pvt. Ltd. (SBPL)" have planned to Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation located at Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State.

Accordingly, an application in Form - 1 format was submitted to the 'Ministry of Environment, Forest & Climate Change (MoEFCC); New Delhi' for grant of ToRs on 15.03.2023. Subsequently, standard ToR's were granted. Refer **Enclosure - I** for copy of ToR letter. In the ToR letter, directions were given to conduct Public Hearing w.r.t. our proposed project. Now, in order to conduct Public Hearing, we hereby are submitting all the relevant documents and information to your office.

Along with the Public Hearing application, a Draft EIA Report as per the generic structure stipulated in MoEFCC Notification No. S.O.1533 (E) dated 14.09.2006 and amendments thereto; and Executive Summary Report in two languages (English and Marathi) are enclosed separately. The same provide details of Pollution Control Facilities, Production Processes and Raw Materials as well as Finished Products and Environmental Management Plan (EMP) etc. regarding the unit.

CIN- U01409PN2021PTC206128

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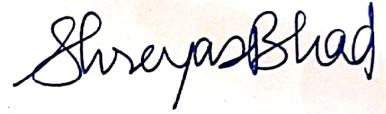
'Twenty Sets' of various documents, as mentioned above and equivalent number of soft copies of same have been submitted for your information and further necessary action.

Also, a Demand Draft of Rs. 1,00,000/- (Rs. One Lakh only) bearing no. _____ drawn on _____ dated _____ towards the Public Hearing charges, as decided by the govt., has been presented herewith.

Please do the needful and oblige.

Thanking you.

Yours faithfully,



Mr. Shreyas L. Bhad
(Director)

Encl.: 1. Executive Summary of project

2. A Draft EIA Report

3. A D.D. bearing No. _____ dated _____ drawn on _____

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**Summary of Draft EIA Report
for
Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) /
Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup
approved under B2 Category along with 3 MW Power Generation
By
Sureshwaram Biofuel Pvt. Ltd. (SBPL),**

Gat No. 207, 223 & 224, Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra

1) THE PROJECT

Sureshwaram Biofuel Pvt. Ltd. (SBPL) site is located at Gat No. 207, 223 & 224, Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State. The management of SBPL have planned to Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation.

Alcohol has assumed very important place in the Country's economy. It is a vital raw material for a number of chemicals and also a renewable source of energy. It has been a source of a large amount of revenue by way of excise duty levied by the Govt. on alcoholic liquors. It has a potential as fuel in the form of power alcohol for blending with petrol. Also, the fermentation alcohol has great demand in countries like Japan, U.S.A., Canada, Sri Lanka etc., as the synthetic alcohol produced by these countries, from naphtha of petroleum crude, is not useful for beverages. Considering the above facts as well as availability of raw material, management of SBPL has decided go for Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation.

As per the provision of "EIA Notification No. S. O. 1533 (E)" dated 14.09.2006 as amended vide Notification dated 13 June 2019, the project comes under Category - A. Accordingly, Form -1 application is submitted to MoEFCC, and ToRs granted on 15.03.2023.

2) THE PROMOTERS

SBPL promoters are well experienced in the field of distillery & have made thorough study of entire project planning as well as implementation schedule. Name and designation of the promoters are as under-

Table 3 List of Promoters

No.	Name	Designation
1	Mr. Shreyas L. Bhad	Director
2	Mrs. Snehal L. Bhad	Director

3) THE PLACE

Proposed project will be implemented on the land owned by SBPL. Total land acquired by the industry is 72,400 Sq. M. (7.24 Ha).

'**Sureshwaram Biofuel Pvt. Ltd.**' (SBPL) was registered on 16.11.2021. The management of **Sureshwaram Biofuel Pvt. Ltd.** has decided to Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation at Gat No. 207, 223

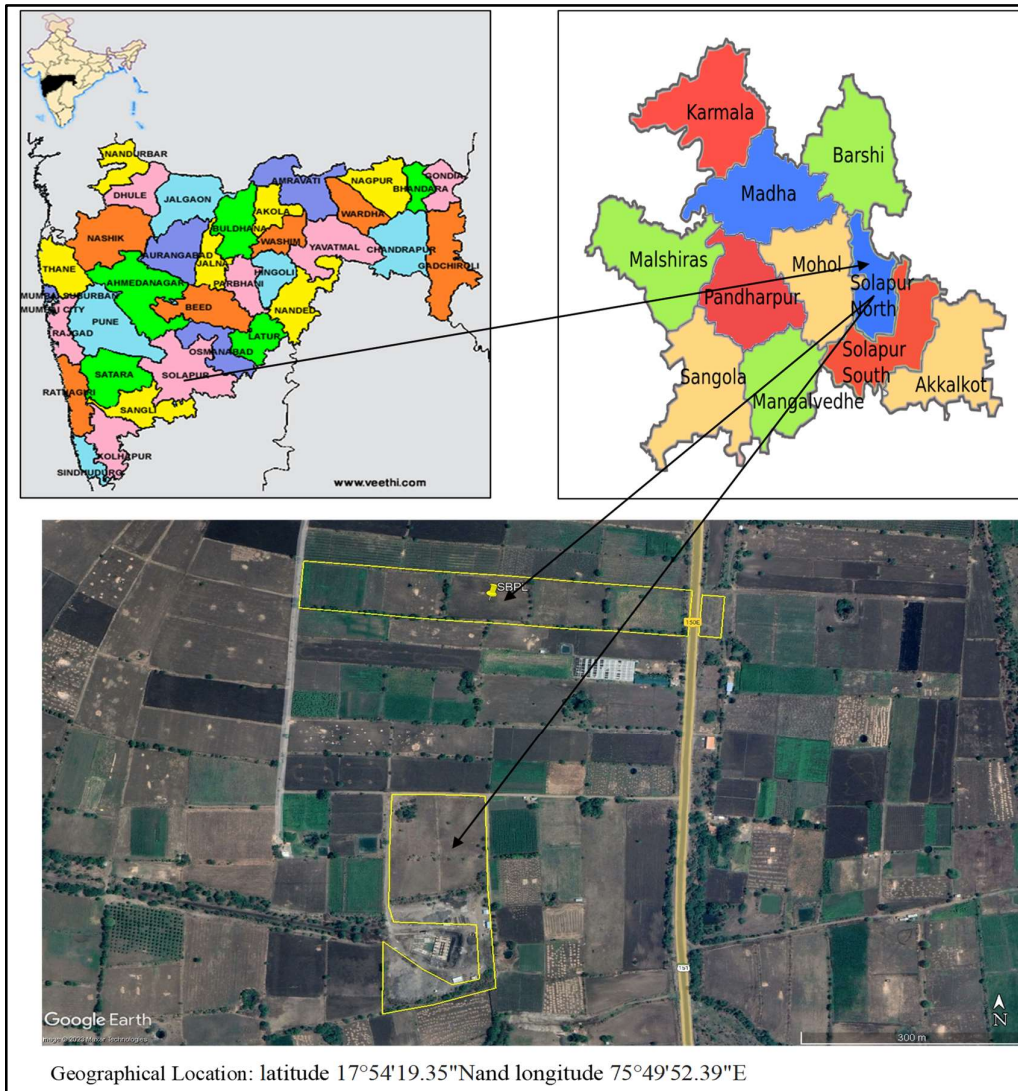
& 224, Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State. Proposed distillery activities will be implemented only after obtaining requisite approvals, permissions and consents from concerned authorities namely MoEFCC; New Delhi, SEAC/SEIAA; DoE, Maharashtra, MPCB etc. **Capital investment** of proposed distillery project is **Rs. 175 Crores**.

Detailed area break-up is presented at Table 2. Refer **Appendix - A** for plot layout plan of SBPL.

Table 2 Area Break up

No.	List of area	Area (Sq. M)
1	Total Plot Area	72,400
2	Ground Coverage Area	16,297
3	Area under Road	6,958
4	Green Belt Area (33% of TPA)	23,892
5	Parking Area (15% of TPA)	10,860
6	Total Open Area	14,393

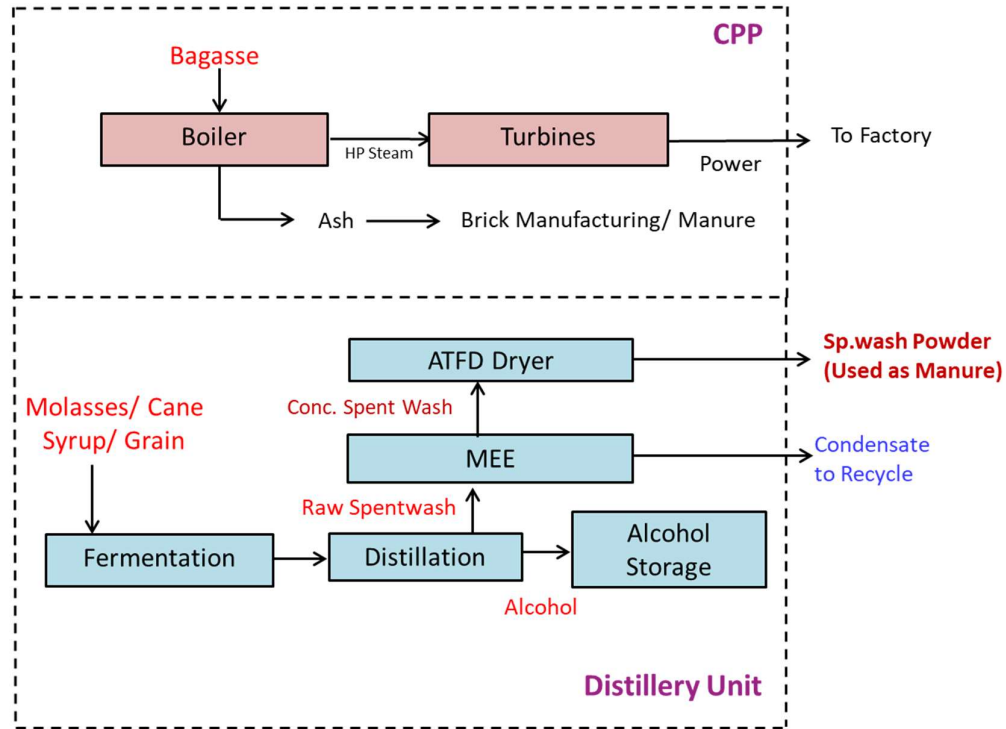
Figure 1. Location of the Project Site



4) MANUFACTURING PROCESS

Detailed manufacturing process and flow diagram for distillery unit are given in Chapter 2 of EIA report. Manufacturing process of integrated project complex is presented at Figure 2.

Figure 2 Integrated Manufacturing Process Operations



5) THE PRODUCTS

Details of products and by-products are presented in Table 4.

Table 4 Product & By-product for Integrated Complex

Industrial Unit	Product & By-product	UoM	Quantity
Proposed Distillery Unit (105 KLPD)	Rectified Spirit (RS)/ Extra Neutral Alcohol (ENA)/Ethanol	KLPD	105
	Fusel Oil	KL/D	0.8
	CO ₂	MT/D	79
	Spentwash Dry Powder	MT/D	67
	DDGS	MT/D	88

Details of manufacturing process and flow chart for distillery are given in Chapter 2 of the EIA Report.

6) ENVIRONMENTAL ASPECTS

SBPL have an effective 'Environmental Management Plan' and various aspects of the same are as follows: -

A. Water Use, Effluent Generation and its Treatment

a. Water Use

Details of water usage for the Distillery operations are as follows –

Table 5 Details of Water Consumption in Distillery

No	Description	Quantity (M ³ /D)		
		Molasses Based	Cane Juice Based	Grain Based
1.	Domestic	#5	#5	#5
2.	Industrial			
	Process	*834	--	629 (*499 + *130)
	Cooling Makeup	315(#207 + *108)	*315	315 (*111 + #204)
	Boiler Makeup	#72	*72	#72
	Lab & Washing	#5	*5	#5
	DM Plant	#14	*14	#14
	Ash Quenching	Ω2	Ω2	Ω2
	Industrial Use	1242 (#298+*942+ Ω2) (76% Recycle)	*408 (*406 + Ω2) (100% Recycle)	1037 (#295+*610+*130+Ω2) (72% Rec.)
3.	Green Belt	21 (Ω17+§4)	21 (Ω17+§4)	21 (Ω17+§4)
	Grand Total (1+2+3)	1268 (#303+*942+Ω19+§4)	434 (#5+*406+Ω19+§4)	1063 (#300+*610+*130+ Ω19+§4)
	Fresh Water Consumption (Norm: 10 KL/KL Alcohol)	2.8 KL	0.0 KL	2.8 KL

Note: # - Fresh water, * - Distillery CPU Treated water, § - STP treated effluent, Ω - Harvested rain water, * - Recycled Thin slop

b. Effluent Treatment-

Effluent generated from proposed Distillery unit is given in following table-

Table 6 Effluent Generation from Distillery Unit

No	Description	Effluent Generation (CMD)			Treatment
		Molasses	Cane Juice	Grain Based	
1	Domestic	4	4	4	Proposed STP
2	Industrial				
	Process	Raw Spentwash: 840; Conc. Spentwash: 168	Raw Spentwash: 420; Conc. Spentwash: 84	Thick Slop: 60 MT/D; Wet Cake: 108 MT/D	<ul style="list-style-type: none"> • Molasses/ Sugarcane Syrup Distillery: Raw Spentwash shall concentrated in Multi Effect Evaporator (MEE). Conc. Spentwash shall be dried for powder formation (ATFD). • Grain Distillery: Thick Slop & Wet Cake shall be forwarded to drier to form powder i.e., DDGS. • Other Effluent: MEE Condensate, Sp. Lees, Cooling b/d, Boiler b/d, Lab & Washing - Treated in Proposed CPU. • Treated Effluent: 100% Recycle. Total ZLD Project • Spentwash Storage Tank Capacity: 5 Days
		Condensate: 756; Sp. Lees: 145	Condensate: 370; Sp. Lees: 93	PRC Lees - 268; Condensate - 322	
	Cooling B/d	47	47	47	
	Boiler B/d	14	14	14	
	DM Plant	14	14	14	
	L & W	5	5	5	
	Total	Conc. Sp wash: 168 Other Effluent: 981	Conc. Sp wash: 84 Other Effluent: 543	Other Effluent: 670	

i) Domestic Effluent

Domestic effluent generated from distillery unit will be 4 CMD, treated in proposed Sewage Treatment Plant (STP) of 5 CMD capacity and treated effluent will be reused for flushing and also used for gardening in own premises.

ii) Industrial Effluent

Raw spentwash generated from molasses based distillery @ 840 CMD shall be concentrated in MEE. Concentrated spent wash @ 168 CMD will be dried in ATFD to form powder. Same treatment shall be given for spentwash from cane juice as raw material. This spent wash is lesser in quantity & better in quality w.r.t. pollution parameter when compared with molasses distillery spentwash. (Raw spentwash-420 CMD & conc. spentwash @ 84 CMD). This spent wash is lesser in quantity & better in quality w.r.t. pollution parameter when compared with molasses distillery spentwash.

Wet cake i.e. Distillers Wet Grains with Solubles (DWGS-70% moisture) @ 108 MT/D will be generated after decantation of spentwash, sold to farmers as cattle feed. This wet cake further dried in dryers will result in to loss of moisture thereby forming Distillers Dry Grains with Solubles (DDGS- 10% moisture) @ 88 MT/D. This DDGS has more shelf life & sold as cattle feed.

Other Effluents viz. condensate, spent lees, cooling b/d, boiler b/d, lab & washing @ 981CMD (From Molasses based)/ 543 CMD (Cane juice based)/ 670 CMD (Grain Based) shall be forwarded to Distillery CPU. Treated effluent shall be fully recycled to achieve Zero Liquid Discharge (ZLD).

B. Air Emissions

Steam required for the proposed distillery will be taken from the proposed 30 TPH boiler. ESP will be provided as APC along with a stack of 60 M height. Bagasse will be used as fuel for the same.

There will be process emissions in the form CO₂ from Fermenters in distillery unit to the tune of 79 MT/D. Same will be collected, purified, compressed and filled in cylinders and sold for production of beverages. Following table gives details of boilers and D.G. Set.

Table 7 Details of Boiler and Stack in SBPL

No.	Description	Boiler	DG Set
1	Boiler Capacity	30 TPH	500 KVA
2	Fuel type	Bagasse	Diesel
3	Fuel Qty., MT/D	360	70 Lit. /Hr.
4	MOC	MS	MS
5	Shape	Round	Round
6	Height	60 M	5 M
7	Diameter	3 M	200 mm
8	APC Equipment	ESP	Silencer & Acoustic Enclosure

Details of air pollution aspect and the control measures are given in Chapter 2, Section 2.7.2.

C. Noise Pollution Aspect

1. Sources of Noise

- i. In the distillery, very high noise generating sources will not exist. Expected noise levels in the section would be about 70 dB (A) or so. Adequate noise abatement measures like

silencer & maintenance of pumps, motors, and compressors would be carried out and enclosures would be provided to abate noise levels at source. Moreover, enclosures to the machinery would be provided wherever possible.

- ii. Fermentation section & distillation section will be the other minor noise generating sources. The expected noise levels in these sections would be in range of 70 to 80 dB(A).
- iii. Adequate green will be developed in phase wise manner in and around the industry. So that it will further attenuate the noise levels.

2. Control Measures

Control through isolation, separation and insulation techniques. PPEs like earmuffs, earplugs etc. will be provided to workers. D.G. Sets are enclosed in a separate canopy to reduce the noise levels.

D. Hazardous Wastes

Table 8 Details of Hazardous Waste

No.	Type of Waste	Quantity	Disposal
1	Spent Oil – Cat.5.1	0.8 MT/Yr.	Forwarded to authorized recycler

E. Solid Wastes

Table 9 Details of Solid Waste

No.	Type of Waste	Quantity (MT/M)	Disposal
1	Yeast Sludge	660	Used as manure
2	CPU Sludge	29	
3	Boiler Ash	330	Used in Brick Manufacturing/ Manure

Agreement with brick manufacturers will be done after commissioning of distillery unit.

F. Odour Pollution

There are number of odour sources such as molasses handling and storage, fermentation and distillation, secondary effluent treatment, and storage of effluents, stale cane, bad mill sanitation, bacterial growth in interconnecting pipes & unattended drains. Measures adopted under proposed unit for controlling same are proper housekeeping, sludge management in biological CPU units, steaming of major pipe lines, regular use of bleaching powder in the drains, efficient handling, prompt & proper disposal of press mud. Under proposed project of distillery, spentwash shall be carried through closed pipeline for spentwash storage and handling activity shall be entirely eliminated.

G. Compliance with the Norms

All the relevant acts, rules and guidelines with respect to effluent treatment and disposal, solid & hazardous wastes handling and disposal as well as in respect of emission handling and disposal, wherever applicable, as specified by the CPCB/ MPCB or any other concerned authority are strictly followed in the proposed set up. Same practice shall be continued after implementation of proposed project activities.

H. Environmental Management Cell (EMC)

EMC will be formulated under distillery unit. Members of the EMC will be well qualified and experienced in their concerned fields. The proposed EMC members are as under.

Table 10 Environmental Management Cell of SBPL

No.	Designation	Number (s)
1	Chairman	1
2	Managing Director	1
3	General Manager	1
4	Environmental Officer	1
5	Safety Officer	1
6	Chief Chemist	1
7	Lab Chemist	1
8	CPU Operators & Supporting Staff	4

Details of capital as well as O & M costs towards environmental aspects under the proposed distillery are as follows –

Table 11 Capital as well as O & M Cost under Proposed unit

No.	Description	Cost Component (Rs. Lakhs)	
		Capital	O & M / Year
A	Proposed		
1	Air Pollution: ESP, Stack of 60 M, Ash collection system & OCMS	350.0	50.0
2	Water Pollution Control: CPU, MEE, Dryer for Grain, ATFD & STP	1000.0	100.0
3	Noise Pollution Control	50.0	5.0
4	Solid & Hazardous Waste Management	50.0	5.0
5	Occupational Health and Safety	100.0	10.0
6	Green Belt Development & Rain Water Harvesting Implementation	75.0	10.0
7	Environmental Monitoring & Management	50.0	5.0
	Total (10% of Capital Cost Rs. 175 Cr.)	1,675.0	185.0

I. Rainwater Harvesting Aspect

- Total area of Plot – 72,400 M²
- Total Open Area – 14,393 M²
- Average annual rainfall in the area = 835 mm

A Roof Top Harvesting-

$$\begin{aligned} \text{RWH Quantity} &= 1250 \text{ M}^2 \times 0.835 \text{ M} \times 0.8 \\ &= 835 \text{ M}^3 \end{aligned}$$

B Surface Water Harvesting –

1. RWH Quantity from Green Belt = 23,892 M² X 0.835 M X 0.3
= 5,985 M³
2. RWH Quantity from Roads = 6,958 M² X 0.835 M X 0.5
= 2,905 M³
3. RWH Quantity from Parking = 10,860 M² X 0.835 M X 0.5
= 4,534 M³
3. RWH Quantity from Open Space = 14,393 M² X 0.835 M X 0.3
= 3,605 M³

$$\begin{aligned} \text{Total RWH from Surface Area} &= 5,985 \text{ M}^3 + 6,958 \text{ M}^3 + 10,860 \text{ M}^3 + 14,393 \text{ M}^3 \\ &= 17,029 \text{ M}^3 \end{aligned}$$

Hence, the total water becoming available after rooftop and land harvesting will be

$$\begin{array}{rcl}
 \text{Rooftop Harvesting} & + & \text{Surface Harvesting} & = & \text{Total RWH} \\
 835 \text{ M}^3 & + & 17,029 \text{ M}^3 & = & 17,864 \text{ M}^3 \\
 & & & = & 17 \text{ ML}
 \end{array}$$

Total water from harvesting when charged to open / bore wells would have positive impact on the ground water quantity.

J. The Green Belt

Table 12 Area Break up

No.	List of area	Area (Sq. M)
1	Total Plot Area	72,400
2	Ground Coverage Area	16,297
3	Area under Road	6,958
4	Green Belt Area (33% of TPA)	23,892
5	Parking Area (15% of TPA)	10,860
6	Total Open Area	14,393

The Criteria for Proposed Greenbelt Development Plan

Emission of SPM, SO₂ is the main criteria for consideration of green belt development. Plantation under green belt is provided to abate effects of the above emissions. Moreover, there would also be control on noise from the industry to surrounding localities as considerable attenuation would occur due to the barrier of trees provided in the green belt.

K. Socio-Economic Development

Socio economic study was carried out in 20 villages within 10 Km radius of the study area. Methodology adopted involved a structured close ended interview schedule (30 questions) in Marathi, which was drafted prior to and employed during the survey. Refer Socio – economic profile in Chapter 3 of Draft EIA report for detailed information of socio-economic aspect. The suggestions after the socio-economic study are as follows-

- i. Industry should contribute towards providing health facility under CER for locals at least through a mobile health van.
- ii. Employment should be given to the people from nearby villages considering the SBPL's environmental impacts on their traditional livelihood and agricultural land.
- iii. Good rate to farmers for sugarcane.
- iv. ZP / Gram panchayat should make provision for infrastructure like roads, toilets in public places with the help of the factory.
- v. To provide radium strips/ flags to sugarcane transportation vehicles by industry to reduce accidents on road.

Company has to make proper plan and budget and implement for community development.

8) ENVIRONMENTAL MONITORING PROGRAMME

Reconnaissance survey of the study area was undertaken in the pre-monsoon period. Field monitoring for measuring meteorological conditions, ambient air quality, water quality, soil quality and noise levels was initiated in October 2021. Report incorporates data monitored during the period from **October-November-December 2021** and secondary data collected from various sources which include Government Departments related to ground water, soil, agriculture, forest etc.

A. Land Use

Land use study requires data regarding topography, zoning, settlement, industry, forest, roads and traffic etc. The collection of this data was done from various secondary sources viz, Census books, Revenue records, State and Central Government Offices, Survey of India toposheets as well as high resolution satellite image and through primary field surveys.

B. Land Use/ Land Cover Categories of Study Area

Table 13 Land Use/ Land Cover

No.	Land Use Land Cover	Area (Ha)	Percentage (%)
1	Settlement/ Industrial	220	0.70
2	Agricultural Land	29525	93.98
3	Waste/ Barren/ Scrub Land	1150	3.66
4	Water Bodies/ River	520	1.66
	Total	31415	100

C. Meteorology

Methodology adopted for monitoring surface observations is as per the norms laid down by Bureau of Indian Standards (BIS) and the India Meteorology Department (IMD). On-site monitoring was undertaken for various meteorological variables in order to generate the data. Further, certain secondary meteorological data like temperatures, relative humidity, rainfall intensity etc. have been taken from IMD, Solapur. Meteorological parameters were monitored during the period **October-November-December 2021**. Details of parameters monitored, equipment's used and the frequency of monitoring have been given in Chapter 3 of the Draft EIA report.

D. Air Quality

This section describes selection of sampling locations, includes methodology of sampling and analytical techniques with frequency of sampling. Presentation of results for October-November-December 2021 survey is followed by observations. All the requisite monitoring assignments, sampling and analysis was conducted through the laboratory - M/s. Green EnviroSAFE Engineers & Consultant Private Limited, Pune. Lab has received NABL accreditation and has been approved by MoEFCC; New Delhi. Further it has also received ISO 9001:2008, ISO 14001:2004 OHSAS 18001-2007 certifications by DNV.

Ambient air monitoring was conducted in study area to assess the quality of air for PM₁₀, PM_{2.5}, SO₂, NO_x and CO. Various monitoring stations selected are shown in following table.

Table 14 Ambient Air Quality Monitoring (AAQM) Locations

No.	Location	Direction From Site	Distance (Km)	Direction
A1	Industrial Site	--	---	---
A2	Kemwadi	Upwind	4.68	E
A3	Savargaon		9.72	E
A4	Wangi	Downwind	3.67	SW
A5	Padsali		5.82	W
A6	Vadala	Crosswind	3.27	S
A7	Shelgaon		5.73	N
A8	Darphal Gawadi	Nearest Habitat	1.42	N

Table 15 Summary of the AAQM Levels for Monitoring Season
[October-November-December 2021]

		Location							
		Industrial Site	Kemwadi	Savargaon	Wangi	Padsali	Vadala	Shelgaon	Darphal Gawadi
PM ₁₀ µg/M ³	Max.	59.9	55.8	56.7	58.9	59.9	57.7	57.8	60.5
	Min.	55.1	51.2	52.3	54.3	55.1	53.3	53.1	56.3
	Avg.	57.5	53.5	54.3	56.8	57.5	55.5	55.5	58.4
	98%	59.8	55.7	56.7	58.9	59.9	57.7	57.8	60.4
PM _{2.5} µg/M ³	Max.	20.9	15.8	16.9	18.8	19.9	17.9	18.9	20.9
	Min.	16.2	11.2	12.2	14.1	15.1	13.2	14.2	16.1
	Avg.	18.8	13.7	14.6	16.4	17.5	15.5	16.5	18.4
	98%	20.8	15.7	16.9	18.7	19.8	17.9	18.9	20.9
SO ₂ µg/M ³	Max.	14.8	12.7	13.6	14.9	15.9	14.9	13.8	14.9
	Min.	10.3	7.5	7.4	11.2	12.1	9.1	10.3	11.2
	Avg.	12.6	10.0	10.1	13.0	14.1	11.2	12.0	13.1
	98%	14.6	12.3	13.5	14.8	15.9	14.0	13.8	14.9
NO _x µg/M ³	Max.	20.1	14.8	15.9	19.4	19.9	16.9	17.8	19.9
	Min.	15.4	11.2	12.3	15.7	16.1	13.1	14.1	16.3
	Avg.	17.5	13.0	14.0	17.6	18.0	15.0	16.0	18.0
	98%	20.1	14.8	15.9	19.3	19.9	16.8	17.8	19.9
CO mg/m ³	Max.	0.070	0.070	0.080	0.080	0.090	0.080	0.090	0.080
	Min.	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
	Avg.	0.037	0.033	0.043	0.043	0.042	0.044	0.045	0.044
	98%	0.065	0.070	0.080	0.080	0.085	0.080	0.085	0.080

Notes: PM₁₀, PM_{2.5}, SO₂ and NO_x are computed based on 24 hourly values, CO is computed based on 8 hourly values.

Table 16 National Ambient Air Quality Standards (NAAQS) by CPCB
(Notification No. S.O.B-29016/20/90/PCI-L by MOEFCC; New Delhi dated 18.11.2009)

Zone Station	PM ₁₀ µg/M ³		PM _{2.5} µg/M ³		SO ₂ µg/M ³		NO _x µg/M ³		CO mg/M ³	
	24 Hr	A.A.	24 Hr	A.A.	24 Hr	A.A.	24 Hr	A.A.	8 Hr	1 Hr
Industrial, Rural & Residential Area	100	60	60	40	80	50	80	40	4	4
Eco-sensitive Area Notified by Govt.	100	60	60	40	80	20	80	30	4	4

Note: A.A. represents Annual Average

The results observed after monitoring for above locations are well within the limits as per NAAQS. Refer Chapter 3 of EIA report for monitoring results.

E. Water Quality

Sampling and analysis of ground water and surface water for physical, chemical and heavy metals were undertaken through the laboratory of M/s. Green Envirosafe Engineers & Consultant Private Limited, Pune.

As per standard ToRs 8 locations for surface water and 8 locations for ground water were selected. The locations are mentioned below-

Table 17 Monitoring Locations for Ground Water

Station	Location Name	Type	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
GW-1	Darphal	Dug Well	0.48	E	17°54'18.72"N	75°50'8.85"E
GW-2	Shelgaon	Dug Well	4.05	N	17°56'31.31"N	75°49'51.47"E
GW-3	Kalman	Dug Well	3.94	WNW	17°55'2.11"N	75°47'46.25"E
GW-4	Wadala	Dug Well	3.05	S	17°52'40.81"N	75°50'4.95"E
GW-5	Sawargaon	Dug Well	7.08	E	17°54'17.71"N	75°53'53.31"E
GW-6	Kati	Dug Well	6.47	NNE	17°57'32.24"N	75°51'21.16"E
GW-7	Padsali	Dug Well	6.42	W	17°53'38.79"N	75°46'18.63"E
GW-8	Nannaj	Dug Well	6.98	SSE	17°50'38.01"N	75°50'46.35"E

Table 18 Monitoring Locations for Surface Water

Station	Location Name	Type	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
SW-1	Darphal	Pond	0.72	E	17°54'17.36"N	75°50'16.44"E
SW-2	Darphal	Nala	0.74	S	17°53'58.33"N	75°50'4.60"E
SW-3	Darphal	Nala	1.01	S	17°53'53.02"N	75°49'31.99"E
SW-4	Darphal	Nala	1.31	SW	17°54'58.84"N	75°49'34.12"E
SW-5	Kalman	Nala	1.98	NNW	17°53'55.02"N	75°48'49.83"E
SW-6	Shelgaon	Pond	5.99	N	17°57'33.50"N	75°50'1.87"E
SW-7	Sawargaon	Pond	9.93	E	17°54'0.99"N	75°55'29.14"E
SW-8	Padsali	Pond	6.48	WNW	17°55'27.01"N	75°46'23.75"E

Results observed after monitoring ground water locations and surface water locations are mentioned in Chapter 3 of the EIA report.

F. Noise Level Survey

Study area of 10 Km radius with reference to the proposed project site has been covered for noise environment. The four zones viz. Residential, Commercial, Industrial and Silence Zones have been considered for noise monitoring. Some of the major arterial roads were covered to assess the noise due to traffic. Noise monitoring was undertaken for 24 hours at each location. The details of noise monitoring stations are given in following table

Table 19 Noise Sampling Locations

No.	Location Name	Type	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
1.	Site	Industrial	-	-	17°54'19.35"N	75°49'52.39"E
2.	Darphal	Rural	1.4	NNE	17°55'5.46"N	75°50'6.64"E
3.	Vanwadi	Rural	4.9	NE	17°56'33.10"N	75°51'26.59"E
4.	Kamwadi	Rural	4.8	E	17°53'52.47"N	75°52'33.54"E
5.	Vadala	Rural	3.7	SSE	17°52'17.47"N	75°50'9.00"E
6.	Vangi	Rural	3.6	SW	17°53'21.00"N	75°48'4.67"E
7.	Padsali	Rural	6.1	SW	17°53'40.60"N	75°46'28.59"E
8.	Kalman	Rural	6.3	NW	17°55'53.14"N	75°46'41.39"E

Table 20 Ambient Noise Levels

No.	Location	Average Noise Level in dB(A)					
		L ₁₀	L ₅₀	L ₉₀	L _{eq(day)}	L _{eq(night)}	L _{dn}
1	Project Site	44.9	47.7	49.1	51.6	44.5	52.9
2	Tembu	43.0	46.5	48.0	51.6	42.4	51.9
3	Koregaon	42.9	46.2	47.7	51.2	42.1	51.6
4	Babarmachi	42.5	45.9	47.1	51.3	41.5	51.4
5	Karave	43.5	46.6	47.9	51.6	42.4	51.9
6	Surli	42.8	46.0	47.1	51.3	41.7	51.5
7	Khambale	43.2	46.6	48.1	52.7	41.6	52.3
8	Apsinge	43.6	46.9	47.8	51.9	42.7	52.2

G. Socio-Economic Profile

Socio-economic status of the population is an indicator for the development of the region. Any developmental project of any magnitude will have a bearing on the living conditions and on the economic base of population in particular and the region as a whole. Chapter 3 may be referred for details of this aspect.

H. Ecology

Field survey was carried out according to random sampling method for flora, and opportunistic sighting method and standard point count method for fauna were followed. In general, visual observation and estimation method was used for qualitative study of the biota. Birds and fish were studied being good indicators of local environmental change. Flora, mainly major tree species, was focused on identification and species abundance.

9) ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**A. Impact on Topography**

No major topographical changes are envisaged in the acquired area as land was kept vacant for establishment of distillery unit in the SBPL premises.

B. Impact on Climate

Impact on the climate conditions due to the proposed project activities is not envisaged, as emissions to the atmosphere of flue gases with very high temperatures are not expected.

C. Impact on Air Quality

An area of 10 Km radius with project site at its center was considered to determine the impacts.

i. Baseline Ambient Air Concentrations

24 hourly average concentrations of PM₁₀, PM_{2.5}, SO₂ and NO_x in Ambient Air, recorded during the field study conducted for the season **October-November-December 2021** is considered as baseline values. They represent impact due to operations of existing nearby industries on this region. They represent impact due to operations of existing nearby industries on this region. Existing baseline concentrations are summarized in following table and the GLC of the same is included in 4th chapter of EIA report.

Table 21 Baseline Concentrations (Average)

Parameter	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Average	57.5 µg/m ³	18.8 µg/m ³	12.6 µg/m ³	17.5 µg/m ³	0.037 mg/m ³
NAAQS	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³	4 mg/m ³

ii. Air Polluting Sources

As discussed above, under proposed activity, a boiler of 30 TPH capacity and a DG set will be installed on site. Steam required for proposed activities of distillery unit will be taken from same boiler.

D. IMPACT ON WATER RESOURCES

i. Impact on Surface Water Resources & Quality

Molasses Based Distillery: Total water required for molasses based distillery will be 1268 M³/D. Out of this 303 M³/D will be fresh water taken from Ground water, 942 M³/D will be treated water from distillery CPU, 4 M³/D will be STP treated effluent & 19 M³/D will be harvested rain water.

Sugarcane Syrup Based Distillery: Total water required for sugarcane juice based distillery will be 434 M³/D. Out of this 5 M³/D will be ground water, 406 M³/D will be treated water from distillery CPU, 4 M³/D will be STP treated effluent & 19 M³/D will be harvested rain water.

Grain Based Distillery: Total water required for grain based distillery will be 1063 M³/D. Out of this 300 M³/D will be ground water, 610 M³/D will be treated water from distillery CPU, 4 M³/D will be STP treated effluent, 130 M³/D will be Recycled thin slop & 19 M³/D will be harvested rain water.

ii. Impact on Ground Water Resources & Quality

Water required for the industry will be obtained from Ground water. Permission for water lifting will be obtained from competent authority. Moreover, there will not be any discharge of untreated effluent so there will not be any impact on ground water level and quality.

E. IMPACT ON SOIL

Impact on the soil characteristics is usually attributed to air emissions, wastewater discharges and solid waste disposal. Under proposed distillery, as mentioned above, there will not be discharge of any untreated effluent on land. For proposed boiler ESP will be installed. Boiler ash from boiler is given to brick manufacturing/ used as manure. CPU sludge and yeast sludge from distillery will be used as manure. Domestic effluent will be treated in proposed STP. Hence, there will not be any major increase in chemical constituents of soil through deposition of air pollutants/ discharge of wastewater.

F. IMPACT ON NOISE LEVELS

Probable sources of noise are mill, compressors, boiler, distillation assembly, turbine & D.G. Sets etc. Workers could get annoyance and can lose concentration during operation. Workers working near the source need risk criteria for hearing damage while people residing near industry lead annoyance and psychological damage. It is obvious that the acceptable noise level for the latter case is less than the former case. Noise can affect health of workers, can cause loss of hearing and can disturb during working which may lead to accidents.

H. IMPACT ON LAND USE

Proposed distillery unit will be established on barren land owned by SBPL, no change in the land use pattern is expected. Therefore, impact on land use is insignificant.

I. IMPACT ON FLORA AND FAUNA

Discharge of the untreated wastewater from the industry in surrounding area can also cause significant environmental impact on the aquatic habitats and affect dependent biodiversity. In case of air pollution, the industry is going to contribute in SPM pollution load in the nearby area. This may have negative impact particularly on avifauna, surrounding crop yields and local population. The details in respect of impacts on ecology and biodiversity are described.

J. IMPACT ON HISTORICAL PLACES

No notified historical places observed in 10 Km study area & impact will be nil.

10) SALIENT FEATURES OF EMP

Following routine monitoring programme as detailed in Table 22 shall be implemented at site. Besides to this monitoring, the compliances to all Environmental Clearance (EC) conditions and regular permissions from CPCB /MoEFCC shall be monitored and reported periodically.

Table 22 Plan For Monitoring of Environmental Attributes within Industrial Premises

No.	Description	Location	Parameters	Frequency	Conducted by
1.	Air Emissions	Upwind – 2, Downwind - 2 (Near main gate, Fermentation section, Distillation section)	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO	Monthly	MoEFCC & NABL Approved External Lab
		Study area – (Industrial site, Kemwadi, Savargaon, Wangi, Padsali, Vadala, Shelgaon, Darphal Gawadi)		Quarterly	
2.	Work Zone Air Quality	4 Locations (Mill section, Sugar bagging section, Distillation Section)	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO	Monthly	
3.	Stack Emissions	Boiler –1 No., D.G Set – 1 Nos.	SO ₂ , SPM, NO _x	Monthly	
4.	Fugitive Emissions	Ethanol storage area & Distillation column	VOC	Monthly	
5.	Ambient Noise	5 Locations (Near main gate, Near ETP, near Sugar godown, Distillation Section, Near Acetic Acid Plant)	Spot Noise Level recording; Leq(n), Leq(d), Leq (dn)	Monthly	
	Work zone Noise	Premises – 5 Nos (Mill section, Boiler, DG set, Turbine section)		Monthly	
6.	Effluent	Treated, Untreated	pH, SS, TDS, COD, BOD, Chlorides, Sulphates, Oil & Grease.	Monthly	
7.	Drinking water	Canteen	Parameters as per drinking water Std IS10500	Monthly	
8.	Soil	Locations within 10 Km (Villages-S1-Darphal, S2-Gawalewadi, S3-Shelgaon, S4-Wangi, S5-Wanewadi, S6-Sawargaon, S7-Nannaj, S8-Kalman)	pH, Salinity, Organic Carbon, Nitrogen, Phosphorous and Potash	Quarterly	

No.	Description	Location	Parameters	Frequency	Conducted by
9.	Water Quality (Ground Water & Surface Water)	Locations in study area – (8 Ground Water locations- GW1- Darphal, GW2- Shelgaon, GW3 - Kalman, GW4 - Wadala, GW5- Sawargaon, GW6- Kati, GW7- Padsali, GW8- Nannaj) [8 Surface Water Locations- SW1- Darphal (pond), SW2- Darphal (Nala), SW3- Darphal (Nala) SW4- Darphal (Nala), SW5- Kalman, SW6- Shelgaon, SW7- Sawargaon SW8 – Padsali]	Parameters as per CPCB guideline for water quality monitoring – MINARS/27/2007-08	Quarterly	
10.	Waste management	Implement waste management plan that Identifies & characterizes every waste associated with proposed activities and which identifies the procedures for collection, handling & disposal of each waste arising.	Records of Solid Waste Generation, Treatment & Disposal shall be maintained	Twice in a year	By SBPL
11.	Emergency Preparedness such as fire fighting	Fire protection & safety measures to take care of fire & explosion hazards, to be assessed & steps taken for their prevention.	Onsite Emergency Plan, Evacuation Plan, firefighting mock drills	Twice a year	By SBPL
12.	Health Check up	Employees and migrant Labour health check ups	All relevant health check-up parameters as per factories act.	Once in a Year	By SBPL
13.	Green Belt	Within Industry premises as well as nearby villages	Survival rate of planted sapling	In consultation with DFO.	By SBPL
14.	CER	As per activities	--	Six Monthly	By SBPL

11) ADDITIONAL STUDIES & INFORMATION

Risks Assessment –

Risk to human health is inherent. It is safe only when the installation is dismantled at the end of its useful life. The following principles should be used as guidelines for the selection of risk criteria -

1. Increase in risk, caused by the presence of the plant to local community (i.e. neighboring public) should be negligible in comparison to the risk they already have in their daily life.
2. Work force on the plant should be expected to accept a potentially greater risk than the members of the local community since the work force have been trained to protect themselves from the possible hazards and thus reducing the actual risk to themselves.

The risk criteria considered by Green A.G. (1982) are given as below:

1. Risk to Plant: This risk is to be given priority only when it is proved beyond doubt that the risk to life is so low that reducing this risk may not be justified. Under this consideration, the risk to economic damage may be considered.

2. Risk to Public and Employees: Scale used for risk to employee and public is Fatal Accident Rate (F.A.R.) or more commonly Fatal Accident Frequency Rate. (F.A.F.R.). F.A.R. and F.A.F.R. is defined as number of deaths from industrial injury expected in a group of 1000 men during their working period. For more details w.r.t. this aspect.

Mitigation Measures

It is necessary to take following mitigation measures to prevent bursting of tanks, and heavy leakage and loss of life.

1. Molasses should be stored in good quality and leak proof mild steel tanks.
2. Adequate safety factor should be incorporated into the design of wall thickness considering deterioration that will occur due to corrosion over a period of time.
3. Regular internal and external inspection should be scheduled for checking wall thickness of the tanks. Dyke/ Bund walls should be constructed around the tank or tanks.
4. It must be ensured while finalizing the dyke dimensions and that thickness that clear volume inside the dyke walls is equal or more than 1.2 x volume of tank storage capacity.
5. Continuous mixing of molasses through external pump circulation should be done.
6. If there is increase in temperature beyond 30⁰C external cooling of tanks shall be provided by heat exchanger in the circulation line.
7. Frequent Temperature monitoring, manually or by recorder is strongly advised.

If there is leakage –

- a. Leakage should be washed out and diluted & should be recycled as far as possible or must be properly treated in Effluent treatment plant.
- b. Replacing of leaky gaskets, joints, should be done strictly by following work permit system.
- c. Leakage of pipelines, welding repairs should be attended/ carried out outside the plant. The necessary hot work permit should be issued after taking necessary precautions & firefighting measures for onsite hot work, by the concerned authority before any hot work is undertaken
- d. Leakage through pump gland shall be reduced to the minimum by installing mechanical seals.
- e. To attend all major leakage in tanks the following procedure should be followed –
 - (i) Transfer the material to another tank.
 - (ii) Prepare the tank for welding repairs by making sure that it is positively isolated with blinds from other vessels and ensuring that it is free of the chemicals & gases by purging air and carrying out air analysis before any hot work is undertaken & this should be done by skilled workers. For this purpose, safety permit should be given.

भुरेशावरम आयोफ्युल प्रायव्हेट लिमिटेड (भु.आ.प्रा.लि.)
गट क्र. २०७, २२३ व २२४, ढारफाल (गावडी), ता. उत्तर भोलापुर, जि. भोलापुर,
महाराष्ट्र
यांच्या

B2 श्रेणी अंतर्गत मंजूर १०५ के.एल.पी.डी. धान्यांवर आधारित आक्षयनी प्रकल्पामध्ये मोलॅक्झिन (B व C) / केन बिस्व/ धान्य याचा वापर करून १०५ के.एल.पी.डी. रेक्टिफाइड बिस्विट (आर.एन.) / एक्स्ट्रा न्युट्रल अल्कोहोल (इ.एन.ए.) / इथेनॉल यांचे उत्पादन तसेच ३ मेगावॅट पीजनिर्मिती प्रकल्प संदर्भातील इन्व्हायसमेंट इंपॅक्ट असेसमेंट अहवालाचा भाग ११

१) प्रकल्पाविषयी थोडक्यात

भुरेशावरम आयोफ्युल प्रायव्हेट लिमिटेड (भु.आ.प्रा.लि.), यांचा B2 श्रेणी अंतर्गत मंजूर १०५ के.एल.पी.डी. धान्यांवर आधारित आक्षयनी प्रकल्पामध्ये मोलॅक्झिन (B व C) / केन बिस्व/ धान्य याचा वापर करून १०५ के.एल.पी.डी. रेक्टिफाइड बिस्विट (आर.एन.) / एक्स्ट्रा न्युट्रल अल्कोहोल (इ.एन.ए.) / इथेनॉल यांचे उत्पादन तसेच ३ मेगावॅट पीजनिर्मिती हा प्रकल्प गट क्र. २०७, २२३ व २२४, ढारफाल (गावडी), ता. उत्तर भोलापुर, जि. भोलापुर, महाराष्ट्र येथे उभारणेत येणार आहे.

अल्कोहोल उद्योगाची देशाच्या अर्थव्यवस्थेमध्ये महत्त्वाची जागा आहे. अल्कोहोल हे खूप रसायनांमध्ये कच्चा माल म्हणून वापरले जाते. उत्पादन, वापर, कच्चा माल झुलभतेने उपलब्ध होण्यामुळे आक्षयनी प्रकल्प व्यवसाय अधिक महत्त्वाचा ठरत आहे. त्याअशेषरच या व्यवसायामुळे सरकारला मोठ्या प्रमाणात अक्षकारी कर वसूल होतो. अल्कोहोलचा वापर पांवर अल्कोहोल म्हणून पेट्रोलमध्ये करता येऊ शकतो. तसेच जपान, यु.एन.ए., कॅनडा, श्रीलंका, इ. देशांमध्ये पेट्रोलियम कुड पाभुनच्या नॅप्थापाभुनचे सिंथेटिक अल्कोहोल सिंथेजिझसाठी उपयुक्त नसलेले या देशांमध्ये फरमेंटेड अल्कोहोलला खूप मोठ्या प्रमाणात मागणी आहे. उपरोक्त आर्षी लक्षात घेऊन अ.शिं.भा.आ.ऊ.लि च्या व्यवस्थापनाने आक्षयनी प्रकल्पाचे प्रस्तावित करण्याचे ठरविले आहे.

संदर्भ प्रकल्प हा दि. १४.०९.२००६ च्या इन्व्हायसमेंट इंपॅक्ट असेसमेंट (EIA) नोटीफिकेशन नं. अ. ओ. १५३३ (ई) च्या १३ जून २०१९ च्या नोटीफिकेशन मधील तरतुदीनुसार श्रेणी 'अ' मध्ये येतो. यानुसार, वने, पर्यावरण व हवामान अदल मंत्रालय, नवी दिल्ली यांच्याकडे फॉर्म १ ऑप्लिकेशन जमा केला आहे व बर्टंडर्ड ToR's मंजूर झाले आहेत. प्रस्तावित प्रकल्प साक्षिताना सुरक्षिततेचे नियम व पर्यावरणाचे संरक्षण करण्याच्या अर्थ गोष्टींची खबरदारी घेतली जाईल.

२) प्रकल्प प्रवर्तकांची ओळख

भु.आ.प्रा.लि. च्या प्रवर्तकांना आक्षयनी प्रकल्प क्षेत्रामधील चांगला अनुभव आहे. प्रवर्तकांनी प्रकल्प नियोजन तसेच अंमलबजावणी योजनेचा सखोल अभ्यास केला आहे. प्रकल्प प्रवर्तकांचे नाव आणि हुद्दा खालीलप्रमाणे -

तक्ता २ प्रकल्प प्रवर्तकांचे नाव व हुद्दा

क्र.	प्रवर्तकाचे नाव	हुद्दा
१.	श्री.श्रेयस लिं. भड	संचालक
२.	श्री.श्यामल लिं. भड	संचालक

३) प्रकल्पाची जागा

सु.आ.पा.लि. द्वारा गट क्र. २०७, २२३ व २२४, दासफाल (गावडी), ता. उत्तर भोलापूर, जि. भोलापूर, महाराष्ट्र येथे ७.२४ हेक्टर एवढी जागा अंदाजित करणेत आली आहे. अदर जागेमध्येच आशयनी प्रकल्प उभा करण्यात येणार आहे.

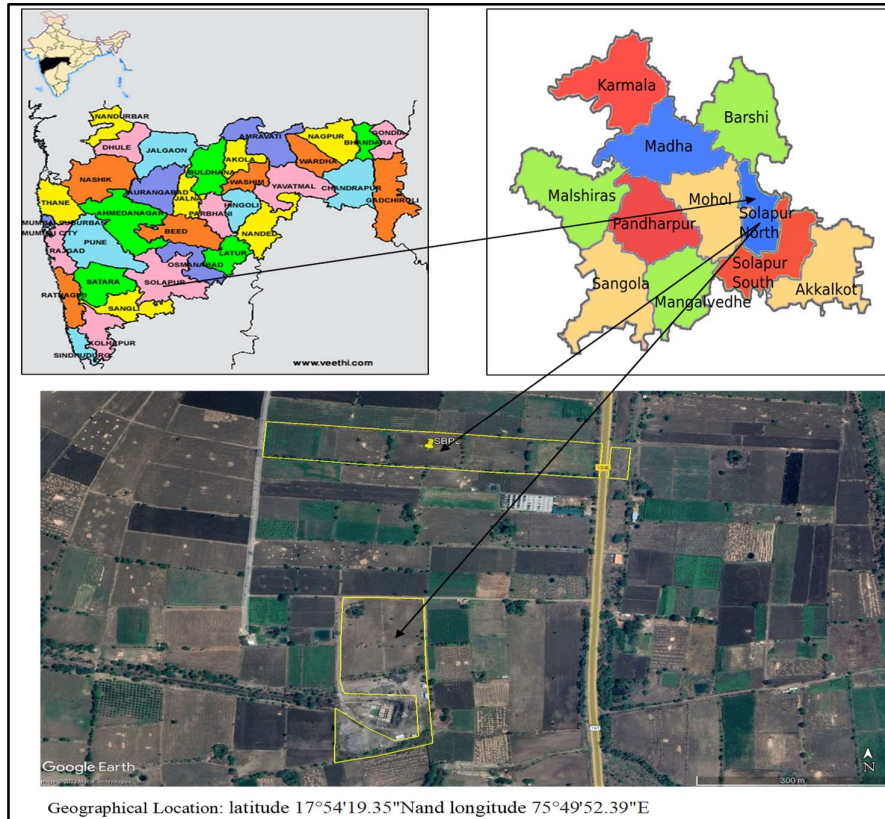
अदर प्रकल्प सुरेशवरम आयोज्युल प्रायव्हेट लिमिटेड (सु.आ.पा.लि.) या शीर्ष कारखाली अंन २०२१ मध्ये नोंदविला गेला. सु.आ.पा.लि. च्या व्यवस्थापनाने B2-श्रेणी अंतर्गत मंजूर १०५ के.एल.पी.डी. धान्यावर आधारित आशयनी प्रकल्पामध्ये मोल्लेअशय (B व C) / केन अशय/ धान्य याचा वापर करुन १०५ के.एल.पी.डी. रेक्टीफाइड अशय (आर.एअ.) / एकदर न्युट्रल अक्लोहोल (इ.एन.ए.) / इथेनॉल यांचे उत्पादन अशय ३ मेगावॉट वीजनिर्मिती प्रकल्पासाठीची एकुण गुंतवणूक १७५ कोटी अर. अशेल.

जागेचा ले-आऊट प्लॅन अॅपेन्डीअ - अ येथे जोडला आहे. जागेअंदाजनील माहिती खालीलप्रमाणे आहे.

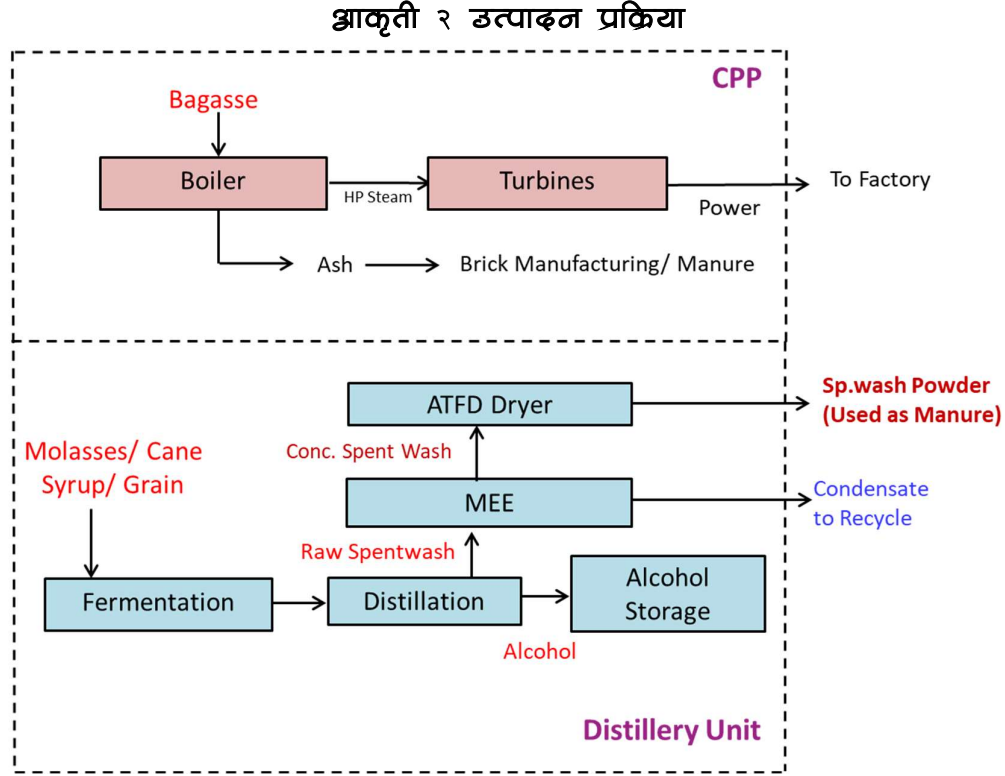
तक्ता १ विविध विभागांच्या क्षेत्राचा तपशील(वर्ग.मी)

क्र.	तपशील	क्षेत्र (वर्ग.मी)
१	एकुण क्षेत्र	७२,४००.०
२	आंधकाम क्षेत्र	१६,२९७.०
३	अरता क्षेत्र	६,९५८.०
४	हरित पट्टा	२३,८९२.०
५	पार्किंग क्षेत्र	१०,८६०.०
६	एकुण खुले क्षेत्र	१४,३९३.०

आकृती १ प्रकल्पाची जागा



४) उत्पादन प्रक्रिया



५) उत्पादनां विषयी माहिती

शु.आ.प्रा.लि. यांच्या प्रस्तावित आक्षयणी प्रकल्पामधून तयार होणारी उत्पादने व त्यांचे परिमाण खालीलप्रमाणे आहे.

तक्ता ३ आक्षयणी प्रकल्पाची उत्पादने

प्रकल्प	उत्पादने व उपउत्पादनांची नावे	क्षमता (मे.टन/दिन)
आक्षयणी प्रकल्प (१०५ के.एल.पी.डी.)	रेक्टिफाईड स्प्रिट (आर.एअ.) / एक्स्ट्रा न्यूट्रल अक्लोहोल (इ.एन.ए.) / इथेनॉल	१०५ कि. लि./दिन
	उपउत्पादने	
	फयुबेल ऑईल	०.८
	CO ₂	७९
	स्पेंटवॉश पावडर	६७
	DDGS	८८

आक्षयणी संदर्भातील उत्पादन प्रक्रिया आणि प्रवाहतक्ता (फ्लो चार्ट) आकृती १ मध्ये दिला आहे.

६) पर्यावरणविषयक दृष्टिकोन

भु.आ.प्रा.लि. यांनी अत्यंतप्रभावी व परिणामकारक अशी पर्यावरण व्यवस्थापन योजना (EMP) बांधविणेचे नियोजन केले आहे. त्यातील विविध घटक खालीलप्रमाणे आहेत.

अ) पाण्याचा वापर, झांडपाण्याची निर्मिती व त्याची प्रक्रिया

• पाण्याचा वापर

भु.आ.प्रा.लि. यांच्या प्रस्तावित प्रकल्पामध्ये होणा-या पाण्याच्या वापराविषयी अविस्तृत तपशील खालीलप्रमाणे -

तक्ता ४ प्रस्तावित आभयानी प्रकल्पासाठी पाण्याचा वापर

क्र.	तपशील	पाण्याची गरज (घनमीटर/दिन)		
		मोलॅक्झिभ	केन ज्युझ	धान्य
१.	घरगुती	# _५	# _५	# _५
२.	औद्योगिक			
	प्रोबेझ	*८३४	०	६२९ (*४९९ + *१३०)
	कुलिंग	३१५ (#२०७ + *१०८)	*३१५	३१५ (*१११ + #२०४)
	ऑयलर मेकअप	# _{७२}	* _{७२}	# _{७२}
	लॅथ व वॉशिंग	# _५	* _५	# _५
	डी.एम. प्लांट	# _{१४}	* _{१४}	# _{१४}
	ऑश वॉशिंग	Ω _२	Ω _२	Ω _२
	एकूण औद्योगिक वापर	१२४२ (#२९८+*९४२+ Ω _२)	*४०८ (*४०६ + Ω _२)	१०३७ (#२९५+*६१०+*१३०+Ω _२)
३.	हरितपट्टा	२१ (Ω _{१७} + ^५ ४)	२१ (Ω _{१७} + ^५ ४)	२१ (Ω _{१७} + ^५ ४)
	एकूण	१२६८ (#३०३+*९४२+Ω _{१९} + ^५ ४)	४३४ (#५+*४०६+Ω _{१९} + ^५ ४)	१०६३ (#३००+*६१०+*१३०+ Ω _{१९} + ^५ ४)
	पुनर्वापर (%)	७६	१००	७२
	ताज्या पाण्याचा वापर (प्रमाण १० कि. लि. / कि. लि. अल्कोहोल)	२.८ कि. लि.	० कि. लि.	२.८ कि. लि.

टीप : #एकूण ताजे पाणी. *प्रस्तावित आभयानी सी.पी.यु. मधील पुनर्प्रक्रियित केलेले पाणी. Ωब्रेनवॉटर हार्व्हिस्टिंगचे पाणी.

^५एअर.टी.पी. मध्ये प्रक्रिया केलेले पाणी. * पुनर्प्रक्रियित केलेले थिन ब्लोप

ख. झांडपाणी प्रक्रिया

१. घरगुती झांडपाणी

भु.आ.प्रा.लि. प्रकल्पामधील आभयानी प्रकल्पामधुन ४ घनमीटर प्रतिदिन घरगुती झांडपाणी तयार होईल. आभयानी प्रकल्प उभारणी नंतर एकूण घरगुती झांडपाण्यावर; प्रस्तावित घरगुती झांडपाणी प्रक्रिया प्रकल्पामध्ये (एअर.टी.पी.) प्रक्रियित केले जाईल व हरित पट्टा ठिकाणासाठी वापरले जाईल.

२. औद्योगिक झांडपाणी

प्रस्तावित मोलॅक्झिभवर आधारित आभयानी प्रकल्पांतर्गत एकूण ८४० घन.मी. प्रतिदिन इतका वॉ व्हेटवॉश तयार होईल. व्हेटवॉश एम.ई.ई. मध्ये इव्हॅपोरेट व कॉन्सन्ट्रेट केला जाईल. कॉन्सन्ट्रेट व्हेटवॉश १६८ घन.मी. प्रतिदिन ड्राय करून पावडर केला जाईल. ही पावडर खत म्हणून वापरली जाते. केन ज्युझवर आधारित

आशयनी प्रकल्पासाठी देखील हीच प्रकिया वापरली जाईल. (बॉ अपेंटवॉश - ४२० घन.मी.प्रतिदिन व कॉन्सनट्रेटेड अपेंटवॉश - ८४ घन.मी.प्रतिदिन)

प्रस्तावित आशयनी प्रकल्पांतर्गत तयार होणारे झांडपाणी हे अपेंटलीन, एम.ई.ई. मधील कंडेनशेट, ऑयलर ल्लो डाऊन, कुलिंग ल्लो डाऊन आणि लॅण, वॉशिंग- १८१ घन.मी.प्रतिदिन(मोलॅनिसनय्य आधारेत)/ ५४३ घन.मी.प्रतिदिन(केन ज्युनय्य आधारेत) / ६७० घन.मी.प्रतिदिन(धान्याय्य आधारेत) मधील झांडपाणी अशेल. अर्य झांडपाणी प्रस्तावित कंडेनशेट पॉलिसिंग युनिटमध्ये प्रकियात केले जाईल. प्रकियात झांडपाणी हे डायल्युशन व कुलिंग टॉयर मेकअपसाठी वापरले जाईल.

अदर आशयनी प्रकल्पामधून अपेंटवॉशाच्या डिकॅंशेन नंतर तयार होणारे १०८ मे. टन प्रति दिन इतके डिक्रेटरलर्न पेट ग्रेन पिथ भोल्युल्ल (DWGS) तयार होईल. या DWGS ला ड्रायर्नमध्ये ड्राय केलेनंतर Moisture मध्ये कमी होऊन ८८ मे टन प्रति दिन इतके डिक्रेटरलर्न ड्राय ग्रेन पिथ भोल्युल्ल (DDGS) तयार होईल ज्यामध्ये ६-८% इतके Moisture अशेल. अदर DDGS हे जास्त काळ टिकाऊ अशत जे शेतक-यांना पशुखादय म्हणुन देण्यात येईल.

तक्ता ५ प्रस्तावित आशयनी प्रकल्पाचे झांडपाणी

क्र.	तपशील	झांडपाणी घन मी. प्रतिदिन			प्रकिया
		मोलॅनिसन	केन ज्युन	धान्य	
१.	घरगुती	४	४	४	प्रस्तावित घरगुती झांडपाणी प्रकिया प्रकल्पामध्ये (एन.टी.पी.) प्रकियात केले जाईल
२.	औद्योगिक				
	प्रोसेस	बॉ अपेंटवॉश- ८४० कॉन्स. अपेंटवॉश- १८३	बॉ अपेंटवॉश- ४२० कॉन्स. अपेंटवॉश- ८४	थिक ब्लॉप - ६० पेट केक - १०८	बॉ अपेंटवॉश एम.ई.ई. मध्ये इव्हॅपोरेट व कॉन्सनट्रेट केला जाईल. कॉन्सनट्रेटेड अपेंटवॉश ड्राय करून पायडर केली जाईल.
		कंडेनशेट - ७५० (६५७ MEE + ९३ ATFD)	कंडेनशेट - ३६८ (३३६ MEE + ३२ ATFD)	कंडेनशेट - ३२२	अर्य झांडपाणी प्रस्तावित कंडेनशेट पॉलिसिंग युनिटमध्ये प्रकियात केले जाईल.
		अपेंट लीन - २३१	अपेंट लीन - ९७	PRC लीन - २६८	
	कुलिंग ल्लोडाऊन	४७	४७	४७	
	ऑयलर ल्लोडाऊन	१४	१४	१४	
	डि.एम.अॅकवॉश	१४	१४	१४	
	लॅण वॉशिंग	५	५	५	
	एकुण	कॉन्स. अपेंटवॉश - १८३ इतर झांडपाणी - १०२९	कॉन्स. अपेंटवॉश - ८४ इतर झांडपाणी - ५१३	इतर झांडपाणी - ६७०	

ख. वायु उत्सर्जन

प्रस्तावित आश्रयणी प्रकल्पासाठी लागणाऱी क्रिटम ही प्रस्तावित ३० टन प्रति तास ऑयलरमधून घेतली जाईल ज्यासाठी ३६० मे.टन/दिन अर्गॅस इंधन म्हणून वापरला जाईल. ऑयलरला ई.एस.पी हे प्रदूषण नियंत्रक उपकरण व ६० मी. उंचीची चिमणी आश्रयणी जाईल.

तक्ता ६ ऑयलरचा तपशील

क्र.	तपशील	ऑयलर	डी.जी.बेट
१	जोडले आहे-		
२	क्षमता	३० टन/तास	५०० के. एच. ए.
३	इंधनाचा प्रकार	अर्गॅस	डिझेल
४	इंधन	३६० मे.टन/दिन	७० लि./तास
५	आंधणीसाठी वापरलेले मटेरीयल	एम. एस	एम. एस
६	आकार (गोल/चौरस)	गोल	गोल
७	उंची, मी (जमीनीच्या वर)	६० मी	५ मी
८	चिमणीला अक्षलेले प्रदूषण नियंत्रणाचे उपकरण	ई.एस.पी	अकॉबिटक इनकलोजर

आश्रयणी प्रकल्पामध्ये फरमेंटर्स मधून ८९ मे.टन प्रति दिन इतका CO₂ उत्सर्जित होईल जो एकत्रित, शुद्ध, आकोचित करून क्लिंइन्स मध्ये भरला जाईल आणि शीतपेयांच्या उत्पादनांसाठी वापरला जाईल.

क. ध्वनी प्रदूषण

१. ध्वनी निर्माण करणारे स्रोत

- आश्रयणी प्रकल्पामध्ये ऑयलर फरमेंटेशन रेक्शन डिस्टीलेशन असेम्बली हे आवाज निर्माण करणारे स्रोत असतील. डी.जी.बेट हा ध्वनी प्रदूषणाचा एकस्रोत ठरू शकतो पण अक्षरील डी.जी.बेटस फक्त नेहमीचा पीज पुरवठा खंडित असताना कार्यरत राहतील. डी. जी. बेट अक्षणा-या विभागातील ध्वनी चीपातळी ७० ते ८० डी बी (ए) इतकी अपेक्षित आहे.
- पंप्स, कॉंप्रेसर्स, ऑयलर हाऊस, ट्रक वाहतूक इत्यादीमुळे आवाजाचे प्रदूषण होईल.

२. नियंत्रण उपाय

- ध्वनी नियंत्रणासाठी आयसोलेशन, अॅप्रेसेशन आणि इन्स्युलेशन तंत्रे वापरली जातील. इन्स्युलेशन, ई. अक्षररूपात कामगारांना वैयक्तिक सुरक्षा साधने (PPE) पुरविल्यात येतील. तसेच ध्वनीची पातळी कमी करण्यासाठी डी. जी. बेट अक्षत्र कॅनॉपी मध्ये अक्षररूपात आले आहेत.

ड. घातक अक्षररूपाचा कचरा

तक्ता ७ घातक अक्षररूपाचा कचरा तपशील

क्र.	प्रकल्प	कचरा-याचा प्रकार	पविमाण	विल्हेवाट पद्धत
१.	आश्रयणी प्रकल्प	५.१ सॅपेट ऑईल	०.८ मे.टन / वर्ष	आधिकृत पुर्नविकेता

इ. घन अपरूपपाचा कचरा

तक्ता ८ घन अपरूपपाच्या कच-याचा तपशील

क्र.	प्रकल्प	कच-याचा प्रकार	परिमाण (मे.टन /महिना)	विल्हेवाट पद्धत
१.	आभयनी प्रकल्प	सीबट बलज	६६०	खत म्हणून वापरले जाईल
		बी.पी.यु. बलज	२९	
		ऑयलबची बाखर	३३०	पीट निर्मितीसाठी / खत म्हणून वापरले जाईल

फ. वाशाचा उपद्रव

औद्योगिक प्रक्रियेतून सीबट बलज हे वाशाच्या उपद्रवाचे स्रोत असतील ज्यासाठी दगडांच्या जाड थरासह अपतंत्र भाठवणूक यार्ड पुरविले जाईल. यापुढे फरमेंटेशन विभाग सुद्धा वाशाच्या उपद्रवाचे कारण ठरू शकतो. फरमेंटर्स अंदिस्त करण्यासहित फरमेंटर्समध्ये योग्यप्रकिया यामुळे दुर्गंधी कमी होऊ शकते.

ग. नियम व अटीचे पालन

प्रस्तावित आभयनी प्रकल्पांतर्गत महाराष्ट्र प्रदूषण नियंत्रण मंडळ (MPCB) किंवा तत्सम अंधेमाफत भांडपाणी प्रकिया व विल्हेवाट, घातक अपरूपपाचा कचरा व घन कचरा हाताळणी व विल्हेवाट तसेच वायु ऊत्सर्जने इ. संबंधित घालून देण्यात आलेल्या सर्व कायद्यांचे व नियमांचे काटेकोरपणे पालन केले जाईल.

घ. पर्यावरण व्यवस्थापन विभाग

सु.आ.प्रा.लि.मध्ये पर्यावरण व्यवस्थापन विभाग कार्यरत असेल. या विभागातील सर्व सदस्य उच्च शिक्षित आणि संबंधित क्षेत्रातील योग्य तो अनुभव असलेले असतील. प्रस्तावित पर्यावरण व्यवस्थापन विभागामधील सदस्य खालीलप्रमाणे-

तक्ता ९ पर्यावरण व्यवस्थापन विभाग

क्र.	पद	एकूण संख्या
१	अध्यक्ष	१
२	व्यवस्थापकीय संचालक	१
३	जनरल मॅनेजर	१
४	पर्यावरणीय अधिकारी	१
५	सुरक्षा अधिकारी	१
६	मुख्य सहायक	१
७	प्रयोगशाळा सहायक	१
८	बी.पी.यु. ऑपरेटर व सहायक	४

प्रस्तावित प्रकल्पांमधील पर्यावरण घटकांसाठी व त्यांच्या देखभालीसाठी लागणा-या खर्चाचा तपशील खालीलप्रमाणे:-

तक्ता १० प्रस्तावित प्रकल्पाच्या देखभालीसाठीच्या खर्चाचा तपशील

क्र.	तपशील	खर्च (रु. लाखांमध्ये)	
		भांडवली गंतवणूक	वार्षिक देखभाल व दुरुवारी
१.	ऑयलरला हवा प्रदूषण नियंत्रणासाठी ई.एन.पी.व ६० मी. चिमणी, बाख्र भाठवणे प्रणाली व OCMS	३५०.०	५०.०
२.	जल प्रदूषण नियंत्रण - बी.पी.यु., MEE, Dryer for Grain, ATFD & STP	१०००.०	१००.०
३.	धवनी प्रदूषण नियंत्रण	५०.०	५.०
४.	घन व घातक कचरा मॅनेजमेंट	५०.०	५.०
५.	आरोग्य व सुरक्षितता	१००.०	१०.०
६.	हरित पट्टा पिकाक्ष व रेन वॉटर हार्व्हिंग	७५.०	१०.०
७.	एम्प्लायमेंटल मॉनिटरींग व मॅनेजमेंट	५०.०	५.०
	एकुण	१,६७५.०	१८५.०

य) रेनवॉटर हार्व्हिंग संकल्पना

- प्रकल्पाचे एकुण क्षेत्र - ७२,४०० वर्ग मी.
- एकुण विकामे क्षेत्र - १४,३९३ वर्ग मी.
- सारक्षरी वार्षिक पाऊस - ८३५ मिमी.

➤ कपटॉप हार्व्हिंग

- कपटॉप हार्व्हिंग क्षेत्र - १२५० वर्ग मी.
- कपटॉप हार्व्हिंग मधून मिळणारे पाणी - ८३५ घन मी.

➤ सारक्षरी हार्व्हिंग

- सारक्षरी हार्व्हिंग क्षेत्र - ५६,१०३ वर्ग मी.
- सारक्षरी हार्व्हिंग मधून मिळणारे पाणी - १७,०२९ घन मी.

कपटॉप हार्व्हिंग आणि सारक्षरी हार्व्हिंग मधून उपलब्ध होणारे पाणी - ८३५ + १७,०२९ = १७,८६४ घन मी. म्हणजेच १० दशलक्ष लिटर्स (ML)

ब) हरित पट्टा माहिती

तक्ता ११ क्षेत्रफळाची माहिती

क्र.	तपशील	क्षेत्र (वर्ग.मी)
१	एकुण क्षेत्र	७२,४००.०
२	सांधकाम क्षेत्र	१६,२९७.०
३	सक्ता क्षेत्र	६,९५८.०
४	हरित पट्टा	२३,८९२.०
५	पार्किंग क्षेत्र	१०,८६०.०
६	एकुण खुले क्षेत्र	१४,३९३.०

हरित पट्टा विकसित करण्यासाठी SPM, SO₂ चे उत्सर्जन या आधी प्रामुख्याने विचारात घेतल्या जातील. SPM, SO₂ यांच्या उत्सर्जनांमुळे होणारे परिणाम कमी करण्यास उपयुक्त असा हरित पट्टा पिकाक्ष कार्यक्रम राखिला जाईल. तसेच नियोजित हरित पट्ट्यातील झाडांमुळे इंडस्ट्रीमध्ये तयार होणा-या धवनीची तीव्रता कमी होऊन परिसरात होणारे धवनी प्रदूषण कमी होणेस मदत होईल. यानुसार SO₂ आणि धवनी प्रदूषण नियंत्रण इ. आधी लक्षात घेऊन प्रस्तावित हरित पट्टा पिकाक्ष कार्य क्रमांशतर्गत विविध जातीच्या झाडांची लागवड केली जाईल.

ल) सामाजिक व आर्थिक विकास

सामाजिक व आर्थिक विकास अंतर्गत प्रकल्पास केंद्रस्थानी मानुन १० कि. मी. पशीघ क्षेत्रामधील २० गावांचे सर्वेक्षण केले गेले. या अंतर्गत पैयक्तिकरित्या लोकांच्या मुलाखती मराठी प्रश्नावलीद्वारे (३० प्रश्न) घेण्यात आल्या. अधिक माहितीसाठी EIA रिपोर्ट मधील प्रकरण - ३ सामाजिक व आर्थिक विकास मुद्दा पहा. सामाजिक व आर्थिक विकास अभ्यासामधील निरीक्षण आणि निष्कर्ष पुढील प्रमाणे

- अभ्यास क्षेत्रातील बहुतांश गावांमध्ये मुलभूत सुविधा जसे की; पिण्याचे पाणी, प्राथमिक शिक्षण सुविधा, शौचालये, पीज, चांगली वाहतुक सुविधा व समाधानकारक शैक्षणिक सुविधा उपलब्ध आहेत.
- अभ्यास क्षेत्रातील बहुतांश लोकसंख्या चांगली कमाई असलेली आहे याचे मुख्य कारण ऋस शेती आहे.
- कारखान्याद्वारे स्थानिक लोकांना प्रत्यक्ष आणि अप्रत्यक्षपणे रोजगार पुरविला जातो.
- बहुतांश गावांमध्ये जलनिःसारण सुविधेचा अभाव, खुली गटारे तसेच विखुरलेला घन कचरा व आरोग्य सुविधा यांचा अभाव आहे.
- अपुरी व दुर अंतरावर अक्षणा-या आरोग्यसुविधा ही स्थानिकांपुढील सर्वात मोठी समस्या आहे.

७) पर्यावरण विषयक तपासणी कार्यक्रम

अभ्यासासाठी निवडलेल्या भागाची पूर्वपाहणी सप्टेंबर २०२१ मध्ये करण्यात आली होती. प्रस्तावित प्रकल्पाच्या सभोवतालच्या हवामान परिवर्धीतीच्या माहितीसाठी हवा, पाणी व माती स्वरूप इ. गोष्टींचा अभ्यास ऑक्टोबर २०२१ मध्ये केला गेला होता. या प्रस्तावामध्ये ऑक्टोबर २०२१, नोव्हेंबर २०२१, डिसेंबर २०२१ या दरम्यानच्या कालावधीमध्ये गोळा केलेली माहिती नमूद केली आहे. या संशंधीची द्वितीय स्तरावरील माहिती ही सरकारी विभागांकडून घेण्यात आली आहे ज्यामध्ये भुवर्गीय पाणी, माती, शेती आणि वने इ. समावेश आहे.

अ. जमीनीचा वापर

जमीन वापराच्या अभ्यासामध्ये भागाची रचना, कारखाने, जंगल, रस्ते आणि रहदारी इ. गोष्टींचा विचार केला जातो. संशंधीत माहिती ही विविध द्वितीय स्तरांवरून जसे की जनगणनापुरिक्तका, सरकारी कार्यालये, सर्वे ऑफ इंडिया टोपोशिटर, याच खरोखर सॅटेलाईट इमेजीस व जागेवरील प्राथमिक सर्वे इ. मधुन घेण्यात आली आहे.

ख. अभ्यासासाठी निवडलेल्या जमीनीचा वापर / व्यापलेलीजमीन

तक्ता १२ जमीनीचा वापर / व्यापलेली जमीन

क्र.	जमीनीचा वापर/व्यापलेलीजमीन	क्षेत्र (हेक्टर)	टक्केवारी(%)
१.	सांधकामाखालील जमीन	२२०	०.७०
२.	लागवडीखालील जमीन	२९५२५	९३.९८
३.	पडीक / नापीक / रकष जमीन	११५०	३.६६
४.	जलस्रोत / नदी	५२०	१.६६
एकुण		३१४१५	१००

क. हवामान माहिती

भादव पाहणीसाठी ब्यूरो ऑफ इंडियन स्टॅण्डर्ड (BIS) आणि इंडियन मेट्रोलॉजी डिपार्टमेंट (IMD) यांनी नमूद केलेली मानके वापरली आहेत. हवामान परिस्थितीच्या माहितीसाठी वेगवेगळ्या हवामान घटकांचा अभ्यास प्रत्यक्ष जागेवरती केला गेला आहे. यासंबंधीची व्हिडीओ रित्यावरील अधिक माहिती ही हवामान विभाग, भातास येथून घेण्यात आली आहे. त्यामध्ये तापमान, आर्द्रता, पर्जन्यमान इ. आर्षींचा समावेश आहे.

वेगवेगळ्या हवामान घटकांचा अभ्यास हा जानेवारी ते मार्च २०२१ यादरम्यान केला गेला होता. या अभ्यासातील परिमाणे, उपकरणे व वांरंवारता यांचा तपशील ई. आर. ए. रिपोर्टच्या प्रकरण ३ मध्ये देणेत आला आहे.

ड) हवेचा दर्जा

या विभागामधून नमुने घेतलेल्या ठिकाणांची निवड, नमुना घेण्याची पद्धत, पृथःकरणेची तंत्रे आणि नमुना घेण्याची वांरंवारता इ. गोष्टींची माहिती दिली आहे. जानेवारी ते मार्च २०२१ या कालावधी मधील निरीक्षणानंतरचे निकाल भादव केले आहेत. अर्ध मॉनिटरींग असाइनमेंटस, नमुने घेणे व त्यांचे पृथःकरण NABL व MoEFCC, New Delhi मान्यता प्राप्त तक्षेच ISO १००१-२०१५ व OHSAS १८००१-२००७ मानांकित मे. वीन एन्वायरोन्मेन्ट इंजिनीअर्स अंड कन्सल्टंटस प्रा. लि., पुणे या प्रयोग शाळेमार्फत केले आहे. अभ्यास क्षेत्रातील हवेच्या गुणवत्तेचे मूल्यमापन करण्यासाठी PM₁₀, PM_{2.5}, SO₂, NO_x व CO. या घटकांचे वेगवेगळ्या स्थानाकांवर मॉनिटरींग केले गेले. मॉनिटरींगची वेगवेगळी स्थानके खाली दिलेल्या तक्त्यामध्ये दाखवली आहेत.

तक्ता १३ अभोवतालची हवागुणवत्ता परिक्षणाची (AAQM) स्थानके

AAQM केंद्र आणि बांकेतांक	स्थानकाचे नाव	भाईट पासूनचे अंतर (कि.मी.)	भाईटला अनुसरण दिशा
A1	भाईट	-	-
A2	केमवाडी	४.६८	वायव्य
A3	सावरगाव	९.७२	पश्चिम
A4	वांगी	३.६७	नैऋत्य
A5	पडभाळी	५.८२	पुर्व
A6	वडाला	३.२७	ईशान्य
A7	शेलगाव	५.७३	दक्षिण
A8	दासकाल गावडी	१.४२	नैऋत्य

तक्ता १४ राभोवतालची हवा गुणवत्ता परिक्षणाची (AAQM) स्थानकांचा आरांश
[ऑक्टोबर ते डिसेंबर २०२१]

		Location							
		आईट	केमवाडी	आवसगाव	वांगी	पडशाळी	वडाला	शेलगाव	दावफाल गावडी
PM ₁₀ µg/M ³	Max.	५९.९	५५.८	५६.७	५८.९	५९.९	५७.७	५७.८	६०.५
	Min.	५५.१	५१.२	५२.३	५४.३	५५.१	५३.३	५३.१	५६.३
	Avg.	५७.५	५३.५	५४.३	५६.८	५७.५	५५.५	५५.५	५८.४
	98% Percentile	५९.८	५५.७	५६.७	५८.९	५९.९	५७.७	५७.८	६०.४
PM _{2.5} µg/M ³	Max.	२०.९	१५.८	१६.९	१८.८	१९.९	१७.९	१८.९	२०.९
	Min.	१६.२	११.२	१२.२	१४.१	१५.१	१३.२	१४.२	१६.१
	Avg.	१८.८	१३.७	१४.६	१६.४	१७.५	१५.५	१६.५	१८.४
	98% Percentile	२०.८	१५.७	१६.९	१८.७	१९.८	१७.९	१८.९	२०.९
SO ₂ µg/M ³	Max.	१४.८	१२.७	१३.६	१४.९	१५.९	१४.९	१३.८	१४.९
	Min.	१०.३	७.५	७.४	११.२	१२.१	९.१	१०.३	११.२
	Avg.	१२.६	१०.०	१०.१	१३.०	१४.१	११.२	१२.०	१३.१
	98% Percentile	१४.६	१२.३	१३.५	१४.८	१५.९	१४.०	१३.८	१४.९
NO _x µg/M ³	Max.	२०.१	१४.८	१५.९	१९.४	१९.९	१६.९	१७.८	१९.९
	Min.	१५.४	११.२	१२.३	१५.७	१६.१	१३.१	१४.१	१६.३
	Avg.	१७.५	१३.०	१४.०	१७.६	१८.०	१५.०	१६.०	१८.०
	98% Percentile	२०.१	१४.८	१५.९	१९.३	१९.९	१६.८	१७.८	१९.९
CO mg/M ³	Max	०.०७०	०.०७०	०.०८०	०.०८०	०.०९०	०.०८०	०.०९०	०.०८०
	Min	०.०१०	०.०१०	०.०१०	०.०१०	०.०१०	०.०१०	०.०१०	०.०१०
	Avg	०.०३७	०.०३३	०.०४३	०.०४३	०.०४२	०.०४४	०.०४५	०.०४४
	98% Percentile	०.०६५	०.०७०	०.०८०	०.०८०	०.०८५	०.०८०	०.०८५	०.०८०

Note: PM₁₀, PM_{2.5}, SO₂ and NO_x are computed based on 24 hourly values.

तक्ता १५ National Ambient Air Quality Standards (NAAQS) by CPCB

(Notification No. S.O.B-29016/20/90/PCI-L by MOEFCC; New Delhi dated 18.11.2009)

Zone Station	PM ₁₀ µg/M ³		PM _{2.5} µg/M ³		SO ₂ µg/M ³		NO _x µg/M ³		CO mg/M ³	
	24 Hr	A.A.	24 Hr	A.A.	24 Hr	A.A.	24 Hr	A.A.	8 Hr	1 Hr
औद्योगिक आणि मिश्रित भाग	100	60	60	40	80	50	80	40	4	4
पर्यावरणदृष्ट्या संवेदनशील भाग	100	60	60	40	80	20	80	30	4	4

Note: A.A. represents "Annual Average"

इ) पाण्याची गुणवत्ता

पाण्याच्या भौतिक, रासायनिक गुणधर्मांची आणि त्यातील जड धातूंची तपासणी करण्यासाठी MoEFCC, New Delhi मानांकित मे. वीन एन्वायरोन्मेंट इंजिनीअर्स अँड कन्सल्टंट्स प्रा. लि., पुणे यांच्यामार्फत नमुने घेऊन त्यांचे पृथक्करण केले. भूगर्भातील पाण्याच्या नमुना चाचणीसाठी ८ ठिकाणे व भूपृष्ठीय पाण्याच्या नमुना चाचणीसाठी ८ ठिकाणे घेतली होती.

तक्ता १६ भूगर्भातील पाण्यासाठी निपडलेली ठिकाणे

स्थानक भांकेतांक	को-ऑर्डिनेट्स		भाईट पाझुनचे अंतर(कि.मी.)	भाईट पाझुनची दिशा
	अक्षांश	रेखांश		
GW1	१७°५४'१८.७२"N	७५°५०'८.८५"E	०.४८	पुर्व
GW2	१७°५६'३१.३१"N	७५°४९'५१.४७"E	४.०५	उत्तर
GW3	१७°५५'२.११"N	७५°४७'४६.२५"E	३.९४	प्रायव्य
GW4	१७°५२'४०.८१"N	७५°५०'४.९५"E	३.०५	दक्षिण
GW5	१७°५४'१७.७१"N	७५°५३'५३.३१"E	७.०८	पुर्व
GW6	१७°५७'३२.२४"N	७५°५१'२१.१६"E	६.४७	ईशान्य
GW7	१७°५३'३८.७९"N	७५°४६'१८.६३"E	६.४२	पश्चिम
GW8	१७°५०'३८.०१"N	७५°५०'४६.५५"E	६.९८	आग्नेय

तक्ता १७ पृष्ठभागावरील पाण्यासाठी निपडलेली ठिकाणे

स्थानक भांकेतांक	स्थानकाचे नाम	प्रकार	भाईट पाझुनचे अंतर (कि.मी.)	भाईट पाझुनची दिशा	को-ऑर्डिनेट्स	
					अक्षांश	रेखांश
SW1	दाबफाल	तलाव	०.७२	पुर्व	१७°५४'१७.३६"N	७५°५०'१६.४४"E
SW2	दाबफाल	नाला	०.७४	दक्षिण	१७°५३'५८.३३"N	७५°५०'४.६०"E
SW3	दाबफाल	नाला	१.०१	दक्षिण	१७°५३'५३.०२"N	७५°४९'३१.९९"E
SW4	दाबफाल	नाला	१.३१	नैऋत्य	१७°५४'५८.८४"N	७५°४९'३४.१२"E
SW5	कालमान	नाला	१.९८	प्रायव्य	१७°५३'५५.०२"N	७५°४८'४९.८३"E
SW6	शेलगाव	तलाव	५.९९	उत्तर	१७°५७'३३.५०"N	७५°५०'१.८७"E
SW7	भायबगाव	तलाव	९.९३	पुर्व	१७°५४'०.९९"N	७५°५५'२९.१४"E
SW8	पडभाळी	तलाव	६.४८	प्रायव्य	१७°५५'२७.०१"N	७५°४६'२३.७५"E

फ) ध्वनी पातळीचे अर्थेक्षण

ध्वनी पातळीचे अर्थेक्षणसाठी कारखाना परिभवाक्ष केंद्र मानून त्यापासून १० कि.मी. अंतराच्या परिघामध्ये येणारा भाग हा अभ्यास क्षेत्र म्हणून ठरवतात घेण्यात आला होता. ध्वनी पातळीचे मॉनिटरींगसाठी रहिवासी, व्यावसायिक, औद्योगिक, शांतता विभाग असे चार विभाग ठरवतात घेण्यात आले होते. अभ्यासामध्ये काही महत्वाच्या बदलांवर पाहण्यासाठी होणारा आवाज सुद्धा समाविष्ट केला होता. प्रत्येक ठिकाणी २४ तासासाठी ध्वनी पातळीचे मॉनिटरींग करण्यात आले. ध्वनी पातळीचे मॉनिटरींगची वेगवेगळी स्थानके खाली दिलेल्या तक्त्यामध्ये दाखवली आहेत.

तक्ता १८ ध्वनी नमुना ठिकाणे

स्थानक भांकेतांक	स्थानकाचे नाम	भाईट पाझुनचे अंतर(कि.मी.)	भाईट पाझुनची दिशा	को-ऑर्डिनेट्स	
				अक्षांश	रेखांश
N1	भाईट	-	-	१७°५४'१९.३५"N	७५°४९'५२.३९"E
N2	दाबफाल	१.४	ईशान्य	१७°५५'५.४६"N	७५°५०'६.६४"E
N3	पानवाडी	४.९	ईशान्य	१७°५६'३३.१०"N	७५°५१'२६.५९"E
N4	कामवाडी	४.८	दक्षिण	१७°५३'५२.४७"N	७५°५२'३३.५४"E
N5	पडाला	३.७	आग्नेय	१७°५२'१७.४७"N	७५°५०'९.००"E
N6	पानगी	३.६	नैऋत्य	१७°५३'२१.००"N	७५°४८'४.६७"E
N7	पडभाळी	६.१	नैऋत्य	१७°५३'४०.६०"N	७५°४६'२८.५९"E
N8	कालमान	६.३	प्रायव्य	१७°५५'५३.१४"N	७५°४६'४१.३९"E

तक्ता १९ ध्वनी पातळी

ठिकाणे	समासरी ध्वनी पातळी (डेसिबल)					
	L10	L50	L90	Leq (day)	Leq (night)	Ldn
N1	४४.९	४७.७	४९.१	५१.६	४४.५	५२.९
N2	४३.०	४६.५	४८.०	५१.६	४२.४	५१.९
N3	४२.९	४६.२	४७.७	५१.२	४२.१	५१.६
N4	४२.५	४५.९	४७.१	५१.३	४१.५	५१.४
N5	४३.५	४६.६	४७.९	५१.६	४२.४	५१.९
N6	४२.८	४६.०	४७.१	५१.३	४१.७	५१.५
N7	४३.२	४६.६	४८.१	५२.७	४१.६	५२.३
N8	४३.६	४६.९	४७.८	५१.९	४२.७	५२.२

ग) सामाजिक - आर्थिक रचना

सामाजिक व आर्थिक स्तरावरून त्याभागातील प्रगती दर्शनास येते. कोणत्याही प्रकारच्या विकास प्रकल्पामुळे कार्यक्षेत्रात राहणा-या लोकांच्या राहणीमानावर, सामाजिक व आर्थिक स्तरावर प्रभाव पडतो. याखेरीजची सविस्तर माहिती ई. आय. ए. रिपोर्ट मधील प्रकरण ३ मध्ये आहे.

घ) पर्यावरण

Random Sampling व Oppurtunistic Method या पध्दतीचा वापर करून त्या भागातील जैवविविधतेचा अभ्यास करणेत आला.

दृष्टिक नमुना पद्धतीने जनसंपर्कासाठी आणि संबंधीयुक्त ठिकाण पाहणी पद्धती व मानक ठिकाण गणती पद्धतीप्रमाणे प्राण्यांसाठी कार्यक्षेत्र सर्वेक्षण करण्यात आले. आयोटाच्या गुणात्मक अभ्यासासाठी दोषळ निरीक्षण पाहणी आणि अंदाज पद्धतीचा अवलंब करण्यात आला. स्थानिक पर्यावरण बदलाचे मासे व पक्षी हे चांगले निदर्शक असल्यामुळे त्यांचा अभ्यास करणेत आला. जनसंपती मुख्यतः मोठ्या उर्गातील झाडांची ओळख व त्यांचे प्रमाण यांच्याकडे अभ्यास केंद्रित होता.

च) इतर अभ्यास

आपत्ती व्यवस्थापन

आपत्ती व्यवस्थापन करताना, खालील खालील विचार केला जातो

१. प्रकल्पाच्या शेजारी राहणा-या लोकांना प्रकल्पामुळे कमीतकमी धोका असावा.
२. प्रकल्पामध्ये काम करणा-या कामगारांना शेजारी राहणा-या लोकांपेक्षा जास्त धोका अपेक्षित आहे, यामुळे प्रकल्पामध्ये काम करणा-या कामगारांना संभाव्य धोक्यापासून रक्षणाचे ट्रेनिंग दिले गेले पाहिजे जेणेकरून संभाव्य धोके कमी होतील.

बीन ए. जी. (१९८२) यांनी आपत्ती व्यवस्थापन करताना विचारात घेतलेल्या खाली -

१. प्रकल्पास धोका: जेव्हा जिपीतास कमीतकमी धोका असतो व तो धोका पुढे कमी करणे शक्य होत नाही यापेक्षा ह्या धोक्यास प्राथमिकता दिली गेली पाहिजे. या अंतर्गत संभावित पित्तीय नुकसानी च्या धोक्याचा विचार केला जातो.
२. खामगाव व जनतेस धोका: फेटल ऑक्सीडींट बेट (एफ. ऐ. आर) किंवा फेटल ऑक्सीडींट फिक्सेन्सी बेट (एफ.ऐ.एफ.आर) याचा वापर कामगाव व जनतेस धोके यांचा अभ्यास करताना वापर केला जातो. एफ.ऐ.आर व एफ.ऐ.एफ.आर

म्हणजेच औद्योगिक अपघातांमध्ये १००० लोकांमागे होणा-या अपेक्षित मृतांची संख्या होय.

या संश्लेषीची अधिक माहिती ई.आय.ए. रिपोर्ट मधीलप्रकरण ७ येथे जोडली आहे.

९) पर्यावरणावर होणारे परिणाम आणि त्यासाठीच्या उपाययोजना

अ. भौगोलिक रचनेवर परिणाम

प्रस्तावित प्रकल्पाच्या उभावणीमुळे संपादित जागेच्या भौगोलिक रचनेवर जास्त परिणाम अपेक्षित नाही. संपादित जागेमध्ये खदल जसे की, आसपनी प्रकल्प उभावणी अपेक्षित आहे. सदर्भ औद्योगिक प्रकल्पामुळे काही सकारात्मक फायदे जसे की जमिन विकसिकरण, व झाडे लावणे अपेक्षित आहे.

ख. वातावरणावरील परिणाम

प्रस्तावित प्रकल्पामुळे हवामानावर परिणाम अपेक्षित नाही कारण जास्त तापमान आसणा-या वायुंचे उत्सर्जन अपेक्षित नाही.

क. हवेच्या दर्जावरील परिणाम

प्रकल्पामुळे होणा-या परिणामांची छाननी करण्यासाठी कारखाना परिसरास केंद्र मानून त्यापासून १० कि.मी. अंतराच्या परिघामध्ये येणारा भाग विचारात घेतला गेला आहे.

१. मुलभूत ऑक्झिडंट वायू प्रमाणके

ऑक्टोबर ते डिसेंबर २०२१ मध्ये करण्यात आलेल्या कार्यक्षेत्र सर्वेक्षणा दरम्यान नोंद करण्यात आलेली २४ तासामधील १८ पार्सेटार्ईल प्रमाणके आणि PM₁₀, PM_{2.5}, SO₂ व NO_x यांची सभोवतालच्या हवेमधील सारासरी यानुसार मिळालेल्या प्रमाणांना मुलभूत प्रमाणके मानण्यात आली आहेत. सदर्भ प्रमाणके परिसरामध्ये होणार परिणाम दर्शवतात. सध्याची मुलभूत प्रमाणके ई.आय.ए. रिपोर्ट मधीलप्रकरण ४ तसेच पुढील तक्त्यामध्ये मांडण्यात आली आहेत.

तक्ता २० मुलभूत प्रमाणके

तपशील	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
98 Percentile	५७.५ µg/m ³	१८.८ µg/m ³	१२.६ µg/m ³	१७.५ µg/m ³	०.०३७ mg/m ³
NAAQS	१०० µg/m ³	६० µg/m ³	८० µg/m ³	८० µg/m ³	४ mg/m ³

२. हवा प्रदूषण स्रोत

प्रस्तावित आसपनी प्रकल्पासाठी लागणारी रिटम ही प्रस्तावित ३० टन प्रति तास ऑयलसमधून घेतली जाईल.

५०० के.व्ही.ए. क्षमतेचा डी.जी. स्रेट ससपिला जाईल.

ड. जलस्रोतावरील परिणाम

१. भूपृष्ठीय जलस्रोतावरील परिणाम

प्रस्तावित प्रकल्पासाठी लागणारे पाणी हे भूपृष्ठीय जलस्रोतांमधून घेण्यात येईल. इतर सांडपाणी जसे की कंडेनस्रेट, स्पेंटलीस, इतर सांडपाणी हे आसपनी प्रकल्पाच्या CPU ला प्रकिया करण्यासाठी पाठवले जाईल. प्रकिया केलेले सांडपाणी हे मोलसिस डायल्युशन व कुलिंग टॉवर मेकअपसाठी वापरले जाईल. प्रस्तावित आसपनी

प्रकल्पामधुन तयार होणारे घरगुती झांडपाण्यावर घरगुती झांडपाणी प्रक्रिया प्रकल्पामध्ये (एअ.टी.पी.) प्रक्रिया केली जाईल. प्रक्रिया केलेले झांडपाणी हे हरितपट्टा विकसित करण्यासाठी वापरले जाईल.

२. भूगर्भिय पाण्याच्या गुणवत्तेवर होणारा परिणाम

प्रकल्पांसाठी लागणारे जरूरी पाणी हे टेंबु जलभिंचन योजनामधुन घेण्यात येईल. प्रस्तावित प्रकल्पांअंतर्गत भूजलाचा वापर होणार नाही. या अाधिक, कारखान्यामधुन कोणत्याही प्रकारचे अप्रक्रीयीत झांडपाणी विकसित होणार नाही त्यामुळे भूजल पाणी पातळीवर व गुणवत्तेवर कोणताही परिणाम होणार नाही.

इ. माती वर होणारे परिणाम

मातीच्या गुणधर्मावर होणारे परिणाम हे आधारापणे आयू उत्सर्जन, झांडपाण्याचे आणु घनकचरा विकियोग्यांमुळे होत असतात. आयु प्रदूषण नियंत्रण उपकरणाच्या अभावामुळे होणा-या आयुत्सर्जनातील धुलीकणांमुळे मातीच्या गुणधर्मांमध्ये अदल होऊ शकते. ऑयलरला ई.एअ.पी. हे प्रदूषण नियंत्रक उपकरण अक्षपिले जाईल. ऑयलरची बाख वीट निर्मिती / सिमेंट निर्मितीसाठी दिली जाईल व सी.पी.यु., यीस्ट बलज खत म्हणून वापरला जाईल. घरगुती झांडपाण्यावर प्रस्तावित झांडपाणी प्रक्रिया केंद्रात प्रक्रिया केली जाईल. त्यामुळे आयु प्रदूषके अथवा झांडपाण्यामुळे जमिनीच्या रासायनिक घटकांमध्ये कोणताही मोठा अदल होणार नाही.

फ. धवनी मर्यादेवर होणारा परिणाम

अतिधवनी निर्माण करणा-या यंत्रावर काम करीत असणा-या कामगारांचे अंतुलन अिघडुन कामावर परिणाम होण्याची शक्यता असते. धवनी निर्माण होणाच्या ब्रोताजवर असणाच्या लोकांची ऐकण्याची क्षमता कमी होऊ शकते. अदर प्रकल्पामध्ये मुख्यतः फर्मन्टेशन अेक्शन, डिस्टीलेशन अेक्शन, ऑयलर हाऊस, टर्बाईन, ऊस गाळप व डि.जी. अेट हे धवनी प्रदूषणाचे मुख्य ब्रोत ठरतील. अदर प्रकल्प हा धवनी प्रदूषण करणारा नाही.

ग. जमीन वापरावर होणारा परिणाम

अु.आ.पा.लि.यांच्या प्रस्तावित प्रकल्प उभारणीमुळे जमीन वापरामध्ये अदल अपेक्षित नाही.

घ. झाडांवर व प्राण्यांवर होणारा परिणाम

प्रक्रिया न केलेले झांडपाणी कारखान्याच्या अशोवताली विकसित केल्यास पाणी अंश्या व त्यावर अवलंबून असलेली जैवविकियधतेवर परिणाम अंशोवतो. आयु प्रदूषणा अंदर्भा त कारखाना SPM च्या अवरूपात प्रदूषण योगदान देऊ शकते. याचा विकसीत परिणाम अंशतः पक्षी, अशोवतालची पीके आणु अथानिक लोकांवर होऊ शकते. झाडांवर व प्राण्यांवर होणारा परिणामांची माहिती ई. आय. ए. रिपोर्ट मधील प्रकरण ३ मध्ये देण्यात आलेली आहे.

द. ऐतिहासिक ठिकाणावर होणारा परिणाम

प्रकल्पाच्या १० कि.मी क्षेत्रात कोणतेही ऐतिहासिक ठिकाण येत नसलेने ऐतिहासिक ठिकाणावर कोणताही परिणाम अपेक्षित नाही.

१०) पर्यावरणीय व्यवस्थापन आराखड्याची ठळक वैशिष्ट्ये

पर्यावरणीय व्यवस्थापन आराखड्याची ठळक वैशिष्ट्ये खालील तक्त्यामध्ये दिलेली आहेत

तक्ता २१ पर्यावरणीय व्यवस्थापन आराखडा

क्र.	तपशील	ठिकाण	पदिमाणे	पारंपारता	तपासणी
१.	हवेची गुणवत्ता	अपविंड - १, डाऊनपिंड - २ (मेनगेट जवळ, किण्वन विभाग, आसपनी प्रकल्पाजवळ) अभ्यासक्षेत्र (साईट, केमपाडी, भावरागाव, पांगी, पडभाळी, वडाळा, शेलगाव, दादफाल गावडी)	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO	मासिक	MoEFCC & NABL approved Laboratory मधुन
२.	चिमणीतुन होणारे उत्सर्जन	ऑयलरची १ चिमणी, डी. जी. बेटची १ चिमणी	SO ₂ , SPM, NO _x	मासिक	
३.	ध्वनिगुणवत्ता	मेनगेट जवळ, किण्वन विभाग, भावरा गावाम, ऑयलर, डी. जी. बेट, टर्बा इन विभाग, ऑपेटिक ऑपिंड विभाग	Spot Noise Level, recording; Leq(n), Leq(d), Leq(dn)	मासिक	
४.	पिण्याचे पाणी	कारखान्याचे उपहारगृह / वसाहत	Parameters as drinking water standards IS10500	मासिक	
५.	जमीन	अभ्यास क्षेत्रामधील ठिकाणे ८ ठिकाणे S1 दादफाल S2 गावळेवाडी S3 शेलगाव S4 कालमान S5 वडाळा S6 भावरागाव S7 नाणज S8 कालमान	PH, Salinity, Organic Carbon, N.P.K.	मासिक	
६.	पाण्याची गुणवत्ता	अभ्यास क्षेत्रामधील ठिकाणे (भुगर्भीय पाणी- ८ ठिकाणे) GW1 दादफाल GW2 शेलगाव GW3 कालमान GW4 वडाळा GW5 भावरागाव GW6 काटी GW7 पडभाळी GW8 नाणज (पृष्ठभागावरील पाणी- ८ ठिकाणे) SW1 दादफाल SW2 दादफाल SW3 दादफाल	Parameters as per CPCB guideline for water quality monitoring – MINARS/27/2007-08	द्वैमासिक	

क्र.	तपशील	ठिकाण	परिमाणे	पारंपारता	तपावणी
		SW4 दारफाल SW5 कालमान SW6 शेलगाव SW7 भावरागाव SW8 पडभाळी			
७.	सांडपाणी	प्रक्रिया न केलेले, प्रक्रिया केलेले	pH, SS, TDS, COD, BOD, Chlorides, Sulphates, Oil & Grease.	मासिक	
८.	कचरा व्यवस्थापन	प्रस्थापित कृतीतून तयार होणा-या कच-याचे पैशिष्टे आणि रुपानुसार व्यवस्थापन केले जाईल	कच-याचे निर्मिती, प्रक्रिया आणि विल्हेवाट यांची नोंद	वर्षातून दोनदा	मु. शा. प्रा. लि. यांचेकडून
९.	आपातकालीन तयारी जसे की आग व्यवस्थापन	प्रतिबंधात्मक उपाय म्हणून आगीच्या व स्फोट होणाऱ्या ठिकाणी आगीपाहून संरक्षण आणि सुरक्षिततेची काळजी घेतली जाईल.	ऑनलाईट ई मरजन्शी व अंकटकालीन आहारे पडण्याचा आराखडा	वर्षातून दोनदा	
१०.	आरोग्य	कारखान्याचे कामगार आणि स्थलांतरीत कामगारांसाठी आरोग्य शिबीराचे आयोजन	अर्थ आरोग्यविषयक चाचण्या	वर्षातून एकदा	मु. शा. प्रा. लि. यांचेकडून
११.	हरीतपट्टा	कारखान्याच्या परीक्षारामध्ये आणि शेजारील गावांमधला	झाडे जगण्याचा दर	तज्ञानुसार	
१२.	सी.ई.आर.	निर्देशाप्रमाणे	--	अहा महिन्यातून	

१०) इतर अभ्यास

आपत्ती व्यवस्थापन

आपत्ती व्यवस्थापन करताना, खालील आधीचा विचार केला जातो

१. प्रकल्पाच्या शेजारी राहणा-या लोकांना प्रकल्पामुळे कमीतकमी धोका असावा.
२. प्रकल्पामध्ये काम करणा-या कामगारांना शेजारी राहणा-या लोकांपेक्षा जास्त धोका अपेक्षित आहे, यामुळे प्रकल्पामध्ये काम करणा-या कामगारांना संभाव्य धोक्यापाहून रक्षणाचे ट्रेनिंग दिले गेले पाहिजे जेणेकरून संभाव्य धोके कमी होतील.

ग्रीन ए. जी. (१९८२) यांनी आपत्ती व्यवस्थापन करताना विचारात घेतलेल्या आधी -

१. प्रकल्पास धोका: जेव्हा जिपीतास कमीतकमी धोका असतो व तो धोका पुढे कमी करणे शक्य होत नाही यापेक्षा ह्या धोक्यास प्राथमिकता दिली गेली पाहिजे. या अंतर्गत संभावित पित्तीय नुकसानी च्या धोक्याचा विचार केला जातो.
२. कामगार व जनतेस धोका: फेटल अँकिझीडेंट रेट (एफ. ऐ. आर) किंवा फेटलअँकिझीडेंट फ्रिक्वेंन्सी रेट (एफ.ऐ.एफ.आर) याचा आपस कामगार व जनतेस धोके यांचा अभ्यास करताना आपस केला जातो. एफ.ऐ.आर व एफ.ऐ.एफ.आर म्हणजेच औद्योगिक अपघातांमध्ये १००० लोकांमागे होणा-या अपेक्षित मृतांची संख्या होय.

या संश्लधीची अधिक माहिती ई.आय.ए. रिपोर्ट मधीलप्रकरण ७ येथे जोडली आहे.

No.IA-J-11011/97/2022-IA-II(I)

Government of India
Minister of Environment, Forest and Climate Change
Impact Assessment Division

Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road, New Delhi-110003
15 Mar 2023

To,

M/s SURESHWARAM BIOFUEL PRIVATE LIMITED
Village: Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State,
Solapur-413222
Maharashtra

Tel.No.--1; Email:samarthbhad@gmail.com

Sir/Madam,

This has reference to the proposal submitted in the Ministry of Environment, Forest and Climate Change to prescribe the Terms of Reference (TOR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA Notification, 2006. For this purpose, the proponent had submitted online information in the prescribed format (Form-1) along with a Pre-feasibility Report. The details of the proposal are given below:

- | | |
|---|--|
| 1. Proposal No.: | IA/MH/IND2/419180/2023 |
| 2. Name of the Proposal: | Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation by Sureshwaram Biofuel Pvt. Ltd. (SBPL), Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State |
| 3. Category of the Proposal: | Industrial Projects - 2 |
| 4. Project/Activity applied for: | 5(g) Distilleries |
| 5. Date of submission for TOR: | 21 Feb 2023 |

In this regard, under the provisions of the EIA Notification 2006 as amended, the Standard TOR for the purpose of preparing environment impact assessment report and environment management plan for obtaining prior environment clearance is prescribed with public consultation as follows:

ACTIVITY 5 (g)- DISTILLERIES

SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR DISTILLERIES

GENERIC TERMS OF REFERENCE

1) Executive Summary

2) Introduction

- i. Details of the EIA Consultant including NABET accreditation
- ii. Information about the project proponent

3) Project Description

- i. Cost of project and time of completion.
- ii. Products with capacities for the proposed project. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iii. List of raw materials required and their source along with mode of transportation.
- iv. Other chemicals and materials required with quantities and storage capacities
- v. Details of Emission, effluents, hazardous waste generation and their management. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
- vi. Process description along with major equipments and machineries, process flow sheet (quantitative) from raw material to products to be provided.
- vii. Hazard identification and details of proposed safety systems.
- viii. Expansion/modernization proposals:
 - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB shall be attached with the EIA-EMP report.
 - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in

case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4) Site Details

i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

ii. A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)

iii. Co-ordinates (lat-long) of all four corners of the site. Google map-Earth downloaded of the project site. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.

iv. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.

v. Land use break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area).

vi. A list of major industries with name and type within study area (10km radius) shall be incorporated.

vii. Details of Drainage of the project up to 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).

viii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.

ix. R&R details in respect of land in line with state Government policy.

5) Forest and wildlife related issues (if applicable):

i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)

ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha).

iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.

iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon

v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State

Government for conservation of Schedule I fauna, if any exists in the study area

vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

6) Environmental Status

i. Determination of atmospheric inversion level at the project site and site-specific micrometeorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.

ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.

iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.

vi. Ground water monitoring at minimum at 8 locations shall be included.

vii. Noise levels monitoring at 8 locations within the study area.

viii. Soil Characteristic as per CPCB guidelines.

ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.

x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

xi. Socio-economic status of the study area.

7) Impact and Environment Management Plan

- i Assessment of ground level concentration of pollutants from the stack emission based on site specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modeling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modeling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modeling - in case of discharge in water body
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor cum- rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

8) Occupational health

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and

periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.

iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.

iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

9) Corporate Environment Policy

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.

ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.

iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.

iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.

10) Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labor force during construction as well as to the casual workers including truck drivers during operation phase.

11) Enterprise Social Commitment (ESC)

i. Adequate funds (at least 2.5 % of the project cost) shall be ear marked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

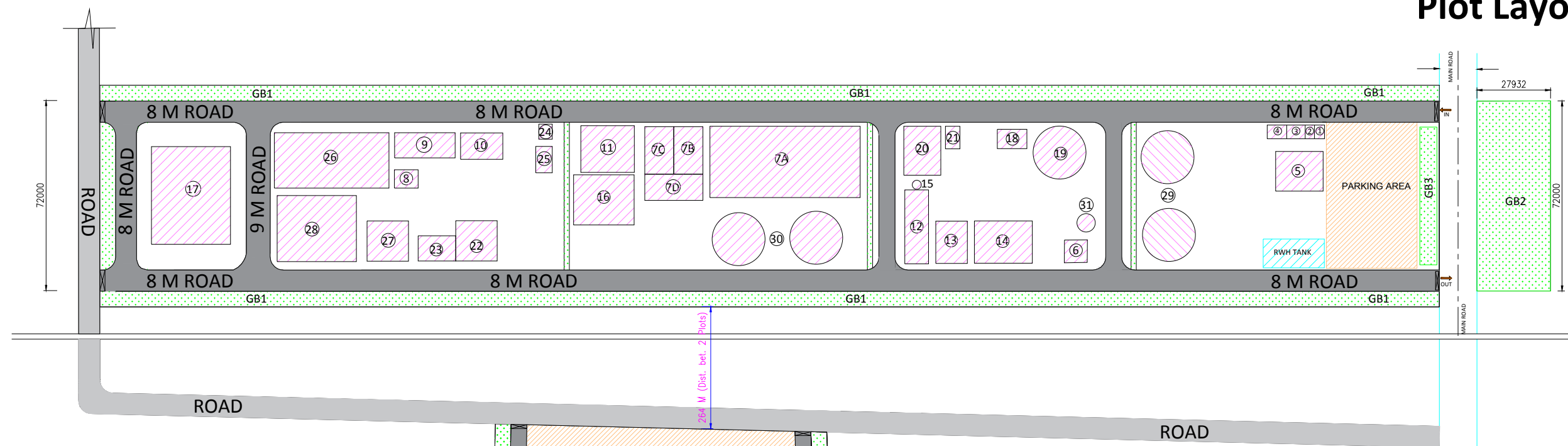
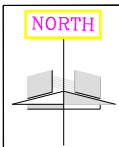
11) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details there of and compliance/ATR to the notice(s) and present status of the case.

13) A tabular chart with index for point wise compliance of above TOR.

SPECIFIC CONDITIONS

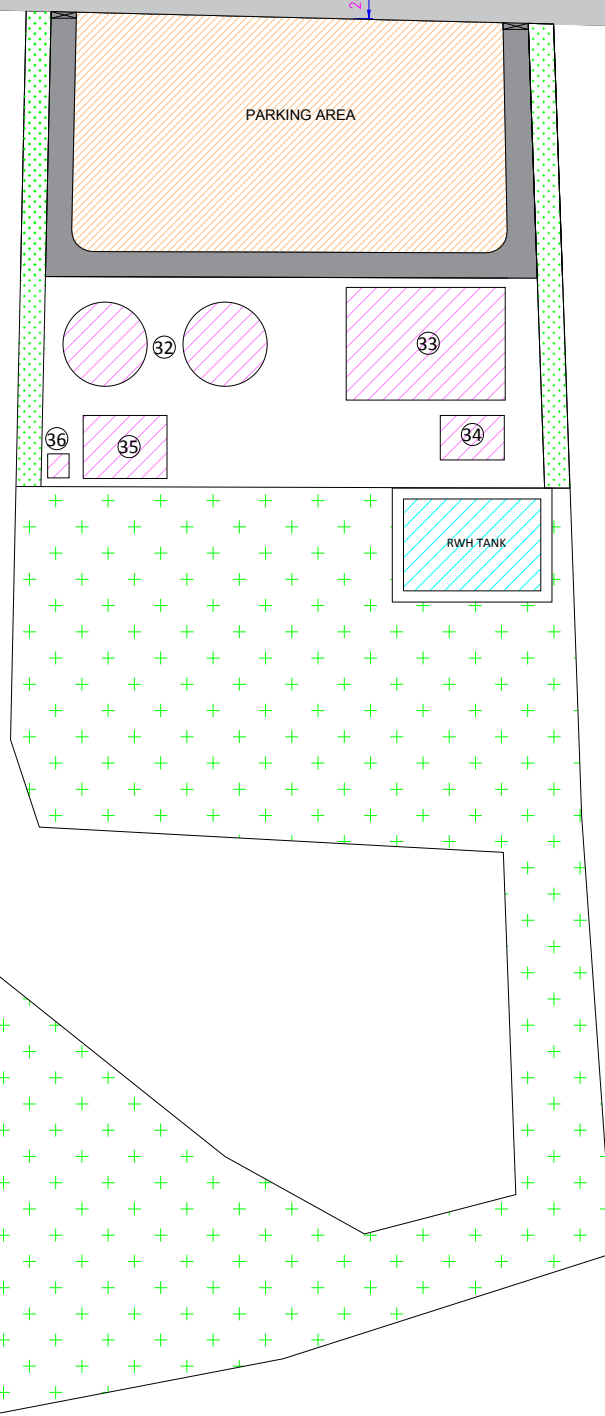
1. List of existing distillery units in the study area along with their capacity and sourcing of raw material.
2. Number of working days of the distillery unit.
3. Details of raw materials such as molasses/grains, their source with availability.
4. Details of the use of steam from the boiler.
5. Surface and Ground water quality around proposed spent wash storage lagoon, and compost yard.
6. Plan to reduce spent wash generation within 6-8 KL/KL of alcohol produced.
7. Proposed Effluent treatment system for molasses/grain based distillery (spent wash, spent lees, condensate and utilities) as well as domestic sewage and scheme for achieving zero water conservation.
8. Proposed action to restrict fresh water consumption within 10 KL/KL of alcohol production.
9. Details about capacity of spent wash holding tank, material used, design consideration. No. of peizometers to be proposed around spent wash holding tank.
10. Details of solid waste management including management of boiler ash, yeast, etc. Details of incinerated spent wash ash generation and its disposal.
12. Details of bio-composting yard (if applicable).
13. Action plan to control odour pollution.
14. Arrangements for installation of continuous online monitoring system (24x7 monitoring device)
15. Add: If Sugar and distillery will have integrated effluent treatment facilities. Details regarding the same.

Plot Layout



GROUND COVERAGE AREA

SR. NO.	DESCRIPTION
1	SECURITY CABIN, WAITING ROOM & TIME OFFICE
2	REST ROOM
3	CHANGE & LOCKER ROOM
4	EXCISE OFFICE
5	ADMINISTRATIVE BUILDING
6	BRICK MANUFACTURING
7A	FERMENTATION PLANT
7B	EVAPORATION PLANT
7C	RS/ENA DISTILLATION PLANT
7D	ETHANOL DISTILLATION PLANT
8	COOLING TOWER
9	WATER TREATMENT PLANT
10	CONDENSATE POLISHING UNIT (CPU)
11	RS/ENA DAILY RECEIVERS
12	BOILER
13	POWER HOUSE (TURBINE)
14	BAGASSE YARD
15	CHIMNEY
16	CO ₂ PLANT
17	ETHANOL STORAGE
18	GRAIN UNLOADING
19	GRAIN STORAGE SILO
20	GRAIN MILLING SECTION
21	LIQUIFICATION SECTION
22	DDGS DRYER AND DECANTATION SECTION
23	DDGS STORAGE GODOWN
24	TOILET BLOCK
25	STP
26	ETP
27	SPENT WASH DRYER
28	SPENT WASH STORAGE TANK
29	MOLASSES TANK
30	SYRUP TANK
31	ASH SILO
32	GRAIN SILO
33	BAGASSE STORAGE YARD
34	SPENT WASH POWDER STORAGE
35	MECHANICAL WORK SHOP
36	TOILET BLOCK



AREA STATEMENT

SR. NO.	DESCRIPTION	AREA
1	TOTAL PLOT AREA	72400
2	GROUND COVERAGE AREA	16297
3	GREEN BELT 33% OF TPA	23892
4	PARKING 15% OF TPA	10860
5	ROAD	6958
6	OPEN SPACE	14393

SR. NO.	LEGENDS	
1	GROUND COVERAGE AREA	
2	GREEN BELT	
3	PARKING	
4	ROAD	
5	RWH TANK	

General Notes :

1. All Dimensions & Levels are in Metres unless otherwise specified.

REV. NO.	DESCRIPTION	DRAWN	CHKD.	APPD.	DATE
0	FOR INFORMATION	S.M.P.	V.M.K.	A.B.I.	17/06/2022



CLIENT : SURESHWARAM BIOFUEL PVT. LTD.
 PLANT : 105 KLPD DISTILLERY PLANT.
 LOCATION : VILLAGE : DARFAL (GAVADI), TAL. : NORTH SOLAPUR, DIST. : SOLAPUR

TITLE :	JOB CODE
SITE LOCATION PLAN FOR DISTILLERY COMPLEX	
CAD FILE NAME SLP1000	
A2 DWG. NO. SLP-1000	REV. 0 SHEET 1 OF 1 SCALE N.T.S.



Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)



Application for Issue of NOC to Abstract Ground Water (NOCAP)

Welcome : SBPL2022

Previous Login Date Time: 23/05/2022 17:16:44 PM , IP Address: 152.57.228.73

[Logout](#)

[Applicant Home](#) | [Apply](#) | [Feedback](#) | [Change Password](#) | [Profile](#) | [New Registration](#)

<p>Location Details</p> <hr/> <p>Communication Address</p> <hr/> <p>Land Use Details</p> <hr/> <p>Water Requirement Details</p> <hr/> <p>Recycled Water Usage</p> <hr/> <p>Groundwater Abstraction Structure- Existing</p> <hr/> <p>Groundwater Abstraction Structure- Proposed</p> <hr/> <p>Other Details</p> <hr/> <p>Self Declaration</p> <hr/> <p>Attachment</p> <hr/> <p>Final Submit</p>	<p>INDUSTRIAL USE : SUCCESSFUL SUBMISSION</p> <hr/> <p style="text-align: right;">Print Application</p> <hr/> <p>Your Application Submitted Successfully.Your Application Detail are :</p> <hr/> <p>Application Number : 21-4/8068/MH/IND/2022</p> <hr/> <p>Name of Industry : SURESHWARAM BIOFUEL PVT. LTD.</p> <hr/> <p>Submitted Date: 24/05/2022</p> <hr/> <p>Net Ground Water Requirement: 490.00</p> <hr/> <p>Please note your application number for future reference.</p> <hr/> <p>Your application has been submitted to office:</p> <p>Regional Director Central Ground Water Board Central Region N.S. Building Civil Lines NAGPUR MAHARASHTRA PinCode : 440001</p>
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**bharatkosh.gov.in****RECEIPT**

Transaction Ref.No. 2305220020866

Dated: May 23 2022 4:55PM

Received from MR. SHREYAS BHAD FROM SURESHWARAM BIOFUEL PVT LTD
with Transaction Ref.No. 2305220020866

Dated May 23 2022 4:55PM the sum of INR 10000 (Ten Thousand Only)
through Internet based Online payment in the account of

NOC PROCESSING FEE (REVISED) FOR FRESH APPLICATION, , FROM
SURESHWARAM BIOFUEL PVT. LTD.

Disclaimer:- This is a system generated electronic receipt, hence no physical signature is required for the purpose of authentication

Printed On: 23-05-2022 05:0:28

Courtesy :- Controller General of Accounts



**GOVERNMENT OF INDIA
MINISTRY OF CORPORATE AFFAIRS**

Central Registration Centre

Certificate of Incorporation

[Pursuant to sub-section (2) of section 7 and sub-section (1) of section 8 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]

I hereby certify that SURESHWARAM BIOFUEL PRIVATE LIMITED is incorporated on this Sixteenth day of November Two thousand twenty-one under the Companies Act, 2013 (18 of 2013) and that the company is limited by shares.

The Corporate Identity Number of the company is U01409PN2021PTC206128.

The Permanent Account Number (PAN) of the company is **ABHCS3025N** *

The Tax Deduction and Collection Account Number (TAN) of the company is **PNES76279A** *

Given under my hand at Manesar this Sixteenth day of November Two thousand twenty-one .



Digital Signature Certificate

SHIVARAJ C RANJERI

ASST. REGISTRAR OF COMPANIES

For and on behalf of the Jurisdictional Registrar of Companies

Registrar of Companies

Central Registration Centre

Disclaimer: This certificate only evidences incorporation of the company on the basis of documents and declarations of the applicant(s). This certificate is neither a license nor permission to conduct business or solicit deposits or funds from public. Permission of sector regulator is necessary wherever required. Registration status and other details of the company can be verified on www.mca.gov.in

Mailing Address as per record available in Registrar of Companies office:

SURESHWARAM BIOFUEL PRIVATE LIMITED
HO NO-380/1, G DARFAL, SOLAPUR NORTH, DARPAL GAWADI,
SOLAPUR, Solapur, Maharashtra, India, 413222



* as issued by the Income Tax Department



SURESHWARAM BIOFUEL PVT. LTD.

Office Add -

Gate No. 380/1, Sureshwaram Udyog Bhavan,
A/P. Darfal (Gavadi), Tal. North Solapur, Dist.
Solapur 413 222

Factory Add -

Gate No. 223/224, A/P. Darfal (Gavadi), Tal.
North Solapur, Dist. Solapur 413 222

Ref. No. PH/Tech. 2023

Date - 17/03/2023

DECLARATION

This is to state that the 'Executive Summary & Draft EIA Report' submitted herewith has been prepared in respect of Manufacturing of 105 KLPD RS / ENA/ Ethanol from Molasses (B & C) / Sugarcane Syrup / Grains in the 105 KLPD Grain Distillery Setup approved under B2 Category along with 3 MW Power Generation by **Sureshwaram Biofuel Pvt. Ltd. (SBPL)**, located at Village Darfal (Gawadi), Tal.: North Solapur, Dist.: Solapur, Maharashtra State.

Information, data and details presented in this report are true to the best of our knowledge. Primary and secondary data have been generated through actual exercise conducted from time to time as well as procured from the concerned Govt. offices/ departments has been incorporated here subsequent to necessary processing, formulation and compilation.

Mr. Shreyas L. Bhad
(Director)

Sureshwaram Biofuel Pvt. Ltd. (SBPL)
Village Darfal (Gawadi), Tal.: North Solapur, Dist.:
Solapur, Maharashtra State.

Project Proponent

Dr. Sangram P. Ghugare
(Chairman & Managing Director)

M/s. Equinox Environments (I) Pvt. Ltd., (EEIPL)
F-11, Namdev Nest 1160-B, 'E' Ward, Sykes
Extension opp. of Kamala College, Kolhapur 416 001

Environmental Consultant

CIN- U01409PN2021PTC206128

www.sureshwarambiofuels.com / Email- sureshwarambiofuel@gmail.com

Contact - 8208595080 / 8208249676





**QUALITY COUNCIL
OF INDIA**
Creating an Ecosystem for Quality



National Accreditation Board for Education and Training



Certificate of Accreditation

Equinox Environments (India) Pvt. Ltd.

F-11, Namdev Nest, 1160-B, 'E' Ward, Sykes Extension, Opp. Kamala College, Kolhapur.

The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals including opencast / underground mining	1	1 (a) (i)	A
2	Off shore and on-shore oil and gas exploration, development & production	2	1 (b)	A
3	Thermal power plants	4	1 (d)	B
4	Metallurgical industries – secondary	8	3 (a)	B
5	Asbestos milling and asbestos based products	12	4(c)	A
6	Pesticides industry and pesticide specific intermediates (excluding formulations)	17	5 (b)	A
7	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	18	5 (c)	A
8	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	20	5 (e)	A
9	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	21	5 (f)	A
10	Distilleries	22	5 (g)	A
11	Sugar Industry	25	5 (j)	B
12	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	32	7 (d)	A
13	Bio-medical waste treatment facilities	32A	7 (da)	B
14	Common municipal solid waste management facility (CMSWMF)	37	7 (i)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated March 4, 2022, and supplementary minutes dated June 24, 2022 and August 5, 2022 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/22/2548 dated October 4, 2022. The accreditation needs to be renewed before the expiry date by Equinox Environments (India) Pvt. Ltd., following due process of assessment.

Sr. Director, NABET
Dated: October 4, 2022

Certificate No.
NABET/EIA/2124/SA 0177

Valid up to
Oct 10, 2024

NABET

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

