

Turning Wetland Challenges into Opportunities **by Douglas B. Eldred, P.E. and Robert J. Cantwell, A.S.L.A.**

There are few things more challenging for developers than dealing with wetland regulations. To turn these challenges into opportunities, it takes the right combination of environmental science, engineering and planning. At BME, our team of Martin Janda, environmental engineer, Doug Eldred, design engineer, and Bob Cantwell, planner, have had great success with turning wetlands into project opportunities for our clients.

Federal and state wetland regulations continue to affect the developability of property. Local Conservation and Planning Boards in some communities often apply more stringent conditions than state and federal regulations, such as requiring a buffer zone on wetlands that are below regulatory thresholds. The bottom line is that less land is available for development. Frequently only on-site solutions are available to meet wetland regulatory challenges.

BME uses two strategies to lessen the burden of wetland regulations on site development and to turn the wetlands into project opportunities. The first is to simply make improvements or enhance the wetland resource to improve its ecological value and visual appeal. The second strategy is to use the wetland area to satisfy stormwater management regulations, in order to minimize the total commitment of land area needed to satisfy these requirements.

Our first strategy consists of identifying and understanding the challenge itself, and in recognizing the challenge as an opportunity to meet multiple objectives. This includes incorporating the environmentally sensitive, aesthetics and function of the wetland into the project design. Innovative design promotes the enhancement of the wetlands to create diverse wildlife and plant habitats such that the area becomes a focal point of the development plan.

Aesthetic value is realized through the introduction and preservation of appropriate plant materials, which can provide color, texture and variety to the landscape. This aesthetic value is also a function of the visual relationship to other project improvements. Whether the wetland feature is a central focal point giving character and identity to the project, or whether it offers "forever wild" premium opportunities associated with homesites backing up to or across the street from the feature, it can be an amenity. To minimize the cost of enhancements, construct them in the early stages of the project. Inexpensive bare root plants and seedings quickly mature in the fertile wetland environment. As the wetland enhancements mature the future phase lots abutting the wetlands can be sold at a premium with a minimal investment.

The second strategy is a blending of the wetland and stormwater quality regulations. The new EPA Phase II regulations have greatly increased the sizing requirements of detention / retention basins, and often require a wetland facility to be constructed. A design that uses the existing wetland, to the extent possible, to satisfy Phase II stormwater regulations will be less expensive in construction costs and will preserve the maximum amount of developable land. The degree that existing wetlands can be used for stormwater management is influenced by the regulations of the jurisdictional authority and the quality and size of the wetland. BME has successfully obtained permits for several clients to incorporate stormwater management facilities into wetlands.

Finally, a design that combines both the wetland enhancement and land use strategies may provide the most effective means to turn a wetland adversity into a project opportunity. The bottom line is that each development site presents a different set of challenges and thus, an opportunity for innovation and creativity.