

**K. N. Bhise Arts Commerce and Vinayakrao Patil Science College, Vidyanagar, Bhosare  
Waste Management Record**

नगरपरिषद कार्यालय, कुईवाडी  
ता. माढा, जि. सोलापूर ४१३२०८

Date:

**Certificate**

This is to certify that Nagar Parishad of Kurduwadi has scheme to collect waste material ~~like~~ from home/institution/ firm/market etc. to decompose and recycle the waste material. K. N. Bhise Arts, Commerce and Vinayakrao Patil Science College, Bhosare is a part of this scheme from 25 June 2017. The waste collection vehicle collects the dry and wet material everyday from the college campus.



  
CHIEF OFFICER  
KURDUWADI MUNICIPAL COUNCIL  
DIST-SOLAPUR

**K. N. Bhise Arts Commerce and Vinayakrao Patil Science College, Vidyanagar, Bhosare  
Waste Management Record**

Computer

Laptop

Printer

Biometric Machine

CCT.V. Camera

Sales & Services

GSTIN : 27ALRPC8527C1Z1 Pan No. : ALRPC8527C

**FOURSON** COMPUTER SERVICE

Mob. 9850278731, 9422729703 E-mail : fcsbarshi@gmail.com

Canon  
Printer & scanner



SAMSUNG

intel



ball

DELL

COMPAQ

Ref. No. *by hand*

Date: *01/06/2017*

## CERTIFICATE

This is certify that Fourson Computer Service , Barshi has scheme of collecting e-waste material like (Computer, Mouse , Keyboard, Wire , Cartridge etc.) from Home / Institution / firm / market etc. to decompose and recycle the waste material. K. N. Bhise Arts, Commerce, and Vinayakrao Patil Science College, Bhosare is a part of this scheme from 1 June 2017



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Madha Taluka Shikshan Prasarak Mandal's  
**K. N. Bhise Arts, Commerce and Vinayakrao Patil Science College,  
Vidyanagar, Bhosare**

**Department of Chemistry**

**Year -2023-24**

**Mechanism of liquid waste management**

In K. N. Bhise Arts, Commerce and Vinayakrao Patil Science College, Vidyanagar, Bhosare there are two chemistry laboratories and where practical are carried out. In chemistry laboratory for practical purposes different types of solid and liquid chemicals and different types of glass wares are used in laboratory. So proper disposal of waste formed in laboratory is essential part of waste management. During the practical mostly large amount liquid wastes are collected and properly process of waste management is done.

Liquid waste consists of waste chemical solutions produced during performing practical. Handling of liquid waste chemicals is carefully used. Special treatment is given to acidic and basic liquid waste chemicals. This liquid waste may be acidic or basic depending on the experiments carried out. There is provision of acidic and basic containers where students can collect these solutions accordingly.

When containers get filled, the pH of the acidic and basic solutions present in acidic and basic containers gets checked. These solutions are neutralized by proper addition of acidic and basic solutions become harmless to environment due to the simple neutralization process.

Students pour these solutions in sink and use plenty of water to flush it properly. The waste is further carried out by drainage pipes which were specially designed for this purpose. This has the layer of beds of soft rock, sand, pieces of bricks and charcoal. Due to the presence of these materials most of the chemicals are get adsorbed or adhered on these layers of bed preventing the penetration of the chemicals into ground. The harmful chemicals get adsorbed on charcoal bed preventing them from penetrating the ground. The layers of beds are replaced every year.



Head, Department of Chemistry  
KNBAC & VPS College, Bhosare



**I/c.Principal**  
**K.N.Bhise Arts,Commerce &  
Vinayakrao Patil Science College  
Vidyanagar Bhosare,Dist-Solapur**



## Mechanism of solid waste management

Solid waste consists of Filter papers, broken glass wares, empty plastic containers, plastic bottles, glass bottles, metallic sheets, metal bath, unused chemicals etc.

During practical students used filter paper for drying the wet chemical product, for filtration etc. After completion of experiments they are instructed to collect used filter papers to dispose them properly in dustbin which is placed below the working table. When dustbin is full, the waste material is packed and handed over to municipal solid waste.

Broken glass wares, empty plastic containers, empty glass bottles are collected and given to scrap shop for further recycling.



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KNSAC & KPS College, Bhosare



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K. N. Bhis Arts, Commerce &  
Vinayakrao Patil Science College  
Vidyanagar Bhosare, Dist- Solapur



Madha Taluka Shikshan Prasarak Mandal's  
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**Vidyanagar, Bhosare**

**Department of Chemistry**

**Laboratory Safety and Waste Management**  
**Year-2023-24**


Sr. No	Action Taken	Procedure	Outcome
1	Hazardous, poisonous waste gases are reduced in laboratory.	Exhaust Fans are installed in the laboratory.	Reduces hazardous gases, fumes in laboratory.
2	Fire Extinguisher are installed in laboratory	If accidental emergency is created in laboratory, fire extinguisher is used. Expiry date & materials are used during installation. After expiry date refilling of extinguisher.	For Lab Safety.
3	Rainwater harvesting. Use of rainwater in laboratory as distilled water.	Rainwater is stored in storage tank around the building. Rainwater is used as distilled water in laboratory.	Less use of distillation plant.
4	Gas cylinder	During purchasing gas cylinder check the date of filling gas on gas cylinder. Empty gas cylinders are kept in store room. Use of gas cylinder carefully. Low burner flame is used during carry out the experiments. Close the tab of gas pipeline after use of gas.	Minimum use of gas cylinders. Less expenditure on gas cylinder.
5	Liquid Chemical waste	Dispose of harmful liquid chemical waste are collected through underground pipelines & collected outside from laboratory in separate dump.	Do not enter liquid in environment. Save the environment from poisonous, hazardous liquid.
6	Liquid waste is collected in separate container & recycle on it. and reuse it.	After washing the product by ethanol then washed ethanol are collected in separate container. By using distillation process pure ethanol are collected and reused it.	Less use of ethanol
7	Solid Waste: - Broken glass wares	Broken glass wares are collected in separate container & labeled on it and handover to municipal corporation.	



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8	Waste filter papers & other laboratory solid chemical compound waste materials	Wasted filter papers, unwanted non – hazardous solid chemicals & other solid waste are collected in separate container.	
9	Reuse of chemical product	Prepared tetrammine copper sulphate & ferrous ammonium sulphate used in another experiment.	Reduces chemicals. Less expenditure. Less use of ammonia & ethanol.
10	Dispose of mercury thermometer	Broken Hg thermometers are collected in separate container & handover to municipal corporation.	Avoid hazardous Hg enter in environment.
10	Use of lab coat or apron during experiment. Use gloves for handling specific hazardous chemicals & acids.	To handle the concentrated acids HCl, HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , glacial acetic acid, bromine use gloves during handling & Use safety goggles.	Safety for eye, skin.
11	Toxic, hazardous, flammable, & nonhazardous chemicals are maintained in laboratory.	Toxic, hazardous chemicals are kept in separate place in store room. Flammable liquids are stored in separate place in store room.	Laboratory safety.
12	Use of laboratory safety charts in laboratory	Before handling the chemicals & to know the characteristics of chemicals prepared lab safety charts.	Laboratory safety.

  
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KNBAC & VPS College, Bhosare.

  
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**K.N.Bhise Arts, Commerce & Vinayakrao Patil Science College**  
**Vidyanagar Bhosare, Dist-Solapur**

**K. N. Bhise Arts, Commerce and Vinayakrao Patil Science College, Kurduwadi**

**Department Of Microbiology**

**Waste Management**

The waste generated in Microbiology Laboratory is of following types:

1. Used media
2. Used cotton plugs
3. Wash water
4. Filter papers
5. Broken glassware

1. Used media is categorised into broth and agar.

Again, both of these are categorised into hazardous and non hazardous.

Non hazardous liquid media is dumped into the sink which ultimately goes to sewage treatment tank.

Nonhazardous solid media is dumped into the soil so as it will not be exposed to environment.

Hazardous solid/liquid media is decontaminated first with the help of autoclave and then dumped in the soil/sink.

2. Cotton plugs are reused after autoclaving. These are also used for wiping purpose.
3. Solid dry waste which could be hazardous is incinerated.
4. Broken glassware is recycled for modified use eg. Broken glass rods are converted into spreaders.
5. Spent wash liquid is mixed into sewage which ultimately goes to sewage treatment tank.
6. Acidic waste is neutralised before discharge.
7. Insoluble solid particulate waste is solubilized before discharge.



8. Non hazardous autoclaved solid media waste is used as source of organic matter for the plants in the campus .

9. Microbial cultures such as *Pseudomonas* are used to bioremediate the hydrocarbon containing waste. Such waste is further treated with mixed microbial consortia and it is used as source of siderophores for cultivation of plants in campus .

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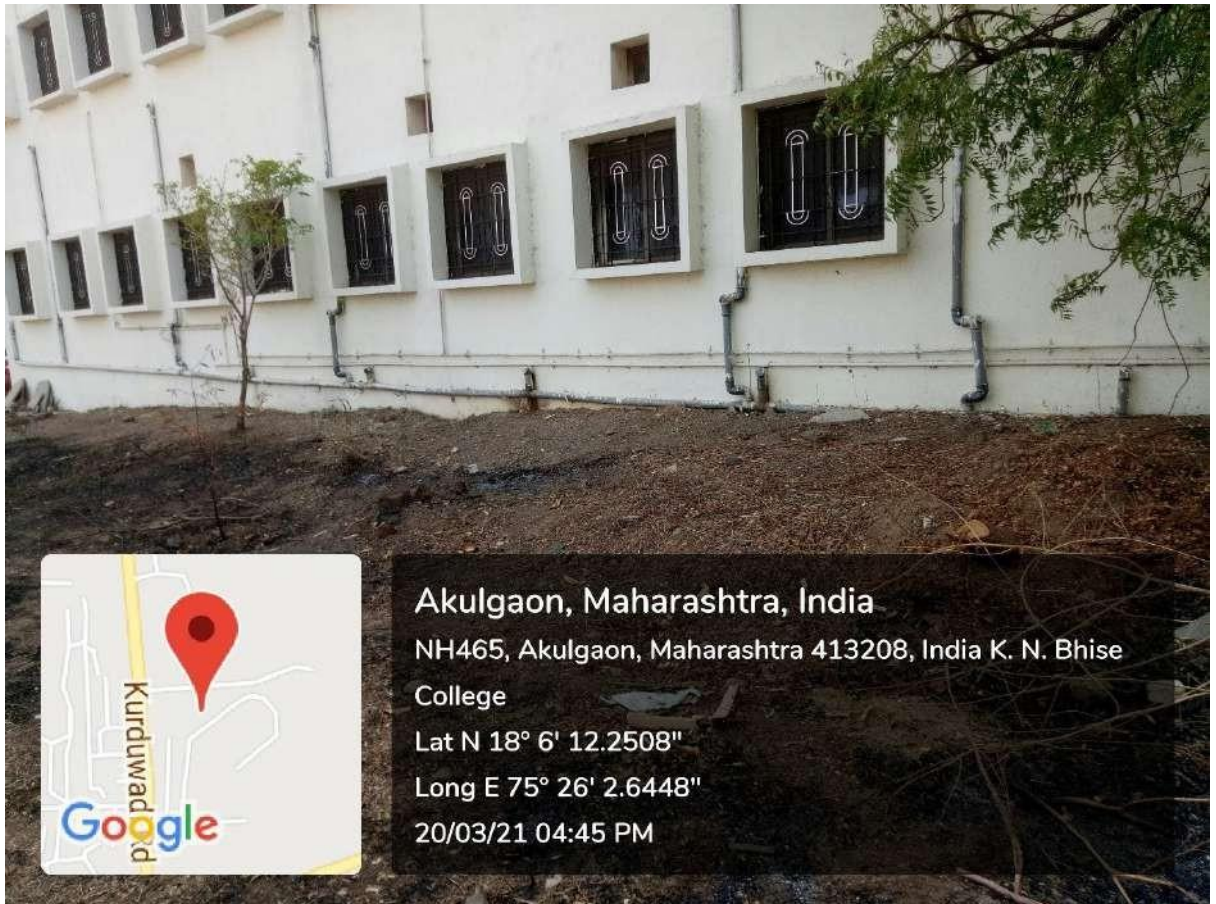
Hazardous Chemical Wastage Outlet



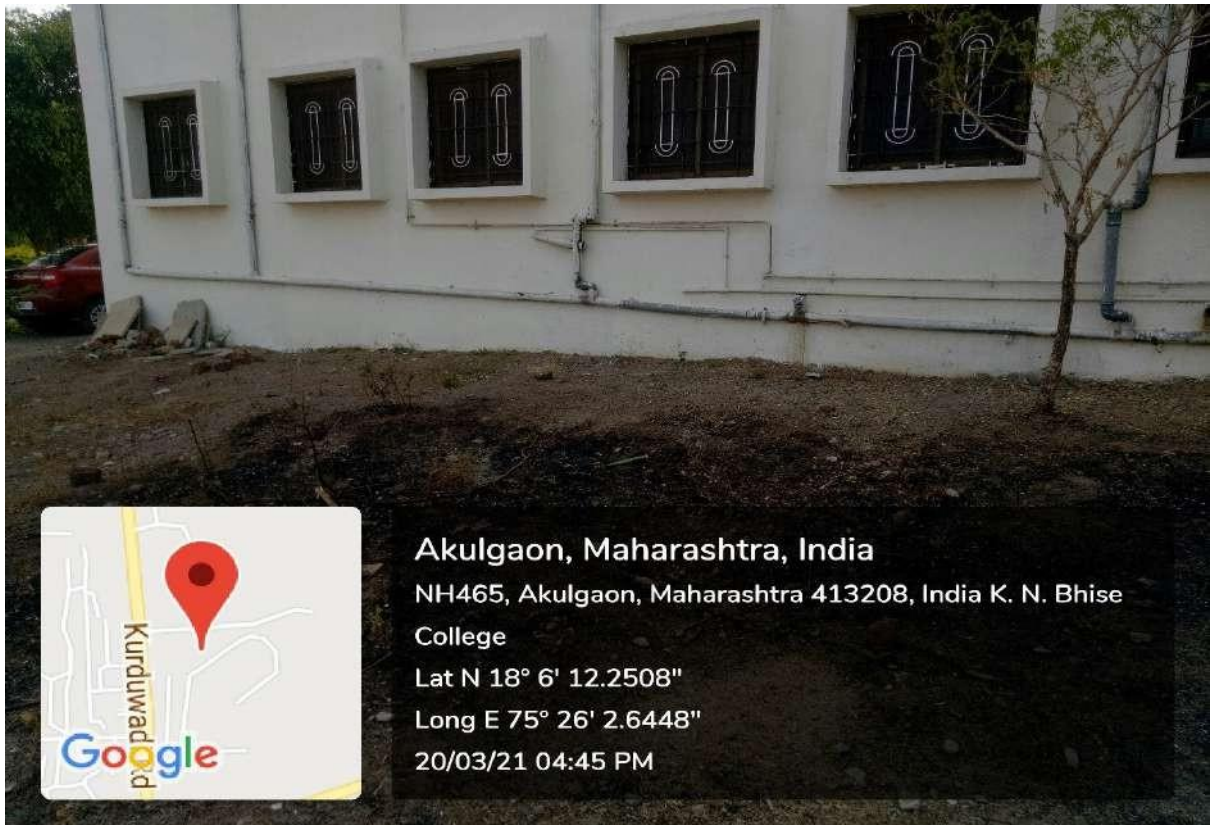
Hazardous Chemical Wastage Outlet



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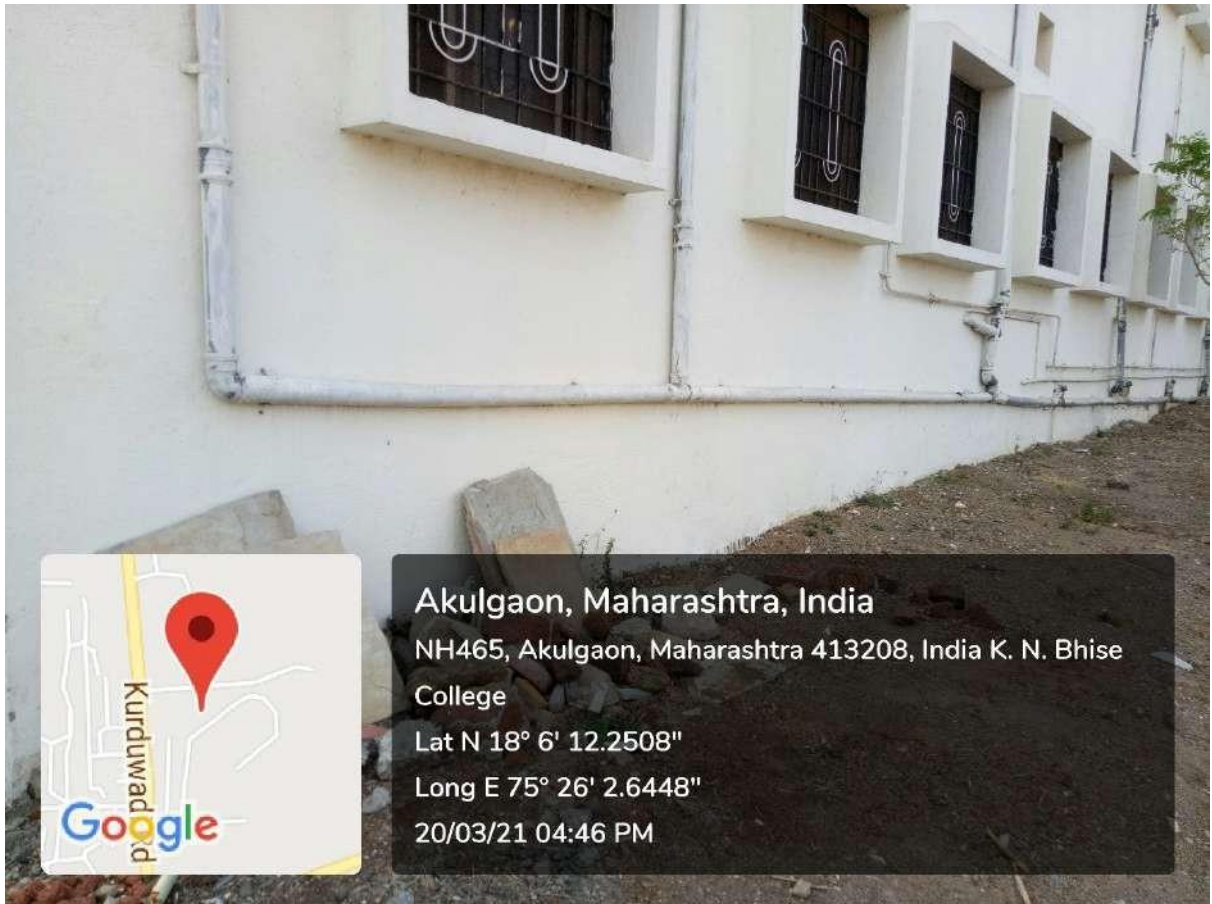
Hazardous Chemical Wastage Pipeline



Hazardous Chemical Wastage Pipeline



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**Akulgaon, Maharashtra, India**

NH465, Akulgaon, Maharashtra 413208, India K. N. Bhise College

Lat N 18° 6' 12.2508"

Long E 75° 26' 2.6448"

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**Hazardous Chemical Wastage Pipeline**



**Akulgaon, Maharashtra, India**

NH465, Akulgaon, Maharashtra 413208, India K. N. Bhise College

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Long E 75° 26' 2.6448"

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**Reuse of Waste Water Management with Drip Facility**



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Reuse of Waste Water Management with Drip Facility



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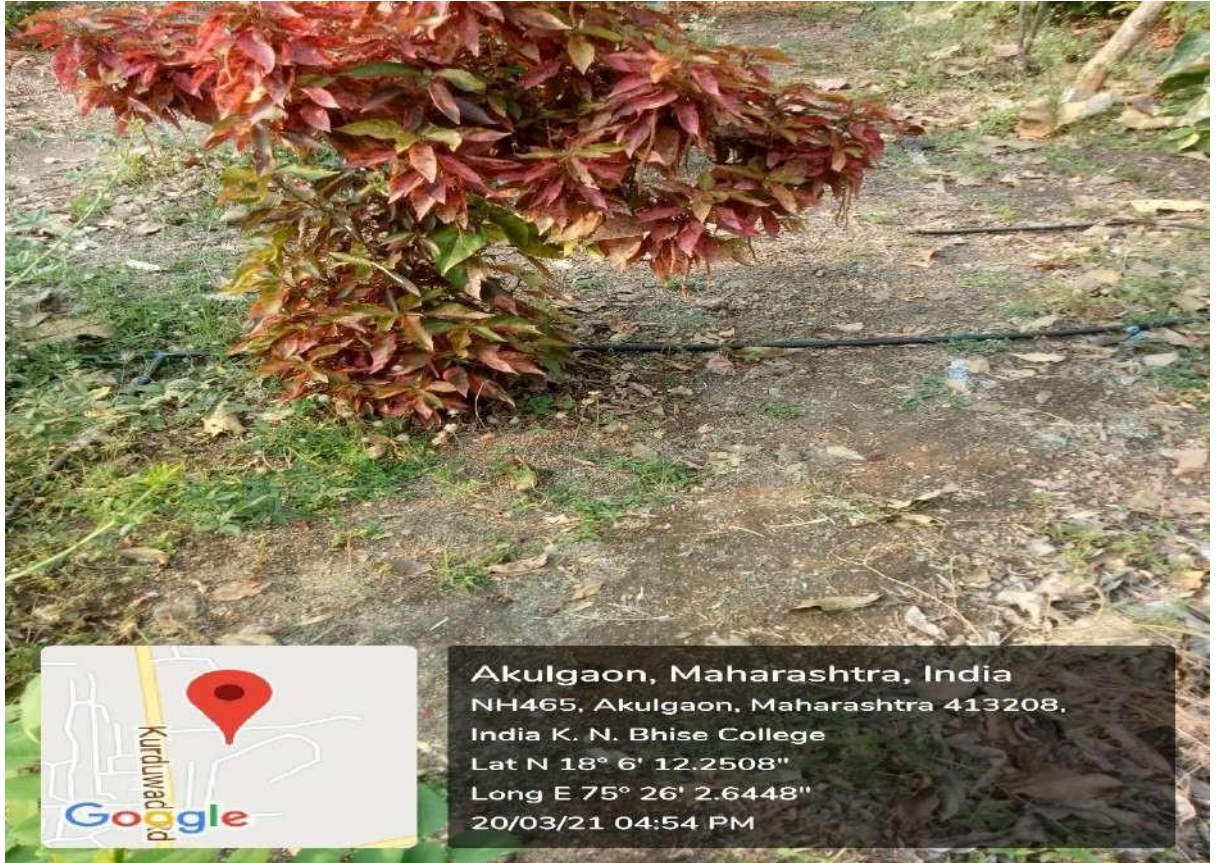
Reuse of Waste Water Management with Drip Facility



Reuse of Waste Water Management with Drip Facility



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Reuse of Waste Water Management with Drip Facility



Reuse of Waste Water Management with Dri



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Vermicompost Unit in the College



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Cleanness Drive Photos in the Campus



Cleanness Drive Photos in the Campus



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Cleanness Drive Photos in the Campus



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Cleanness Drive Photos in the Campus





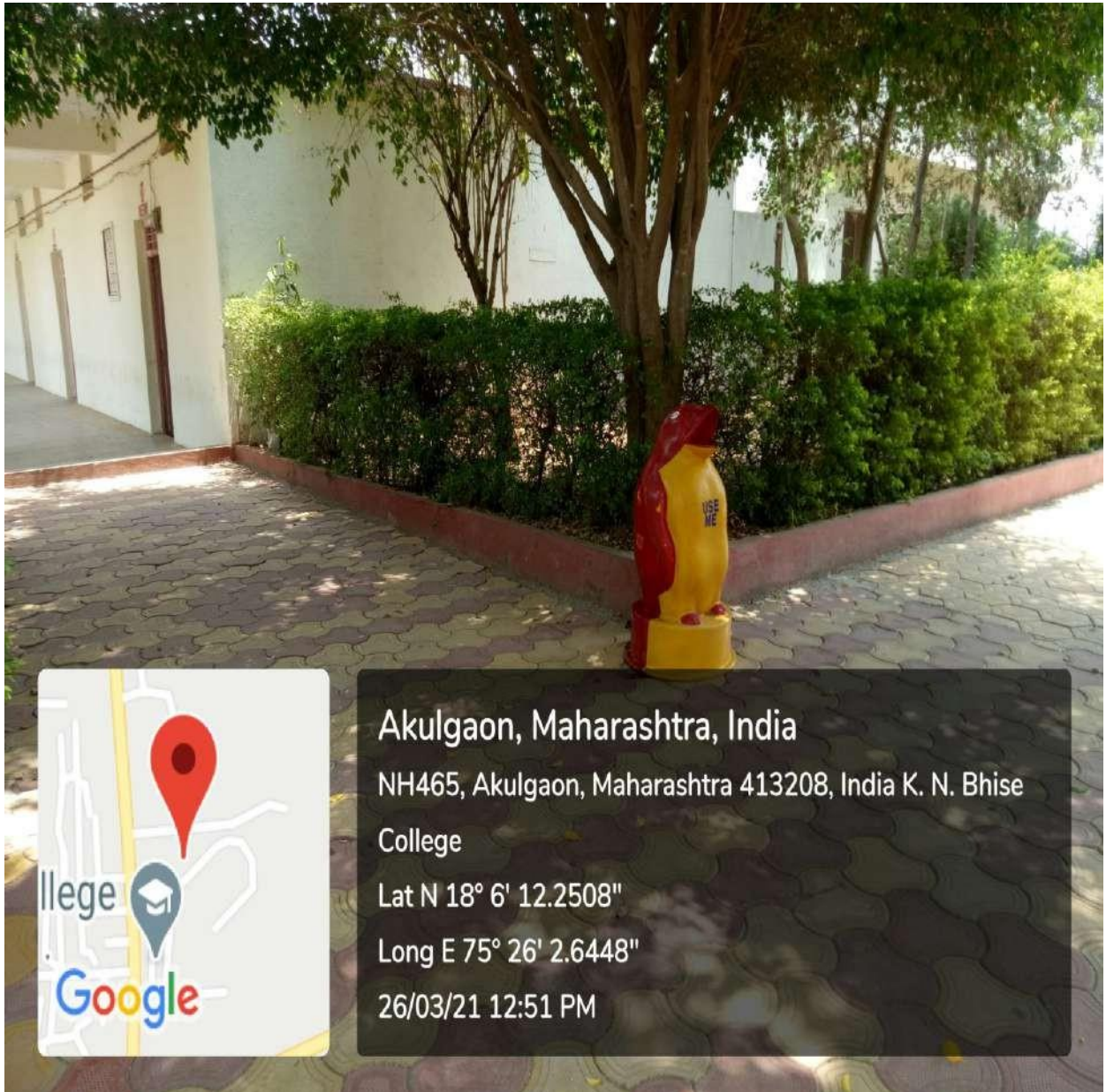
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**Dustbins Kept in the Campus**



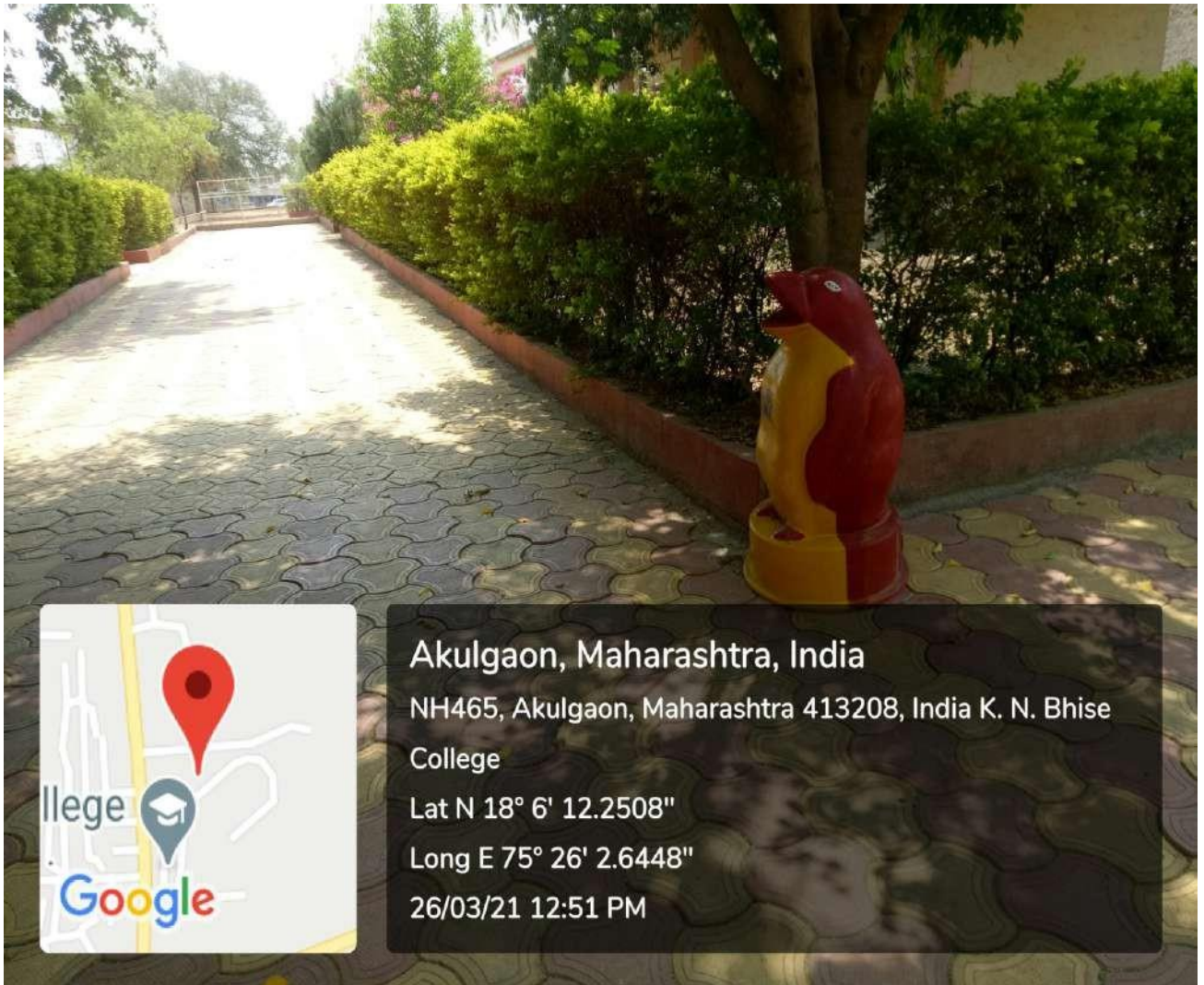
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**Dustbins Kept in the Campus**



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**Dustbins Kept in the Campus**



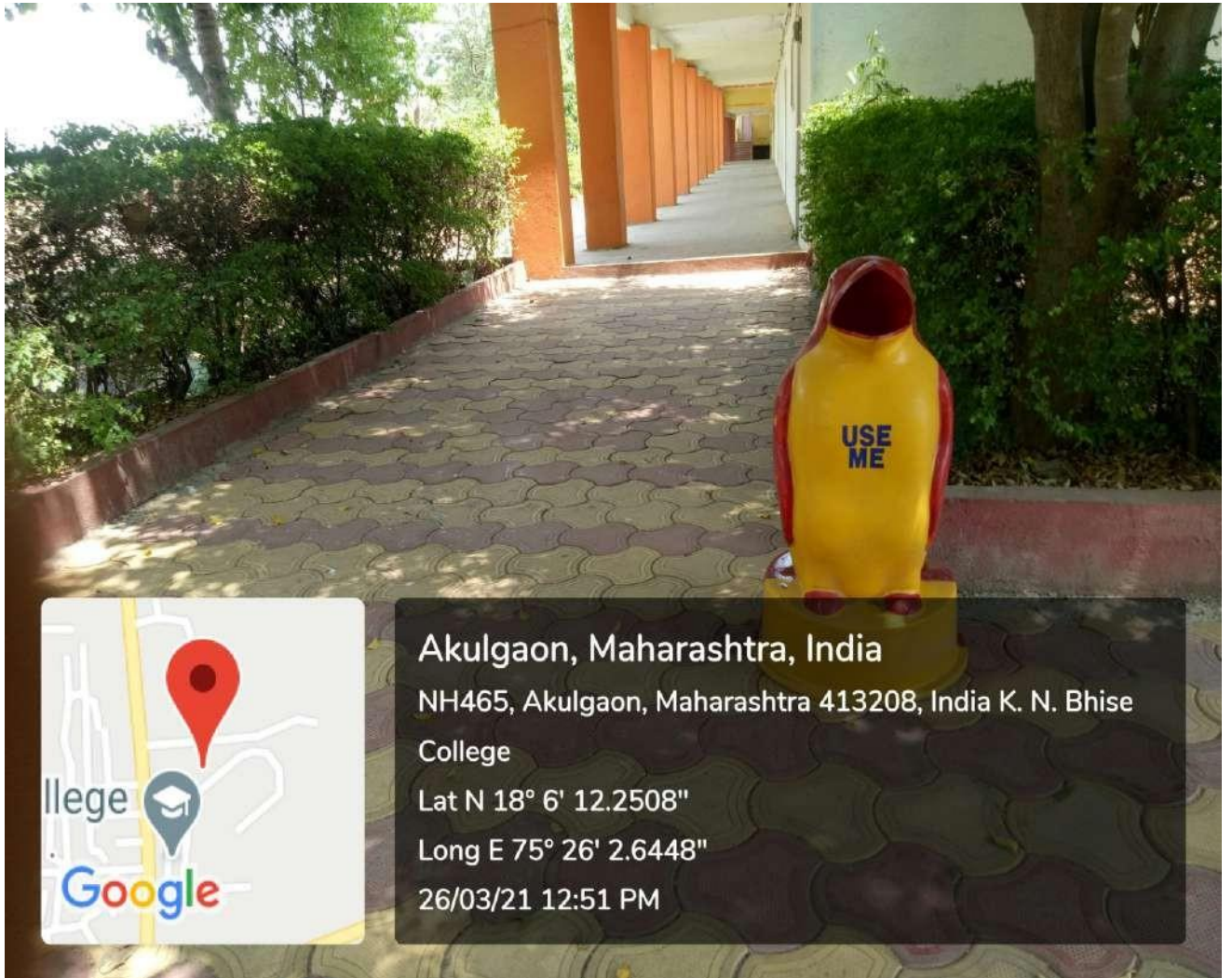
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**Dustbins Kept in the Campus**



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**Dustbins Kept in the Campus**



**Waste water collection point / Lagooning:**













## Solid waste treatment: vermiculture plant















**Kurduvadi, Maharashtra, India**  
4C3M+9FC, Kurduvadi, Maharashtra 413208, India  
Lat 18.103429°  
Long 75.434055°  
24/11/22 01:44 PM GMT +05:30



**Kurduvadi, Maharashtra, India**  
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**Solid waste collected and burned**





