

# EDITORIAL & COMMENTARY



Browns Dock Road, Huber Woods, Nov. 11

DONNA GIBSON

## IT'S YOUR TURN

### Commentary

#### What is an 'Engineered' Beach?

By *The American Shore & Beach Preservation Association*

What do we mean when we talk about an "engineered beach"?

First, it's less a "thing" than a process. Second, there's no "one size fits all" engineering plan for coastal management. Finally, "engineered" has nothing to do with structures – but has everything to do with problem-solving.

A good beginning to grasp the "engineered beach" is to understand the engineering design process – a series of steps consistently found in almost any engineering effort:

- Define the problem: What is the need and why is it important to solve?
- Do background research: What has been tried before (and how did it work), and what solution options are out there?
- Specify requirements: What does a successful solution have to accomplish?
- Brainstorm solutions: Examine all the known – and unknown – options to determine which might have the best chance at success.
- Choose the best solution: Out of those choices, which comes closest to achieving the requirements you already set forth?
- Do development work: How can that best solution be made even better through refinement and review?
- Build a prototype: Test your solution in as close to real-world conditions as possible.
- Test and redesign (as needed): Work with the results from that prototype to

continue the refinement process.

Applying this process to a coastal purpose, your steps could look like this:

- Problem: A rapidly eroding shoreline endangering uplands, infrastructure or habitat.
- Research: What has been done along this shoreline in past (and how did that work)? What have other areas with a similar problem done? What are the myriad forces at work that are causing this erosion (or interrupting the flow of sediment to compensate for it)? What options are off the table for a variety of reasons (laws, costs, consequences)?
- Requirements: What does success look like? A stable beach that requires minimal regular maintenance? A coastline that mimics nature as much as possible? Protection for upland structures from a 100-year storm event? Stable and secure habitat for these crucial species?
- Brainstorm: With all this data, what's possible? What's preferable? What's preposterous... but just might work anyway?
- Choose: Out of all those options, which one has the best chance of meeting the requirements for success *and* winning the support necessary to be implemented *and* can be achieved in the timetable set out at the beginning (you remembered to set a deadline, didn't you)?
- Develop: With that best choice, what could be done to make it even better? If you put more sand here, for example, would it protect the beach down there for an extra few years? Would moving this structure landward (or skyward) improve its survivability? Would this adjustment to an inlet keep the adjacent sand in place longer? Would a different kind of sediment from

another site work better as part of the desired solution? You get the idea.

- Prototype: In a coastal design, prototypes are often done using models, computer simulations that load in all the pertinent physical conditions and which allow a variety of likely scenarios to be tested and refined at a reasonable cost and schedule.
  - Test and refine: Since coastal solutions are rarely permanent (thanks to the evolving nature of the shoreline itself), engineered solutions will be tweaked, either in real time or when the next maintenance phase of the solution – such as a nourishment project – is undertaken. Additionally, as a coastline responds positively to an engineered solution (such as adding more sand to a sand-starved shoreline), the next step must adjust for those improvements to build on the eventual goal ... a cyclical pursuit that can bring better results than originally envisioned.
- The highlights of an engineered beach, then, are a design that addresses *and* the coastal issues, takes into account *and* the natural and man-made forces in play, considers *and* the options available (and *and* the impacts they might have), and explores *and* the refinements and adjustments that can make the solution even better, both initially and over time.
- This is why an engineered beach takes more time (and, perhaps, money) to achieve... and likely will last far longer than one which has now undergone this level or rigorous review and refinement. This also means that, when communities look at their coastal options, they need to ask tough questions about what's being proposed, set reasonable and reachable levels for success and realize that the right solution take time – time that's well spent if the solution really solves the coastal problem in front of them.

*The American Shore & Beach Preservation Association (ASBPA), founded in 1926, advocates for healthy coastlines by promoting the integration of science, policies and actions that maintain, protect and enhance the coasts of America.*

#### Will Asphalt Be the Last Crop? New Jersey Voters Say No

By *Michele S. Byers*

For the 14th time since the first Green Acres bond act in 1961, New Jersey voters overwhelmingly approved a ballot question to support open space and farmland preservation funding.

This vote marked a critical juncture for this state we're in, with 2 million acres of undeveloped land remaining. Will it be paved or preserved? Will asphalt be the last crop?

Fortunately, by a vote of almost 65 to 35 percent, voters endorsed Ballot Question 2,

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which amends the state constitution to allocate a percentage of existing corporate business tax revenues toward preserving open space, parks, farmland, historic sites and flood-prone areas.

Ballot Question 2 received bipartisan support, sailing through in all 21 counties. Support was strongest in urban counties like Essex and Camden, but rural voters approved it by a comfortable margin, too.

And, at not a moment too soon!

State funds for preservation – farms, parks, natural areas and historic sites - are gone, leaving New Jersey with no money to protect and preserve critical lands.

New Jersey voters know that land preservation is not a luxury. Rising sea levels and increasingly severe storms make protecting lands that mitigate flooding all the more urgent. Watersheds that provide clean drinking water for millions of residents need to be safeguarded. Working farms with some of the world's most fertile soils must be kept in agriculture to continue producing fresh, local foods.

And, New Jerseyans need places to play, exercise and experience the restorative power of nature – close to home.

Question 2 was not a perfect solution but it was the only approach the state Legislature could agree on after two years of effort.

With the passage of Question 2, land preservation programs will be funded at a much lower level than during the past decade and a half. There will be less money for park development and improvement projects, but having both programs funded is far preferable to having zero state dollars available for saving land. Once open space and farmland is lost, it's gone forever. Or, as the expression goes, "Asphalt is the last crop."

This method of funding land preservation is reliable and permanent.

The Legislature must now write enabling legislation to put the approved plan into action. A thoughtful process will be needed to ensure that funding is allocated for park development, improvements and stewardship – all in addition to land preservation.

As the first state projected to be fully "built out" by mid-century – with all land either preserved or developed – New Jersey must continue to add parks, preserve farms and forests, and invest in open spaces in our diverse communities to ensure a healthy environment for current and future generations. Passage of Question 2 was a wise choice.

Thank you to voters for making sure that the future will include enough "green" to keep the Garden State green.

To learn more about preserving New Jersey's land and natural resources, visit the New Jersey Conservation Foundation website at www.njconservation.org or contact me at info@njconservation.org.

*Michele S. Byers is the executive director of the New Jersey Conservation Foundation.*



COURTESY DORN'S CLASSIC IMAGES

#### Two River Moment

This corner of Tinton and Sycamore avenues in Tinton Falls, which is now the location of MJ's Restaurant, was a quieter place in the early 20th century than it is now.