**Potential MDC for Rainwater Harvesting Systems**

for MDC Team discussion on January 12, 2015

1. BUILDING CODE COMPLIANCE. All RWH systems shall comply with applicable state and local regulations and codes, including, but not limited to the North Carolina Building Code. For systems with a potable water back-up, cross-connection control requirements will apply.
2. MINIMUM CAPTURE VOLUME. The cistern shall be sized to capture a minimum of 86% of the total annual runoff volume as demonstrated through water balance calculations. The captured runoff in the cistern shall be either (a) used to meet a non-potable water demand or (b) discharged via a passive drawdown device to a vegetated infiltration area meeting the requirement of this chapter (if allowed) or to a stormwater BMP sized per another chapter of this manual.
3. NON-POTABLE WATER DEMAND. The non-potable water demand must be quantified and the calculations shall be included in the design documentation.
4. WATER BALANCE CALCULATIONS. The water balance shall be calculated using the NCSU Rainwater Harvester model or another continuous-simulation hydrologic model that calculates the water balance on a daily or more frequent time-step using a minimum of 5 representative years of actual rainfall records.  The model shall account for withdrawals from the cistern for usage and for the active or passive drawdown as well as additions to the cistern by rainfall and runoff and by a make-up water source (if applicable).
5. BACK-UP WATER SUPPLY. If a back-up water supply discharges into the cistern, this water volume shall be accounted for in the design.
6. DISTRIBUTION SYSTEM. RWH systems shall include a functioning distribution system prior to be being considered complete. The design of this system shall include testing protocols which shall be executed in the prior to acceptance of the system at construction completion.
7. PRE-TREATMENT. A pre-treatment device shall be included upstream of the cistern to minimize gross and course solids collection in the tank.
8. PROTECTION FROM LIGHT. Cisterns shall be constructed to prevent light from entering the cistern.
9. SAFETY. Safety measures appropriate to the cistern type shall be installed to address issues such as fall protection and confined spaces. Safety measures shall comply with federal and state occupational safety regulations.
10. All manufacturer requirements, product standards, and industry guidelines shall be followed to ensure lasting effectiveness (in addition to meeting the requirements of this chapter).
11. SIGNAGE REQUIREMENTS. All harvested rainwater outlets (e.g. spigots, hose bibs), storage facilities, and appurtenances shall be labeled as “Non-Potable Water” to warn the public and others that the water is not intended for drinking. Passive drawdown devices, when employed, shall be marked with identifying signage or labels that is visible to owners and maintenance personnel.
12. PASSIVE DRAWDOWN DEVICES. Passive drawdown devices, when employed, shall be designed to prevent clogging.
13. RECOMMENDATION: An indicator of water level should be visible to users and maintenance personnel.
14. RECOMMENDATION: All spigots, hose bibs or other outlets for the harvested rainwater should be of a type, or secured in a manner, that permits operation only by authorized personnel, such as a locked below grade vault or a spigot that can only be operated by a tool.
15. RECOMMENDATION: Exterior distribution piping for the harvested rainwater should be color-coded, taped, or otherwise marked to identify the source of the water as non-potable.