



**GREATER NOIDA INDUSTRIAL DEVELOPMENT AUTHORITY
GAUTAM BUDH NAGAR, UTTAR PRADESH**

EXPRESSION OF INTEREST (EOI)

for

Phytoremediation of Drains in Greater Noida

November 2024

Issued by:

Greater Noida Industrial Development Authority

Plot No. 1, Knowledge Park IV,
Greater Noida, Uttar Pradesh 201308.

Website: <https://www.greaternoidaauthority.in>

Disclaimer

This Expression of Interest (Eoi) for the " Phytoremediation of Drains in Greater Noida" (hereinafter referred to as 'the Project'). Its primary objective is to provide potential participants with concise details about the Project and outline the scope of work involved.

While all efforts have been made to ensure the accuracy of information contained in this Eoi document, this document does not contain all the information required by the participants. The participants are encouraged to conduct their own independent assessment, investigations and analysis and check the reliability, accuracy and completeness of the information at their end and obtain independent advice from relevant sources as required before submission of their response. Greater Noida Industrial Development Authority (GNIDA or the Authority) and any of its employees or advisors shall incur no liability under any law, statute, rules, or regulations as to the accuracy or completeness of the Eoi document.

GNIDA has issued this Expression of Interest with the best intention to explore the market for eligible and interested participants and has no compulsions to enter into definitive contractual agreements. This EOI does not guarantee conversion of this EOI into any definitive contractual agreements. GNIDA reserves the right to change any or all conditions/ information set in this Eoi document by way of revision, deletion, updating or annulment through issuance of appropriate addendum as GNIDA may deem fit without assigning any reason thereof. GNIDA reserves the right to accept or reject any or all applications without giving any reasons thereof. GNIDA will not entertain or be liable for any claim for costs and expenses in relation to the preparation of the applications to be submitted in terms of this Eoi Document.

Expression of Interest (EOI) for Phytoremediation of Drains in Greater Noida

EOI Data Sheet

S. No.	Particulars	Details
1	Name of Project	Phytoremediation of Drains in Greater Noida
2	Authority's Project Representative	Senior Manager, Drain Greater Noida Industrial Development Authority Plot No. 1, Knowledge Park IV, Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308 Email: hemu2974@gmail.com Website: www.greaternoidaauthority.in
3	Proposal Submission Start Date	08.11.2024, 11:00 PM (IST)
4	Last date for submitting response	25.11.2024, 05:00 PM (IST). All interested participants are requested to send their documents and presentation to hemu2974@gmail.com
5	Presentation Date	26.08.2024, (12:00 Noon IST)
6	Response validity duration	90 days from the Last date of submission
7	EOI fee	Nil

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1. Invitation for Expression of Interest

Greater Noida Industrial Development Authority (“GNIDA” or “the Authority”) invites Expression of Interest (Eoi) for “Phytoremediation of Drains in Greater Noida” (“the Project”). Interested participants can download the document from the website www.greaternoidaauthority.in, and submit their “Expression of Interest” in the formats duly filled and signed with required enclosures, via email superscribed “Phytoremediation of Drains in Greater Noida”

2. Key Instructions

Interested participants should make note of the following key points:

- a) This Eoi invitation document is not a Tender or Request for Proposal in any form and would not be binding on GNIDA in any manner whatsoever.
- b) GNIDA reserves the right to cancel the Eoi invitation as a whole or in part without assigning any reasons.
- c) The participants are encouraged to conduct their own independent assessment, investigations and analysis and check the reliability, accuracy and completeness of the information at their end and obtain independent advice from relevant sources as required before submission of their response.
- d) GNIDA encourages interested participants to contact the Drain Department for any query.
- e) GNIDA reserves the right to update, amend and supplement the information given in this document at its sole discretion before the last date and time of submission of the responses.
- f) Participants should submit their response in English language and as per formats provided in the last section of this document. Submission not conforming to the instructions or prescribed formats will be rejected.
- g) The key dates and information for the Project are given in Eoi Datasheet.

3. Introduction

Greater Noida Industrial Area is located at the intersection of the Western and Eastern Dedicated Freight Corridors and is also the gateway to the Delhi-Mumbai Industrial Corridor (DMIC). It lies within the National Capital Region of India's capital - New Delhi and is adjacent to Noida, one of the largest industrial townships in Asia.

The integrated township is shaping up as India's smartest city, the National Capital Region's most modern urban development centre and its fastest-developing center of attraction. It has emerged as a modern model of far-sighted town planning.

Greater Noida, spread over an area of about 222.22 sq. kms, comprising of nearly 95 Sectors and 124 villages divided into 8 administrative zones called work circles. The population of Greater Noida as per 2011 census was ~ 1lac. The current population is estimated to be approximately 10-12 lacs.

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Phytoremediation is a bioremediation process that uses various types of plants to remove, transfer, stabilize, and/or destroy contaminants in the soil and groundwater. Phytoremediation involves the removal of organic compounds and nutrients from wastewater through biosorption/uptake by pollution-tolerant aquatic plants (such as algae, water hyacinth, duckweeds, etc.) growing in the wastewater. Quite often such plants grow along the littoral zones on either side of the drain.

4. Vision

In-Situ bioremediation techniques involve treatment at the site using aquatic plants and/or microbial remediation methods. In-Situ treatment systems like phyto-remediation, bio-remediation, etc. can be commissioned in shorter time duration (few months only) compared to conventional systems, are easy to operate, and requires less energy as compared to conventional treatment technologies.

In-situ treatment, depending on effluent characteristics, site conditions, and type of treatment systems, may either provide desired quality of treated effluent or act as supplementary to conventional treatment technologies. In any case, wherever feasible, it can be used as an interim remedial measure and help in reducing pollution load or polishing of treated effluent from Sewage Treatment Plants. The common in-situ treatment systems are Microbial Bioremediation, Phytoremediation, Constructed Wetland System and Root Zone Treatment. Adequate space and appropriate flow are general requirements for adoption of these technologies.

5. Scope of Work

Participants are expected to present methods of phytoremediation technology for treatment of drains in Greater Noida. Proposals are Integrating advanced processing tech and sustainable practices to achieve specific objectives.

1. **Removal of Pollutants:** Implementing state-of-the-art techniques to extract valuable materials and energy from waste streams, thereby reducing reliance on finite natural resources and minimizing environmental impact.
 - **Heavy Metals:** Certain plants can absorb heavy metals like lead, mercury, and cadmium from contaminated water, thereby reducing their presence in drain systems.
 - **Organic Pollutants:** Plants can break down organic pollutants such as petroleum hydrocarbons, pesticides, and herbicides. These pollutants are absorbed by the roots or degraded by the microbial communities in the rhizosphere (root zone).
 - **Nutrient Overload:** Plants can also help reduce excess nutrients like nitrogen and phosphorus, which contribute to eutrophication and water quality degradation.
2. **Improvement of Water Quality**
 - **Filtration of Suspended Solids:** To trap and filter out sediment, debris, and particulate matter from the water, improving clarity and reducing turbidity.

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- **Oxygenation:** To enhance oxygen levels in polluted water, which is beneficial for aquatic life and microbial processes that degrade contaminants.
 - **Reduction of Pathogens:** To reduce or eliminate harmful microorganisms like bacteria and viruses from wastewater, improving the health and safety of water bodies.
- 3. Enhancement of Ecological Health**
- **Restoration of Aquatic Ecosystems:** To restore the ecological balance in drains, streams, and nearby water bodies by improving water quality and supporting plant and animal biodiversity.
 - **Supporting Biodiversity:** To create green spaces and habitats for wildlife, which can help improve local biodiversity and ecosystem resilience.
- 4. Sustainable Wastewater Management**
- **Cost-Effective Treatment:** To offer a low-cost, sustainable alternative to traditional chemical or mechanical wastewater treatment methods, reducing the environmental and financial burden on municipalities or industries.
 - **Long-Term Pollution Control:** To provide a long-term, low-maintenance solution for pollution management in urban and industrial drains without producing harmful by-products.
- 5. Prevention of Soil and Groundwater Contamination**
- **Phytostabilization:** To stabilize contaminants in the soil around drain areas, preventing them from leaching into groundwater and further contaminating surrounding ecosystems.
 - **Mitigation of Runoff:** To reduce the flow of polluted water into natural waterways, preventing the spread of contaminants and helping to protect larger water bodies like rivers and lakes.
- 6. Improvement of Aesthetic and Social Value**
- **Beautification of Polluted Areas:** To transform visually unappealing, polluted drain areas into green spaces, improving the quality of life for nearby communities.
 - **Recreational and Cultural Benefits:** To provide opportunities for urban agriculture, recreational activities, or public spaces, enhancing the social and cultural value of the treated areas.
- 7. Reduction of Odor and Unpleasant Smells**
- **Odor Control:** To reduce the foul odors often associated with stagnant, polluted drains by absorbing organic material and promoting aerobic conditions that reduce the decomposition of waste and release of noxious gases.
- 8. Carbon Sequestration and Climate Mitigation**

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- **Reducing Carbon Footprint:** To contribute to climate change mitigation by absorbing carbon dioxide through the plant growth process, making phytoremediation a carbon-neutral or carbon-sink solution in some cases.

A general overview of responsibilities is mentioned below:

Responsibilities of GNIDA	Responsibilities of Vendor
i. Finalising and earmarking drain for setting up the project.	i. Deploy adequate number of equipment's and manpower for smooth execution of project
ii. Facilitate the Concessionaire in obtaining requisite permits, approvals, NOCs etc.	ii. Ensure compliance with various laws and regulations applicable from time to time.
	iii. Ensure availability and timely renewal of requisite permits, consents, and NOCs.
	iv. Timely submit characteristics of drain water at various sampling locations.
	v. Arrange testing kits
	vi. Hand over peaceful possession of the site to Authority, upon completion or termination of contract, without any encumbrances and liability whatsoever

6. Location of drains

Location of drains where treatment by phytoremediation is to be conducted is given below. More details are placed at Appendix 1.

- Dasna Drain Gaur city near Sector 4
- RCC Drain near Sector 1
- Drain behind ITBP sector-BZP
- Kot Scap Nala behind village chuhadpur

7. Participation Criteria for this EOI

GNIDA is looking for participants who have innovative ideas for implementing phytoremediation of drains at selected locations.

Participants must present their presentation according to the specified presentation of interest outlined in Section 8. Additionally, participants are required to submit pdf versions of Annexure 1 and Annexure 2 in the formats provided in Section 9 along with the presentation to hemu2974@gmail.com marking copy to vishalbhardwaj008@gmail.com

8. Presentation of Interest

Interested participants are kindly requested to submit their presentations in PDF format to the provided email address. The Presentation can be made in hybrid mode i.e. online & offline

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(whichever is convenient to the participants). The presentation should talk about the following aspects.

- i. Introduction and Company Overview:**
 - Introduce the presenting company and provide an overview of its background, experience, and expertise in similar ventures.
 - Set the context by emphasizing the unique challenges faced by traditional drain treatment methods.
- ii. Understanding of Scope of Work:**
 - Demonstrate a thorough understanding of the outlined scope of work, emphasizing how the company plans to fulfil each component effectively.
 - Proposed Phytoremediation Technique for drain treatment.
- iii. Holistic Vision and Approach**
 - Describe how your visionary approach aligns with the objectives of operational excellence, efficient processing, and treatment, resourceful ICT/ Digital Tools/Technology usage, Environment, Health and Safety Policy & Practice, compliance, and reporting.
 - Suggest Penal clauses for different Key performance Indicators.
 - Suggest number of years of O&M contract for which tender can become viable.
- iv. Project Management**
 - Present your strategic project management methodology that ensures efficient planning, coordination, and successful execution.
 - Illustrate how you will prioritize and implement project for maximum impact.
 - Indicative project cost and broad assumptions for various revenue and cost heads
- v. Resource-Optimized Planning**
 - Present your innovative strategies for optimizing existing infrastructure in a way that enhances capacity and efficiency.
 - Demonstrate how you plan to integrate technology and eco-friendly practices for measurement.
- vi. Illustrative Case Studies:**
 - Share relevant case studies from your portfolio that exemplify successful implementations of phytoremediation of drains.
 - Showcase how your solutions have brought positive change to similar contexts.

9. Selection Process

The EOI is issued only with a purpose of collection of information from interested parties and GNIDA reserves the right to proceed ahead with the Project. However, the applications received shall be reviewed carefully and interactions with the applicants will be likely scheduled before finalisation of Project terms and conditions.

10. Formats for submission of information

Annexure 1: Format for Covering Letter

[On the letterhead of applicant]

Date:

To,

Senior Manager, Drain

Greater Noida Industrial Development Authority

Plot No. 1, Knowledge Park IV,

Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308

Sub: Expression of Interest (EOI) for Phytoremediation of Drains in Greater Noida

Dear Sir,

With reference to your EOI document dated _____, I/We the undersigned am/are hereby Expressing our Interest for Phytoremediation of Drains in Greater Noida.

I/We understand that based on responses, the Authority shall finalize the concept and other requirements. Further, the issue of this EOI does not imply that the Authority is bound to appoint any applicant, as the case may be, for the Project.

I/We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

(Name and Title of the Signatory)

In the capacity of

Name of the Entity: (To be left blank in case of individual)

Registered Address of the Entity: _____

Email ID: _____

Contact Number: _____

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Annexure 2: Details of the Applicant

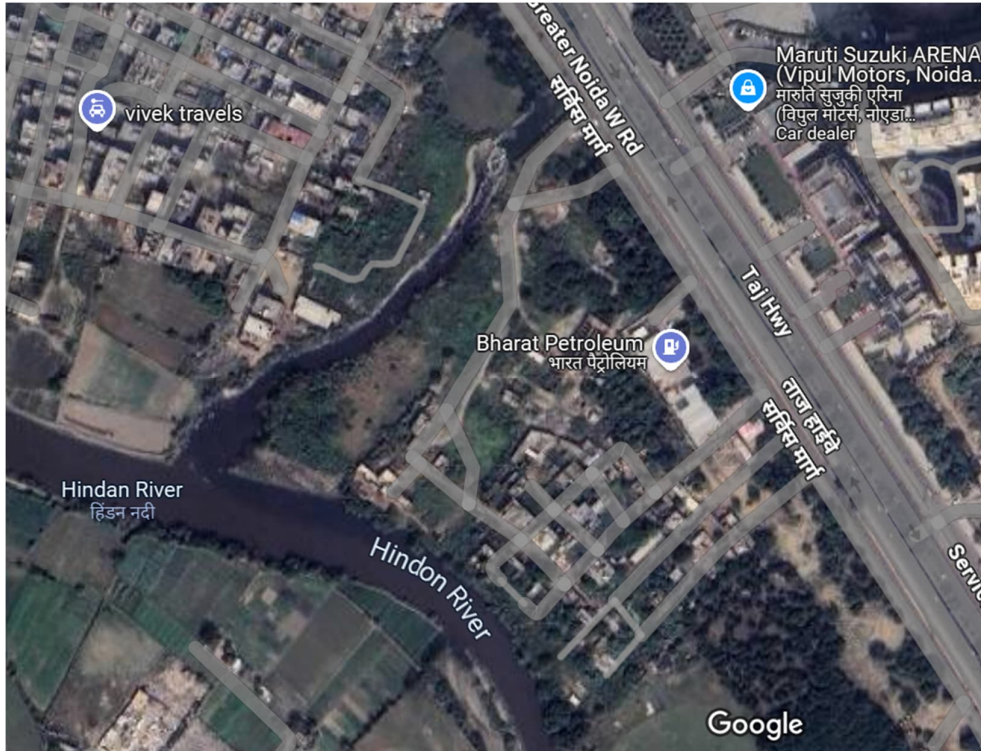
[Please capture all relevant information]

S. No.	Particulars	Details
1. (a)	Name of Entity	
(b)	Registered Address	
(c)	Postal Address	
(d)	Telephone / Mobile No.	
(e)	E-Mail Address	
(f)	Type of entity	
(g)	Registration number of Entity	
(h)	PAN No	
(i)	GST Registration No.	
2	Details of individual(s) who shall serve as the point of contact/ communication for GNIDA:	
(a)	Name	
(b)	Designation	
(c)	Address	
(d)	Telephone / Mobile No.	
(e)	E-Mail Address	

11. Appendix 1

Location of Drains where phytoremediation is to be conducted:

a) **Dasna Drain Gaur city near Sector 4 (Coordinates: 28.607094, 77.422169)**



b) **RCC Drain near Sector 1 (Coordinates: 28.573288, 77.422943)**



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c) **Drain behind ITBP sector-BZP (Coordinates: 28.501768, 77.452143)**



d) **Kot Scap Nala behind village chuhadpur (Coordinates: 28.418527, 77.507103)**

