True Green

Green Verges

Famous for its beautiful bays and fabulous oceanfront vistas, New York's Long Island is also prized for its pristine inland waterways and wetlands of both the fresh- and saltwater varieties. Working around these bodies of water, says landscape architect and longtime Long Island resident Timothy Rumph, requires familiarity with a number of different agencies as well as a clear understanding of myriad rules governing what is (and isn't) possible.

By Timothy Rumph

Of all the roles we watershapers and landscape professionals play in enhancing the basic value and character of the areas in which we work, I would argue these days that preserving the health and beauty of natural forms of water and their associated landscapes might well be the most significantly "green."

I live and work on New York's Long Island, which is one of those fortunate places defined by natural beauty and abundant waterforms. With our pristine wetlands, bays, freshwater ponds and sand-dune-draped ocean vistas, it's a place that's long been treasured by residents and visitors alike. It's also a place where I, as a local landscape architect, see my mission as one of creating spaces that please my clients by enhancing their properties while also fulfilling a responsibility to be a good steward of the environment on their behalf.

Projects here typically involve working around environmental setbacks designed to protect natural bodies of water. While such rules are common to many areas across the country, here the enforcement is so stringent that it almost invariably shapes our designs and often calls for unusual serenity in dealing with regulatory agencies and inspectors – and for clear, effective communication with clients.

In effect, we must reconcile the needs and demands of our clients with the needs of nature and the demands of the regulators. It's a challenge that can be quite tricky at times (not to mention frustrating), but we accept it as the very heart of the work we do.

By the Books

More than anything, working on the edges of environmentally sensitive areas requires us to understand the rules and, as important, fully respect an area's natural watershapes. The key, as we see it, is taking what we know about these issues and then conveying our ideas to clients in ways that help them accept approaches infused with our knowledge and practical experience.

In lots of areas where wetlands and other waterways are present, that knowledge and experience tell us that the steepest challenges we face have to do with learning the ropes.

On Long Island, for example, every time we start a project, we at Araiys Design (Southampton, N.Y.) encounter whole phalanxes of regulations that differ from location to location. To keep ourselves sane, we have broken things down into four categories of easements that relate, in turn, to a project's proximity to a freshwater pond, a saltwater estuary, a bay front or the open ocean – and *then* consider subcategories covering variations in the rules imposed by certain municipalities.

Oceanfront areas, for one, are largely

Working at this Long Pond residence required us to pay close attention to multiple setbacks from a large freshwater pond, including a 75-foot easement from the water's edge in which nothing could be touched; a 100-foot setback for the swimming pool and its terraces; and a 200-foot setback for the residence itself – all enforced under the watchful eyes of the state's Department of Environmental Conservation as well as the town's own Conservation Board.

governed by the U.S. Federal Emergency Management Agency (FEMA), while nearby bays and inland ponds of the fresh- and saltwater variety are overseen by New York State's Department of Environmental Conservation as well as local municipal regulations. This means there are, on occasion, multiple layers of federal *and* state regulation you have to analyze in detail to understand what can and cannot happen on site.

In practical terms, these rules are mostly about *setbacks* – that is, zones within which human activity and permanent structures are permitted. The basic idea is to prevent damage to wildlife habitats and to protect and preserve the health of the water. (In the case of FEMA regulations, there's also a sensible focus on protecting people and structures in the event storm surges and natural disasters come into play.)

Fortunately, although these rules are strictly enforced in most areas, they've also been written with the idea that property owners should be able to enjoy their homes and land and have opportunities to interact with nature. Of course, one can always find fault in the way any rule is conceived and written (and there are occasions when conflicts arise in time-consuming and frustrating ways), but for the most part, the rules make sense and do not present insurmountable barriers.

Homeowners often become aggravated by the restrictions, however, and are even more aggrieved by the amount of time that can be consumed by permit processes and plan approvals. That's entirely understandable, which is why I take it on myself as a designer to do as good a job as possible of preparing my clients for what's to come and setting their expectations (especially about timelines) at appropriate levels.

Most of the time but not always, I find that well-informed clients will actually come to appreciate the fact that their proximity to nature is intrinsic to their property values as well as their future enjoyment of the places in which they live. As a result, they come to accept and even support the rules that define what they can and cannot do with their outdoor spaces.

Sometimes getting them into this frame of mind takes some finesse on my part, but it's always worth making the effort if only to help the project proceed without persistent regulation-related stress.

Place Specific

In our part of the country in general and on Long Island specifically, regulations are generally set in accordance with geology and hydrology – that is, in response to the specific and entirely natural evolution of places next to which people have purchased land with the intention to build.

Let's take a look at freshwater ponds: Anyone with even a casual familiarity with the geology of this part of North America knows that the landscape of Long Island was forged in the last Ice Age. Our numerous freshwater ponds were carved out by glaciers, and water has for centuries collected in low spots created by erosion when the slow-moving ice rivers flowed and retreated. In effect, all of these ponds are somehow related – and many are connected and can literally be considered as single bodies of water flowing from north to south toward the open ocean.

We've recently finished a project located close by one of these ponds – a perfect case study in what it takes to work with stringent environmental regulations. The property is located on what is known as Long Pond – just a few miles inland from the Atlantic Ocean in a part of Long Island called the South Fork.

Working on the lot was all about the setbacks, the first of which was a 75-foot easement at the water's edge – a zone in which everything had to be left completely alone and natural or, where the zone had been disturbed or encroached upon in the past, had to be replanted and restored as a precondition of any new construction.

The latter was the case here, as the original pool and pool house had been placed in close proximity to the water's edge. In revamping the property, the owners had to remove those structures and called us in to replant approximately 10,000 square feet of wetland buffer area. Using indigenous grasses and flowering plants, we developed a plan that, although it was completely natural with respect to plant selection (as defined by code), we nonetheless used the available palette to create an aesthetically pleasing area for the clients' enjoyment.

Although this first setback was to be uninterrupted by structures and had to be filled with a defined range of plants, it was still "designable space" – and we had lots of latitude in working with the client's desires when it came to colors and textures. The client in this case is an avid golfer, so we used plants including fescue grass and perennials to give the space the feeling of a fairway rough.

In addition, regulators understand that homeowners want to be able to approach the water's edge, so they allow for pathways within this 75-foot setback zone in the form of mulch paths or, in this specific case, bands of fescue that can be mowed to create strips of lawn: It all works so long as nothing within the zone requires irrigation or fertilization.

Further Along

Beyond that zone is a second setback that starts 100 feet from the water's edge and defines an area in which we were allowed to place structures in the form of decks, pools or outbuildings.

For the project described just above, this involved working with a significant slope – a rise of approximately 40 feet

In this case, not only did we work under close scrutiny in the existing wetland area around a freshwater pond, but we actually *expanded* the wetlands to combat an unsightly, invasive reed species that had grown up to block some views of the water. In doing so, we removed the unwanted phragmites and more than replaced them with lower-growing buffer plants in a color palette that pleased the homeowner.

across the breadth of the property. In that space, the design included a large swimming pool overlooking the pond along with a big deck and a pool house, all of them requiring the support of a substructure of pilings and grade beams.

Finally, there's a third setback, which is at 200 feet and indicates where the house can be situated. Some of these cases are fairly straightforward (as was true of the project I've been discussing here), but other considerations arise depending upon the specific features of a piece of property.

In this project, for instance, we were only working on about three acres of an 11-acre parcel – basically a horse farm – so here there was no need (as there is in many cases) to leave a certain percentage of the site uncovered by impermeable surfaces. In fact, we weren't affected at all by that set of rules.

If we had been working closer to the allowable limits, we would have been constrained in our construction activity to maintain a mandated balance between permeable and impermeable surfaces – a factor that can be a major issue on smaller properties with clients who want large homes and outdoor entertainment spaces.

Even restoring land damaged by storms is a major issue in some areas. The dune seen here, for example, was literally torn away by winter storm surges, yet it took some convincing to get officials at the Federal Emergency Management Agency to agree that we should be allowed to rebuild it. Only after presenting extensive details, cross-sections and evaluations of the structure of the sand as well as information on native grasses and stabilizing fences were we allowed to proceed.

All of these regulations about setbacks and permeability must, of course, be followed to the letter, but there's nothing to prevent us from expanding on these areas and creating, for example, buffers that are *wider* than required. In one recent project located on a freshwater pond, we actually expanded the wetlands to enable us to combat an unsightly, invasive reed species (phragmites) that's been known locally to take over and choke off wetland plants.

Remediating areas affected by such reeds is so expensive a process that municipalities typically don't require it. Nonetheless, there are now clients who sufficiently value the beauty and integrity of the wetlands that they are willing to spend what it takes to restore and preserve the environment.

As for saltwater estuaries and wetlands, the same basic principles we work with around freshwater ponds also conveniently apply: Once again, the rules impose a list of graduated setbacks that govern activity around the water's edge and dictate where people can put their structures.

The rules, however, are typically a bit more stringent in saltwater areas than in freshwater settings. For starters, the first setback, which typically aims at preserving a natural buffer, reaches back 125 feet from the water's edge, basically to protect various saltwater fish and crustaceans found only in these delicate ecosystems. There are also more stringent rules governing the replanting of these areas, along with complete moratoriums on any kind of structures at the water's edge, including docks.

The wider buffers make sense because estuarial water levels rise and fall with the tides: In many cases, land of this sort is swamped all the way to the 125-foot limit (or beyond). Given this fact, it's generally impossible to create pathways to the water's edge; in addition, the planting palette includes a wholly different set of salt-tolerant plants.

We've found that, given these wider easements, clients tend to place more emphasis on bringing built areas right up against the edges of the boundaries as a means of maximizing views and their enjoyment of a property. With narrower setbacks,

Supply and Response

One of the positive consequences of imposition of regulations of the sort described in the accompanying text is that, where I work at least, the local nursery industry has responded in a big way by providing wonderful quantities of code-compliant plants.

Nowadays, in fact, it's tough to find outlets that don't put far greater emphasis on indigenous species that thrive without fertilization and are also drought-resistant enough to survive without irrigation.

This ready supply of plants eases the way for our work with clients in making plant selections. As important, it also helps us meet the challenge of creating "sustainable" environments that will flourish with virtually no maintenance.

– T.R.

The design features, colors and textures of this oceanfront watershape were all chosen to echo the horizon line of the Atlantic Ocean at Southampton, but what seems a simple exercise in aesthetics and good taste is yet another study in how complex it is to work in ecologically sensitive areas. Effectively, we couldn't *touch* the dunes while meeting various setback requirements and had to make certain we left them in utterly pristine condition.

Clean Effluent

As might be expected in even a casual reading of the accompanying text, there are lots of regulations and special circumstances having to do with the construction of swimming pools around Long Island's natural bodies of water. Here are two:

First, in lots of cases we end up building in places with high water tables and must set up dewatering systems during construction. As mentioned in the main text, removing ground water can be a significant issue hereabouts. When it is, we dewater on the side of the pool away from the water's edge and then return it directly to the wetland rather than pumping it to waste.

Second, there are issues related to the chemical treatment of pool water. Some municipalities have banned traditional chlorine sanitization because, during filter backwashing, it gets pumped to waste and will eventually be re-injected into the ground. In these areas, methods such as saltwater chlorine generation or another form of alternative treatment are required.

– T.R.

by contrast, we often have a bit more room to maneuver when it comes to designing spaces for either aesthetic purposes or environmental advantage.

On the Beach

On those wonderful occasions when we're asked to work on lots close to Long Island's plentiful scenic bays or on the ocean, the most substantial added challenge comes from the presence of far more active surf conditions. The waves here are not as vigorous as those that hit beaches in Hawaii, but they do influence the lines where the setbacks begin – that is, at the high watermarks.

Among the big issues we encounter in these spaces are those related to existing seawalls and docks. In most areas where such features exist, we are able to replace them with structures "in kind and in place," meaning we could restore them to like-new condition but were *not* allowed to add any new structures that weren't there before establishment of the setbacks.

In situations in which seawalls or bulkheads were set in place before the state started regulating such things in August 1977 and we can prove that the feature has been there at least that long, we are allowed to build within 30 feet of that structure. If, by contrast, there is no such structure and the client wants one to hold back storm surge, we have to install it beyond the setback point – and often must also restore the wetland with approved plantings between our new structure and the water's edge.

Another issue we occasionally encounter in these areas is seawater intrusion. Many properties have historically drawn from freshwater wells that are relatively close to the ocean or bays. As the water table inevitably sinks, saltwater invades many of these wells and renders them brackish and unusable.

To combat this problem, many municipalities routinely inject fresh water into the ground to present a barrier to seawater intrusion. This is such an issue for public utilities that, even when there's a working well on site, we're required to fill our watershapes with water trucked in from remote sites.

(These rules can approach the outlandish: On Shelter Island – located between Long Island's north and south forks – water-use rules require installation of cisterns for irrigation that can only be filled by water trucked onto the island.)

Finally, there are special considerations on properties facing the open ocean, including a number of FEMA rules dictating mandatory heights and overall sizes of seawalls and bulkheads. There are also plentiful rules having to do with protection of the spectacular sand dunes that define much of our oceanfront landscape: Generally, municipalities maintain setbacks based on primary and secondary dune-crest areas – zones in which any form of construction is completely prohibited. From that point, there are typically 150-foot setbacks that effectively push the boundaries for construction back several hundred feet from the surf.

If that seems onerous, it's also generally advantageous for clients because the dunes serve as a natural barrier to high surf and destructive storm surges.

Water Culture

Because the setbacks are more extensive – and also because lot sizes tend to be smaller right on the ocean, we find ourselves in some projects pushing construction right up to the easement boundaries to maximize views and a sense of proximity to the ocean. (These projects often see us pushing right up to the limits when it comes to ratios of permeable and impermeable surfaces as well.)

In one recent project, we placed a pool in a spot overlooking a beautiful set of dunes, creating visual transitions using natural stone along with grasses that thrive in sand. This approach enabled us to blend the design of the pool area in with the untouched areas while fully observing the required setbacks.

In all such matters, we have learned through the years that the key to making these projects work is knowing the rules before we begin design work or we even speak with prospective clients: We know we must be intimately familiar with the specific requirements so we can, from the start, be absolutely clear about what is and isn't possible and make suggestions to clients that fall within reach.

What we've also found is, although they can seem onerous and are certainly voluminous and can vary from place to place, the regulations having to do with building around natural bodies of water are actually quite straightforward and make sense – all in the name of preserving the environment on the one hand and, on the other, of enhancing property values.

Once informed, we've found that most clients go with the flow, basically because the natural beauty of the area is why they're here in the first place. There are some instances where stubborn clients will press for designs that push the limits, but we know what can be done and must push back.

In that sense, landscape architects and

other designers working in environmentally sensitive settings become *de facto* enforcers of the rules and regulations and stand on the front lines when it comes to clarifying things for clients. As I also see it, this falls right in line with our inherent professional responsibility to preserve the environment.

In other words, it makes perfect sense to embrace the situation and consider the creative design solutions available to us less as limitations than as opportunities to serve both our clients and Mother Nature. As a lifelong resident of Long Island, I personally appreciate the mostly thoughtful efforts that have gone into writing these regulations and the way they help us all sustain the magnificent flora, fauna and aquatic beauty we see at almost every turn. In a very real sense, I wouldn't want it any other way: It's the green thing to do.

Occasionally, we're lucky enough to approach a site with an existing structure we can redo in place. In this case, it meant we could design this new pool within the dune – a rare opportunity along a stretch of barrier beach where setbacks for new work can be amazingly restrictive.