



North Carolina Department of Health and Human Services  
Division of Public Health

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**MEMORANDUM**

**TO:** NC Environmental Health Specialists  
NC Plumbing Code Enforcement Officials

**FROM:** Nancy Deal, Onsite Water Protection Branch Head, DPH, DHHS *nancy Deal*  
Bill Moeller, Chief Plumbing Code Consultant, Engineering Division, NC *Bill Moeller*  
Department of Insurance

**SUBJECT:** Composting Toilets

**DATE:** April 20, 2015

The purpose of this Memorandum is to clarify for local Environmental Health Specialists (EHS) and local plumbing code inspectors when a composting toilet may be installed under their respective Laws and Rules. EHS in Local Health Departments (LHDs) enforce on-site wastewater system requirements and local plumbing code inspectors enforce the North Carolina (NC) State Plumbing Code.

The following describes the circumstances and conditions for use of composting toilets in North Carolina.

1. In general, the most appropriate use of composting toilets is at publicly managed recreational facilities where water and sewer services are either unavailable or impractical. They may also be used at privately owned or managed facilities in remote locations, where public toilets are not required per the NC State Plumbing Code and where there are a small number of users who can be trained in their operation and maintenance.
2. Prior to approving use of a composting toilet at a facility, the local EHS and local plumbing code inspector shall concur with their use in any particular instance.
3. Composting toilets may be approved as a non-ground absorption sewage system by the LHD where connection to an approved septic tank system or to a public or community sewage system is impossible or impractical. A composting toilet may only be approved for human bodily sewage (solid and liquid waste), and only when all other wastewater generated by the facility (including any non-toilet sewage) shall be handled by another approved system (see 15A NCAC 18A .1958).
4. Composting toilets shall not be permitted as a replacement or substitute for a water closet or urinal where a water closet or urinal connected to an approved wastewater system is required by the NC

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State Building Code, such as at a place of residence (as described in the NC Residential Code). However, their proposed use in accordance with applicable requirements outlined in this memorandum shall not be prohibited to supplement a water closet or urinal in such facilities.

5. No fixtures or appliances connected to a water supply source that will generate wastewater (e.g., for the toilet, hand cleaning purposes or for drinking and food preparation) shall be provided in the facility, unless provisions are made for their direct connection to an approved wastewater system.
6. When used in a facility that does not or cannot have any connection to a water supply source, hand cleaning may be facilitated by the provision of a waterless bacteriological hand cleaner and disposable hand towels or pre-moistened antiseptic hand towels in the toilet room. If drinking water is required or proposed to be provided, it shall be done so by use of bottled water or a bottled water cooler dispenser compliant with ADA requirements in a separate adjacent area (not in the toilet room). Signage shall be prominently displayed in the toilet room instructing the user not to place towels or any other unapproved solid or liquid waste into the composting toilet.
7. The composting toilet shall be tested, certified and listed by an approved third party organization (NSF-International; Canadian Standards Association, etc.) to adhere to a nationally-recognized standard such as NSF International/American National Standard (NSF/ANSI) 41 for Non-Liquid Saturated Treatment Systems. Alternately, site-built systems which essentially comply with the design and construction requirements of NSF/ANSI Standard 41 may be reviewed and approved on a project-specific basis, based upon plans and specifications provided by a registered professional engineer. The toilet model and capacity shall be selected and sized based on the projected usage at the proposed facility. The toilet design shall preclude the need for drainage of leachate from the system unless the leachate drain is to be directly connected to an approved wastewater system. The toilet design should also provide for the separation of newly-deposited waste from the finished composting product that will ultimately be required to be removed.
8. The composting toilet must be installed in a room complying with the toilet room requirements of the NC State Plumbing Code including the accessibility requirements for the disabled and must be installed in strict accordance with manufacturer's instructions. Copies of installation, initial setup/startup, operation, maintenance and repair instructions shall be left with the installed composting toilet. Toilets serving a public restroom and other systems designed to serve 10 or more users on a daily basis shall be located to enable access for maintenance and for the removal of solid and liquid residuals from the exterior of the building containing the toilet. This is consistent with additional high water and failure sensing and signaling equipment requirements for such systems under NSF/ANSI Standard 41.
9. Prior to approval, provisions shall be in place to assure proper operation and maintenance of the toilet system, including a commitment in writing by the owner to perform product-specific maintenance activities on a scheduled basis as per the manufacturer's operation manual, and to comply with septage management requirements of the NC Division of Waste Management for the removal of solid or liquid waste generated by the toilet. Only person(s) that hold a current NC Septage Management Firm permit can remove liquid or solid waste from composting toilet systems as per Rule 15A NCAC 13B .0832(a)(1) and all waste shall be taken to an approved disposal site, per GS 130A-291.1(d).

For toilets serving public restrooms and other systems designed to serve 10 or more users on a daily basis, maintenance shall be provided by either a public management entity, which may be the owner

for a publicly-owned facility, or by a Certified Operator. Requirements for a contract to be executed and maintained in Rule 15A NCAC 18A .1961(e) shall be met prior to issuance of the *Operation Permit*.

10. Permits and Inspections: An application for an *Improvement Permit* and *Authorization to Construct (IP/CA)* shall be submitted to the LHD for use of a composting toilet at a facility, including information on the proposed manufacturer, specific make and model, diagrams, drawings, specifications, and other pertinent details of the toilet to be used. Prior to acting on the application, the local EHS shall consult with the local plumbing code inspector and reach consensus concerning the specific request. The EHS shall issue the *IP/CA* for the composting toilet in accordance with “Laws and Rules for Sewage Treatment and Disposal”(15A NCAC 18A .1900, et seq). The local building inspection department shall issue the building permit after receipt of the *Authorization to Construct* from the LHD, following the same procedure for issuance of a building permit after receipt of an *Authorization to Construct* for a septic tank system.

Composting toilets are considered as an alternative to the prescriptive methods of the NC State Plumbing Code and can be accepted as an “approved private wastewater system” when concurrently approved by the LHD. The alternate methods section of the NC Administration and Enforcement Requirements Code allows building inspection departments to approve alternate material, design, and methods which are equivalent to those prescribed in the technical codes in quality, strength, effectiveness, fire resistance, durability, and safety.

The EHS shall verify proper installation and required operation and maintenance provisions for the approved toilet system. The building, mechanical, electrical and plumbing inspectors will inspect the toilet room, ventilation system, electrical system, and any plumbing connections required to facilitate maintenance and use of the composting toilet. A joint inspection by the local EHS and local plumbing code inspector prior to approval for use is strongly recommended. After approval of the installation and operation of the composting toilet, and necessary provisions for Operation and Maintenance are in place, the EHS shall issue an *Operation Permit*. The building inspection department may issue a certificate of compliance after receipt of a copy of the *Operation Permit* once all other building code requirements are met.

A condition of the Operation Permit shall be that the owner of the system shall maintain the system in accordance with manufacturer specifications and shall comply with septage management requirements of the NC Division of Waste Management for removal and disposal of solid and liquid waste generated by the composting toilet, in accordance with applicable State and Federal law.

Failure to maintain the toilet properly or disuse may subject the toilet to removal and the system being decommissioned.

We appreciate your assistance and cooperation implementing this policy. If you need any additional information or clarification, please do not hesitate to contact us.