

## NOWRA Position Paper: The Role of the Environmental Health Professional In Onsite & Decentralized Wastewater Management

### Introduction

Environmental health professionals, also referred to as regulators, are specialists dedicated to identifying, assessing, preventing, and mitigating inadequately treated or dispersed wastewater systems from adversely affecting human health or the environment. With approximately 25% of U.S. households relying on onsite/decentralized wastewater systems—and an increasing trend in new construction—their role is indispensable. These systems, if improperly managed, pose significant risks to groundwater, surface water, and public health. The National Onsite Wastewater Recycling Association (NOWRA) underscores the need for well-trained, fairly compensated professionals to ensure these systems operate safely and sustainably.

### Discussion

To effectively fulfill the environmental health professional's role, they must possess multidisciplinary expertise in the following areas:

- **Soil Science** – Understanding how soil properties affect wastewater treatment and dispersal.
- **Wastewater Chemistry & Biology** – Knowledge of contaminants and biological/chemical treatment processes.
- **Hydrology/Hydrogeology** – Assessing water movement and contamination risks.
- **Engineering Concepts** – Evaluating system designs, hydraulics, and electrical controls.
- **Code Interpretation** – Ensuring compliance with evolving state and local codes.

In environmentally sensitive areas, a deeper understanding of one or more of these fields may be required. NOWRA advocates for continuing education to keep pace with technological advancements such as improved treatment methods and innovative designs and is committed to providing the necessary ongoing training of environmental health professionals.

Beyond technical expertise, professionals must interpret and enforce codes while managing interactions with politicians and the public. Conflicts may arise when local politics influence code enforcement, potentially compromising professional authority. Training in communication, conflict resolution, and ethical decision-making helps avoid inconsistencies, ease tensions, and enhance job satisfaction. Also, understanding that while codes may provide some of the necessary structure specific to system design or equipment specifications, they must be tied to science, engineering, public and environmental health principles accepted throughout academic and professional communities.

NOWRA recommends regular reviews of regulations and codes to ensure they remain enforceable and continue to effectively promote advancements in wastewater treatment application and improved management of these systems.

Once trained in both the science of wastewater management and regulatory compliance, these professionals serve as invaluable partners in public health and environmental protection. Their primary responsibilities include:

- **Clear Communication** – Ensuring regulatory requirements are understood by all stakeholders.
- **Design Review & Installation Inspections** – Verifying compliance with all applicable laws and regulations.
- **Public Outreach & Technical Assistance** – Educating homeowners on system maintenance and best practices.
- **Malfunction Response & Enforcement** – Addressing system failures promptly to mitigate public health and environmental risks, and when necessary, take appropriate enforcement actions.

In some jurisdictions, environmental health professionals conduct site evaluations and/or design systems. Where this is done, the environmental health professionals must obtain training to meet those job requirements, work within their knowledge limits, seek consultation/review of regional or state technical experts, and refer to trained private professionals when needed. It is also crucial to avoid conflicts of interest, perceived or implied. Both necessitate careful management to maintain transparency and uphold ethical standards.

The following safeguards must be addressed to help ensure effective designs and help avoid conflicts of interest:

- **Clear Policies and Procedures:** Transparent procedures for consistent regulatory application
- **Uniform Training:** Public and private sector designers or site evaluators must receive the same training and demonstrate equivalent competencies.
- **Financial Assurance:** Mechanisms should be in place for homeowners to recover costs in the event of a design error.

## Conclusion

A skilled and ethical environmental health workforce is fundamental to the success of onsite and decentralized wastewater management. By maintaining clear professional boundaries, prioritizing continuing education, promoting education on the code and requirements, and fostering strong regulatory enforcement, these professionals can effectively protect public and environmental health while supporting sustainable wastewater management solutions. NOWRA remains committed to supporting this mission through partnerships, advocacy, and the promotion of science-based policies.

*This position paper was approved unanimously at the May 19, 2025, NOWRA Board of Directors meeting.*