

# Modern Potable Rainwater Harvesting: System Design, Construction, and Maintenance

By Daniel M Brown



**Modern Potable Rainwater Harvesting: System Design, Construction, and Maintenance** By Daniel M Brown

Modern Potable Rainwater Harvesting shows how to design, build, and maintain a rainwater system that consistently and reliably provides potable water that is orders of magnitude cleaner than typical public municipal water. The book covers advanced oxidation processes, disinfection, biofilm control, filtration, plumbing, electronic controls, and water testing. Electronic schematics of essential control circuits are provided. Plumbing diagrams for both on-grid and off-grid systems are provided. Proper pump sizing for a given storage capacity is discussed. The book shows how to use a spreadsheet to properly size storage capacity based on actual rainfall data, collection area, and assumed daily usage rate. Mechanical design and fabrication details of key components are provided, such as automatic first flush divert valves, a rainwater pre-filter, disinfectant injection, and a water level sensor. The book contains unique information not found anywhere else, some of which disputes the teachings found in other sources. As one book reviewer put it, "I thought I knew everything there is to know about rainwater harvesting, but this book is lightyears ahead of anything I've seen." The book is not written by an armchair theoretician, but by an actual practitioner who has successfully maintained a system on his own private residence, as the only source of potable water, for several years. The book also demonstrates how private rainwater harvesting stimulates real water conservation, as opposed to the futile efforts of governments and public utilities.



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#### **Editorial Review**

#### About the Author

Dan Brown was thrust into rainwater technology out of a need to provide water for his family's new home, which he designed and built on the side of a mountain. Other conventional sources of water proved to be inadequate or unavailable. By occupation, Dan is an optical engineer and lens designer and owns his own consulting business. He holds graduate degrees in physics and computer science and is an inventor on ten U.S. patents. He has written numerous technical papers on optical design and is a contributing author to the book, Laser Beam Shaping, edited by Fred M. Dickey. Dan also serves as an ordained presbyter in a local Presbyterian church, which he helped plant.

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