



## Case Study: Exploring Green Technologies to Meet Municipal Building Needs

**Franklin, NY conducts building inventory and identifies alternative technologies to meet the evolving needs of the community.**

### Introduction

In 2006, the Town of Franklin, New York faced a dilemma. Franklin, a small community (population 1,218 - Census 2005) in the Adirondacks region of New York, was at a pivotal point in their planning for the facility needs of their community, having identified a variety of issues with respect to existing buildings and considering constructing a new building to meet town needs. Over the years, the Town's Building Committee had collected a variety of information on its buildings. However, in 2006, the information collected had been insufficient to provide a clear path forward to resolve the town's multiple building-related issues.

The Town of Franklin was interested in the Green Community Technologies® process as a way to help determine how to proceed with its buildings in a manner that would meet the immediate and long-

term needs of the community while addressing regulatory compliance issues, minimizing costs of construction, operations, and maintenance, and reducing or eliminating negative environmental impacts. In assisting the Town, Yellow Wood's goal was to help maximize the use of existing assets and minimize the amount of new construction required to meet Town goals. The more compact the spaces are, the easier and less expensive they are to heat and maintain.

### The Process

Yellow Wood began by investigating Franklin's buildings. This involved an indoor space and use analysis, in which Yellow Wood collected, clarified and evaluated existing information from Franklin regarding existing and required uses of indoor space and estimates of required square footage. Yellow Wood also collected, clarified and provided

Alternative technologies offer towns like Franklin new choices that may save money over time, help avoid future costs, contribute to local employment, and better protect the environment.

floor plan and building use analysis for the three existing structures and one proposed structure at Kate Mountain Park. Finally, Yellow Wood discussed alternative uses and options for existing and proposed space. The results of the indoor space and use analysis of the Vermontville Town Hall, Merrillville Town Hall, and the proposed building at Kate Mountain confirmed the Town's desire to consolidate town offices, record storage, and courtroom at Vermontville and move social functions to a new community center at Kate Mountain. We also conducted a detailed assessment of needs related to the Municipal Garage.

Specific areas of concern raised by the Town and addressed through our work included: energy efficiency, cost, sources, historic structures, oil/water separation in the municipal garage, and green building approaches and components.

"Green" or "sustainable" buildings use key resources like energy, water, materials, and land much more efficiently than buildings that are simply built to code. They also create healthier work, learning, and living environments, with more natural light and cleaner air, and contribute to improved human health, comfort, and productivity. Cutting edge building methods allow the construction of buildings that use half as much energy and resources as conventional methods, benefiting not only the environment and occupants, but saving building owners substantial operation and maintenance costs.

### Solutions

One interesting idea that came out of this work was a possible solution to the problem of the Municipal Garage needing to seal its floor drains. Rather than installing an oil/water separator, which involves a significant amount of work and expense, Yellow Wood suggested developing a dry shop, which is a shop that has sealed all its floor drains and eliminated discharge to surface and groundwater, and is essentially a clean shop. Maintaining a dry shop requires changing behaviors to significantly reduce the use of water, contain toxic substances and eliminate them where possible, prevent spills, and eliminate any spills as soon as they occur.

Alternative technologies offer towns like Franklin new choices that may save money over time, help avoid future costs, contribute to local employment, and better protect the environment. However, few alternative technology providers market to rural communities, and few rural communities have the staff, time, or expertise to explore the viability of often rapidly changing technology solutions to their needs. Further, hardly any of the firms that do provide services to rural towns are themselves familiar with alternative approaches. And federal programs promoting alternative technologies are often focused on urban areas, with limited resources to address rural differences in scale, capacity and financial resources.

The Green Community Technologies service offers a systems approach to analyzing municipal infrastructure and determining effective and efficient alternatives. While one solution to increasing capacity for wastewater treatment involves enlarging the current centralized system to accommodate greater flows, this is not the only option. Other options include reducing the flow of wastewater into the current system through some combination of water conservation for existing and new customers, separation of flows, use of decentralized systems, and/or increasing efficiency of existing systems. The purpose of this process was to explore a variety of possible options and arrive at recommendations for those with the greatest promise for meeting Hinesburg's overall goals of accommodating greater development while minimizing costs and adverse environmental impacts. In addition, Yellow Wood investigated some upgrades to the existing treatment plant, which are needed whether or not the system is expanded.

Since municipalities can afford to take a long-term view of their infrastructure investments, a life-cycle costing approach was used wherever possible to compare the total costs of alternative versus conventional approaches. Life-cycle costing is the process of considering alternatives which satisfy all performance requirements (e.g. code, safety, comfort, reliability) based on all costs spent over the life of the longest lived alternative. These costs include purchase price, operation and maintenance, replacement costs for shorter lived alternatives, and disposal cost.