

# Newsletter

NOVEMBER 2013



The New York State Thruway Authority and the New NY Bridge team are proud to launch the first issue of the New NY Bridge Project Newsletter, a monthly publication designed to keep everyone abreast of the latest news about the project. The newsletter, produced in partnership with Tappan Zee Constructors, LLC (TZC) is one of many outreach tools employed to keep residents of Rockland and Westchester counties and the entire region informed about the New NY Bridge Project — the largest transportation infrastructure project in North America. Please enjoy the inaugural issue of The New NY Bridge Project Newsletter.

## Building the New NY Bridge: Solid Support

The New NY Bridge will be built on a solid foundation

The New NY Bridge is designed to last 100 years without the need for major structural repairs. Such impressive reliability and longevity can only be achieved with a solid foundation in place. That foundation is actually a series of massive steel pipes and “H” shaped steel driven deep into the subsoil of the river bottom. These “piles” will enable the structure to be supported by rock found hundreds of feet below the water’s surface and by the friction between the walls of the piles and the surrounding soil. In the world of infrastructure construction, piles are the most common type of support for large bridges.

The new bridge will be supported by a combination of deep foundations consisting of driven steel-pipe piles ranging from 36 to 72 inches in diameter,

H-piles, and drilled shafts. The right kind of pile for bridge support depends on several factors, including geology, soil conditions, available equipment, and maintenance requirements. Because of the irregular depth of bedrock and the various consistencies of the soil beneath the lower Hudson River, the New NY Bridge will primarily be supported by concrete-filled, steel-pipe piles.

### Before We Build, We Test

To ensure that the network of foundation piles can sustain the weight of the bridge (static loads), the weight and vibrations of vehicles crossing the bridge (live loads), and the impact of wind, tide, and water current (lateral loads), TZC has completed a series

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(Above) A view of construction activities from the Rockland County shoreline in October 2013.

### BY THE NUMBERS

**100**

The New NY Bridge has been designed to last 100 years without the need for major structural repairs.

**223**

With its modern twin-spans measuring 223 feet wide, the New NY Bridge will be the widest cable-stayed bridge in the world.

**8**

The New NY Bridge will have eight 12-foot-wide travel lanes, as well as wide shoulders for emergency use on both sides of each roadway. The TZB has seven lanes, each narrower than 12 feet, and no shoulders.

**18,000**

When the Tappan Zee Bridge opened in 1955, an estimated 18,000 cars passed over the bridge daily — far fewer than the average 138,000 that drive over the crossing today.

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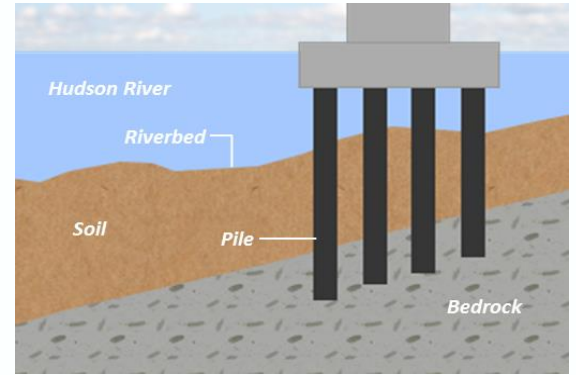
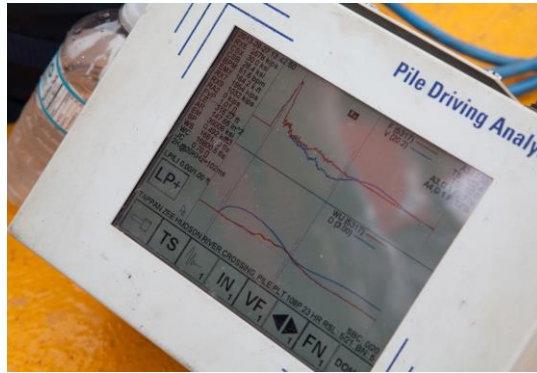
Sailing Safely

**PAGE 6** *Tips for Boating Safely on the Hudson*



The Pile Driving Analyzer (right) calculates pile strength or “capacity” as the steel-pipe piles are being driven into the riverbed.

The New NY Bridge will primarily be supported by steel piles as shown in the illustration (far right) because of the irregular depth of bedrock and soil consistency.



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of dynamic and static pile-load testing operations. Some of these tests determined the horizontal capability of the piles (lateral tests), and others examined the vertical or weight-bearing capacity (static tests) of the underlying soils and bedrock in order to confirm that a given pier design is structurally right for the job. Dynamic testing uses sensors that are attached to a pile. Data collected from these sensors during driving is sent to an analyzer where pile strength, or “capacity,” can be calculated instantly in the field. In static pile testing, a test pile is driven, and then weight is applied to the pile to prove the capacity of the pile support.

### How Are the Tests Done?

During the ongoing pile-load test phase, TZC crews execute numerous pile tests. These tests occurred at various points along the riverbed of the entire length of the bridge.

The test piles are incrementally loaded by hydraulic jacks pushing against a steel reaction frame. The reaction frame is used to receive the test load and then transfer the compression to the pile during the static pile load test. The maximum test load applied during the load test program exceeded 7 million pounds for the main span foundation piles.

### What's Next?

TZC has now begun the process of constructing permanent steel piles that will stand the test of time. These piles will be created for each specific pile location along the river bottom and will be brought to the construction site via barge. The majority of concrete used in the piles for the New NY Bridge will be made in a floating batch plant on site to reduce the need for delivery by trucks on local roads.

To learn more about this amazing support technology for the New NY Bridge, be sure to read the next issue of the newsletter.

## LIVE ON THE WEB

Did you know that you can watch the progress being made on the New NY Bridge right from your own computer or smart phone? In mid-October, the first of several web cameras was installed along the Hudson River to help you keep us in focus. Each image is interactive — you can manipulate the screen, zoom in and out, and share real-time images of the construction site through email. The images are updated every 15 minutes.



To get live video feed, go to [NewNYBridge.com](http://NewNYBridge.com) and click on the “Construction Cameras” tab.

[NewNYBridgeGallery.com/webcam](http://NewNYBridgeGallery.com/webcam)



## Preserving Local History: Conserving Hudson Valley History

### Historic preservation surveys underway

Residents of the Hudson Valley are rightly proud of the region's history, which dates back centuries and embraces many different cultures. The Thruway Authority is committed to protecting the cultural and historical resources that may be affected by the construction of the New NY Bridge. In keeping with that commitment, preservation protocols have been put in place, and inspections are being conducted with the support of the State Historic Preservation Office and the following Native American tribes:

- The Delaware Tribe of Indians;
- The Delaware Nation;
- The St. Regis Mohawk Tribe;
- The Shinnecock Indian Nation; and
- The Stockbridge Band of Mohican Indians.

Four programs are currently underway to document historic structures and artifacts, and to establish measures to mitigate potential impacts.

### Construction Protection Plan for Historic Resources

Pre-construction surveys of historic

properties are underway to inventory unique historical features that may require protection during construction of the bridge.

### Construction Protection Plan for Unanticipated Discoveries

As part of the environmental review prior to construction, a survey was conducted of archaeologically significant areas that might be disturbed during construction of the new

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**The New NY Bridge will be a beautiful and dramatic addition to the already rich history of the Hudson Valley region. We are taking a range of steps to preserve sites and artifacts of historical interest and to document the entire project for future generations.**

*Brian Conybeare*

*Special Advisor to the Governor, New NY Bridge Project*

bridge. Two locations of potential interest to archaeologists were recorded: a submerged Paleolithic landform that may have been

occupied in prehistoric times and a 19<sup>th</sup> century wooden shipwreck lying on the river bottom. Should additional archaeological resources be discovered during construction — on land or in the river — work will stop immediately at that location and the subject area will be secured for exploration, salvaging, documentation, or mitigation.

### Documentation of the Existing Tappan Zee Bridge

Photographs and videos of the existing Tappan Zee Bridge have been taken to capture the history of the bridge for future generations. High-quality images have been taken from various vantage points, including helicopter, boat, both landings, and the bridge itself.

### Archives for Display

Photographs and materials describing the existing bridge, its construction, and history, will be incorporated into exhibits for use by schools, libraries, historical societies, and museums. Exhibits that present the history and engineering of the Tappan Zee Bridge will also be available online via the New NY Bridge website and social media channels.

## Jobs: Building a Bridge with Diversity

### TZC puts 'DBE' firms to work

The New NY Bridge Project is kicking into high gear. Crews are constantly working to guarantee that the project is finished on time, on budget, safely, and with precision. To accomplish its many tasks, TZC relies on the expertise of skilled subcontractors.

A portion of subcontractors hired by TZC qualify as Disadvantaged Business Enterprises (DBEs). DBEs are businesses that are at least 51 percent owned by one or more socially and economically disadvantaged individuals (i.e., women or racial/ethnic minorities). Federally funded programs require states to address opportunities for all by ensuring non-discrimination, creating a level playing field, and helping to remove barriers that affect participation of DBEs in federally assisted contracts. The New NY Bridge Project is a federally funded program, and a 10 percent

DBE goal has been established for this mega-project. TZC and its subcontractors have awarded more than 30 subcontracting agreements with DBE firms so far, with new opportunities being announced throughout construction. The 5-year project goal is to award \$314 million to DBE firms.

TZC and the Thruway hosted several DBE forums over the past year and are planning to schedule monthly DBE orientations. TZC will continue to develop contracts and relationships with qualified DBE firms.

DBEs, Minority-Owned Business Enterprises (MBEs), Women-Owned Business Enterprises (WBEs), and Small Business Enterprises (SBEs) interested in participating in the New NY Bridge Project can visit the [TZC website](http://TZCwebsite.com) devoted to DBE contracting and supply at [TappanZeeConstructors.com/DBE](http://TappanZeeConstructors.com/DBE).



(From left) Ross Pepe, president of the Construction Industry Council, Carla Julian, community outreach and diversity manager for TZC, Tracey Mitchell, diversity compliance manager for the New NY Bridge Project, Donovan Beckford, executive director of the Westchester Putnam Workforce Investment Board, and Brian Conybeare, special advisor to the Governor for the New NY Bridge Project, at the 23<sup>rd</sup> Annual Brotherhood Breakfast on Oct. 31. TZC and the Thruway are committed to fostering relationships with DBE firms throughout the project.



(Above) Thousands of live adult oysters were relocated in order to preserve the shellfish population dwelling in areas slated for dredging.

Though the oyster population currently in the Hudson River is not suitable for consumption by humans, these mighty mollusks are super river-water filter engines as they ingest toxins, sediment, and other particles when they feed on plankton and expel cleaner water, thereby creating a healthier home for other aquatic creatures.



Atlantic sturgeon (pictured) and shortnose sturgeon found near the Tappan Zee Bridge were previously tagged with electronic devices that continuously emit sounds picked up by acoustic receivers. These devices allow researchers to track sturgeon passing through the construction zone and learn more about sturgeon migration patterns.

## Protecting the Environment: Safeguarding River Life

### TZC implements aquatic mitigation program

The New NY Bridge team has set in place a series of unprecedented environmental protection measures that recently earned the approval of environmental groups, as well as special permits from the New York State Department of Environmental Conservation (DEC). These initiatives to safeguard Hudson River aquatic life are based on the New NY Bridge Final Environmental Impact Statement (FEIS) issued in August 2012. Objectives detailed in the FEIS include species conservation, the installation of 24-hour video cameras to document the project, noise monitors to measure construction noise, and air quality monitors to assess emissions. To learn more about our commitment to environmental stewardship, visit the [FEIS page](#) on the New NY Bridge website.

### Oyster Relocation

In late July, thousands of live adult oysters were relocated in order to preserve the shellfish population dwelling in areas slated for dredging in August. Working with environmental groups, such as the Hudson River Foundation, NY/NJ Baykeeper, Riverkeeper, Scenic Hudson, the New York State Department of State, and DEC, the New NY Bridge team determined a suitable relocation site where the oysters can flourish. The shellfish were then moved with a small dragnet, called an oyster dredge, and transported to an existing oyster reef about a mile downstream from the current Tappan Zee Bridge.

### Sturgeon Tagging

Atlantic and shortnose sturgeon have lived in the Hudson River for centuries. A variety of factors, including overfishing and pollutants,

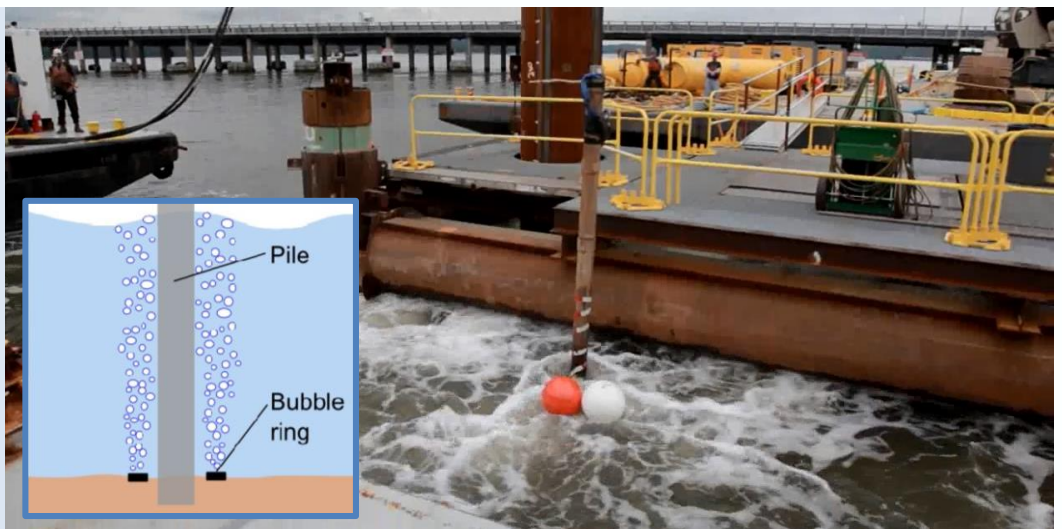
have resulted in a dwindling sturgeon population. They are now protected under the federal Endangered Species Act. The New NY Bridge team is determined to protect this iconic species by minimizing any possible impacts related to bridge construction.

The first goal is to monitor the species' activity. To track the migration patterns of sturgeon in the Hudson, the New NY Bridge team has placed acoustic receivers at the bottom of the river from the George Washington Bridge to Stony Point, N.Y. The New NY Bridge team added to this by installing acoustic telemetry equipment at the project location to monitor the number and movement of fish around the construction area. In addition to those sturgeon previously tagged by others, the New NY Bridge team will tag 120 sturgeon with electronic devices that continuously emit sounds picked up by the acoustic receivers. The receivers record the sounds emitted by the tags and decode the information. The information is then logged in a database and later combined with information from other acoustic receivers located in different parts of the river. This helps scientists better understand migration habits and sturgeon behaviors in response to construction activities.

A number of construction methods are being deployed to minimize the disturbance of fish populations. An independent environmental compliance monitor is on site to ensure that environmental conservation department permit conditions are followed. The monitor reports to the DEC weekly and within 12 hours if they note that a permit condition is not being met.

### THE BUBBLE CURTAIN

One of the most ingenious aquatic disturbance mitigation measures currently in use is designed to reduce the effects of sound pressure levels (SPL), or "underwater noise." During installation, every 4-foot-and 6-foot-diameter pile (right) will be surrounded by a "bubble curtain" as the pile is pounded into the riverbed. This dense, sound-absorbing shower of underwater air bubbles will envelop the piles to protect nearby fish and other marine life from the noise levels.







(From left) Thruway Authority Project Director for the New NY Bridge Peter Sanderson, Special Advisor to the Governor for the New NY Bridge Project Brian Conybeare, and Arup Principal Mark Roche participated in the Leukemia & Lymphoma Society Swim for Life fundraiser.

## Our Bridge Community: Swim for Life

### The New NY Bridge team dives in to help fight leukemia

Brian Conybeare, special advisor to Governor Andrew M. Cuomo; Peter Sanderson, project director; and Mark Roche, principal at Arup, recently joined fellow volunteers to raise money for leukemia research.

More than 160 swimmers dove into the Hudson on Sept. 15 for a three-mile swim, from the Nyack Marina in Rockland County to Kingsland Point Park in Sleepy Hollow in Westchester County. The non-competitive swim, the 23rd annual of its kind, raised

\$135,000 for the Leukemia & Lymphoma Society.

Other participants completed a shorter one-mile swim along the shore of Sleepy Hollow from the Philipse Manor Beach & Boat Club to Kingsland Point Park. About 30 kayakers were also in the water to assist swimmers, and 50 volunteers supported the swimmers from the shore.

Together Conybeare, Sanderson and Roche raised \$3,000 for the fundraising event.

### COMMUNITY BENEFITS PROGRAM

The New NY Bridge team has implemented a series of outreach programs in surrounding neighborhoods, including the Community Benefits Program (CBP).

TZC and the Thruway each contributed \$10 million to the program, which is intended to provide improvements in communities near the bridge.

Grants will be awarded to selected projects that preserve and rehabilitate local infrastructure in the area; enhance local recreational opportunities; or expand pedestrian, bicyclist, and transit-user access to the new bridge through July 2017, or until the funds run out. Awards will also be given to projects that improve road-safety features, enhance emergency response in the area, or will otherwise have a positive effect on the quality of life for residents and communities in Rockland and Westchester counties.

Those interested in applying for a CBP grant must submit a letter of interest with a short (150 words or less) description of the grant request. The letter should be submitted by mail, email, or fax to:

#### Brian Conybeare

Special Advisor to the Governor  
New NY Bridge Project  
303 South Broadway, Suite 413  
Tarrytown, NY 10591

[CommunityBenefits@NewNYBridge.com](mailto:CommunityBenefits@NewNYBridge.com)

Fax: (914) 524-5455

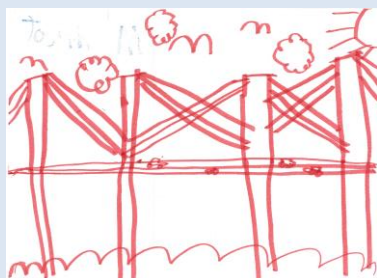
To learn more, visit the CBP page of the New NY Bridge website:

[NewNYBridge.com/contact/cbp](http://NewNYBridge.com/contact/cbp)

The New NY Bridge team sponsored community events in Nyack, N.Y. and Sleepy Hollow, N.Y. to further engage locals on the project. The team constructed a candy bridge to foster discussion and asked kids to draw their version of the bridge.

(Right) Budding artists share what the future bridge would look like.

(Far right) Children gathered around a candy version of the New NY Bridge at recent Halloween events.



## Safety: Sailing Safely through the Project

### Tips for boating safely on the Hudson

Nothing seems nicer than a cruise for fun down the Hudson River on a crisp fall day — if you're careful. Boating is a recreation that always requires care and preparation. When planning outings on the river near the Tappan Zee Bridge, it is important to remember that the entire crossing is now an active construction zone.

To ensure the safety of boaters and construction crews on the water, The United States Coast Guard (USCG) has issued a Notice to Mariners available at [USCG.mil](http://USCG.mil). This information is also available on the project website, [NewNYBridge.com](http://NewNYBridge.com), under the "Boating Safety" icon.

#### Boaters should be advised:

» Numerous units of floating construction equipment will be operating in waterways near the existing Tappan Zee Bridge.

» There are several buoys and equipment moorings located on the west side of the navigation channel with additional moorings expected. For updated locations, review the Notice to Mariners.

» When transiting the area, mariners should stay clear of mooring locations by a minimum of 1,000 feet.

» When transiting the main channel, reduce wake and use extreme caution in the vicinity of the existing bridge.

» A Regulated Navigation Area (RNA) has been established in the waters surrounding the Tappan Zee Bridge **now through Dec. 31, 2018**. This zone extends 300 yards to the north and 200 yards to the south of the existing bridge (see map below). The Coast Guard or its appointees will enforce speed and wake restrictions and may prohibit vessel traffic through the RNA during construction operations.

#### New Boater Safety Training Law Effective 2014

Governor Andrew M. Cuomo recently signed legislation that will require all motor boat operators born on or after May 1, 1996, to pass an eight-hour safety course beginning May 1, 2014. The boating safety courses will



Brian Conybeare, special advisor to the Governor for the New NY Bridge Project, spoke with the Hudson River Boat & Yacht Club in New Hamburg, N.Y., on July 30.

be administered by the New York State Office of Parks, Recreation and Conservation (NYS Parks), the United States Coast Guard Auxiliary, and the United States Power Squadron.

To learn more about the new safety requirements and find a course location near you, visit the [Safety Courses](#) page of the NYS Parks website, [NYS Parks.com](http://NYS Parks.com).

#### BOATING SAFETY TIPS

- 1. USE LIFE JACKETS** Make sure, prior to departure, that everyone on the boat has an assigned life jacket that fits prior to departure.
- 2. LISTEN FOR WARNINGS** During a period of enforcement, the Coast Guard advises boaters hailed by a Coast Guard vessel (by siren, radio, flashing light or other means) to proceed as directed by the Guard.
- 3. AVOID ALCOHOL** The probability of being involved in a boating accident doubles when alcohol is involved, and studies have shown that external effects such as sun and wind exacerbate the effect of alcohol.
- 4. DEVELOP A FLOAT PLAN** The float plan should include the boater's name, address, and phone number; names and phone numbers of all other passengers; boat type and registration information; trip itinerary; and types of communication and signal equipment on board. Share your float plan with a friend who is not on the boat or with your local marina.



#### HOW TO GET INVOLVED



Follow us on Twitter  
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Visit the Project Website  
[NewNYBridge.com](http://NewNYBridge.com)



Call the Project Hotline  
**1-855-TZBRIDGE (1-855-892-7434)**



Email Us  
[tzb.info@thruway.ny.gov](mailto:tzb.info@thruway.ny.gov)



Visit our Community Outreach Centers  
**303 S. Broadway, Plaza Level, Tarrytown, NY 10591**  
**142 Main Street, Nyack, NY 10960**

Hours: Monday – Friday: 11 a.m. to 7 p.m.  
Saturday – Sunday: 11 a.m. to 4 p.m.