

# Building for Tomorrow

## The Indian River Inlet Bridge Newsletter

A publication by the Delaware Department of Transportation (DelDOT)

September 2010



I am pleased to welcome you to the inaugural edition of *Building for Tomorrow: The Indian River Inlet Bridge Newsletter*. This newsletter is intended to give you an insider's view into the world of building the Indian River Inlet Bridge. The information that you will find within these pages will

give you the opportunity to not only familiarize yourself with the bridge building process, but to also learn about one of the largest projects to ever be undertaken by the Delaware Department of Transportation (DelDOT).

DelDOT is committed to giving students, teachers, and parents every opportunity to learn about this bridge and everything that is going into building it. Remember that no matter who you are or where you come from, you should never stop learning. I hope that you find this newsletter to be a fun and interesting tool to use as you continue to follow the progress of the bridge.

*Carolann Wicks  
Secretary, DelDOT*

### *A Moment of Bridge History*



This is a photo of the creosote timber bridge that spanned the inlet in 1934. It was built with timber that came from a plant in Newport. Due to an increased need for large ships to travel through the inlet, this bridge was replaced in 1940.

In addition, the design of the 1934 bridge was problematic. It was made from wood, which we learned does not hold up in an environment with a lot of water. Also, its piers were in the water and were exposed to strong currents, which weakened the support piers.

Four bridges have spanned the inlet since 1934. With each bridge, engineers learned how the land, environment and weather impacted each bridge.



*View of the Indian River Inlet Bridge from the Northern side of the inlet (James Pernol, DelDOT).*

The building of the Indian River Inlet Bridge is, for many people, a once in a lifetime opportunity that offers a great deal of educational potential. The Delaware Department of Transportation (DelDOT) has joined with the Delaware Department of Education (DOE) to create this monthly newsletter that will highlight the many different machines, people, and materials that make up the project.

These monthly newsletters will give students, parents, and teachers the opportunity to get a first-hand view of the bridge building process, even if they are unable to visit the job site. Previous issues will also be available at the Indian River Inlet Bridge webpage, [www.deldot.gov/information/projects/indian\\_river\\_bridge](http://www.deldot.gov/information/projects/indian_river_bridge). Future editions will include interviews with people who are building the bridge, video of some of the work that is being done, photos from throughout the job site, and a whole lot more.

### **BACKGROUND**

Before we look at the work that is being done now, it's important to review the history of the project.

The existing Indian River Inlet Bridge, also known as the Charles W. Cullen Bridge, carries Route 1 traffic over the Indian River Inlet between Bethany Beach and Dewey Beach. The current bridge was built in two parts. In 1965, a portion of the bridge was constructed to carry two-way traffic, one lane in each direction and in 1976, additional structure width was

added which allowed for two lanes of traffic in each direction separated by a median barrier. The existing bridge piers were constructed within the inlet and are regularly exposed to harsh environmental elements (salt, currents, etc.).

### CURRENT PROJECT

Skanska Southeast was awarded the \$150 million design-build contract in August 2008. The new bridge will be 2,600 feet long, including a 900 feet clear span over the Inlet, with 1,700 feet of bridge over land. The main and back span portions will be supported by two 249 foot high towers/pylons on each side of the bridge with single plane cable stays. All supports will be out of the water, eliminating the impact from strong water currents which occur now with the existing bridge.

The bridge will have two 12-foot wide travel lanes, a 10-foot wide outside shoulder, and a 4-foot wide inside shoulder in each direction. Additionally, one 12-foot wide multi-use sidewalk will be accessed from the east side of the bridge by cyclists and pedestrians.



Artist rendering of the new Indian River Inlet Bridge (AECOM).



Artist rendering of the deck of the new Indian River Inlet Bridge (AECOM).



You don't have to travel to the Indian River Inlet Bridge job site to take a tour. In fact, you can virtually tour the site 24 hours a day, 7 days a week without any hard hats

or safety vests right at your computer.

The Indian River Inlet Bridge Virtual Tour puts you right in the middle of the work. You can travel throughout the site, while using interactive elements to teach about some of the techniques and tools that are being used during the construction.

[Click Here to Take Your Tour Today!](#)



Do you want to see the bridge being built before your eyes?

You can view up-to-date time-lapse video that shows construction from the start.

[Click Here to Visit!](#)



**Do you know what pieces of the bridge look like?**

**It takes a lot of different equipment and materials to build a bridge, like:**

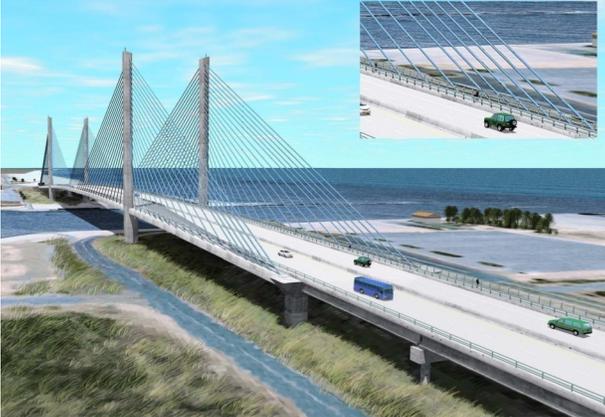
**Cranes  
Cement Mixers  
and A lot More!**

Test your skills at the Indian River Inlet Bridge website today!

[Click Here to Start](#)

## **DESIGN ELEMENTS CHOSEN BY YOU!**

In the Spring of 2009, DeIDOT worked with community members who played an important part in the design process as they ultimately decided how the bridge would look. Over 1,100 votes were cast and the public's choices are being incorporated into the new bridge right now during construction. The three elements that the public chose were:



### **Cable Stay Color - Blue**

The cable stays are one of the most noticeable features of the new bridge and, because of that, their color was very important. The public had three choices: white, gray, and blue. Blue was the overall winner with 827 votes. Although the color makes the cable stays look nice against the backdrop of the ocean, it also serves a more important purpose.

The light color shade helps to reflect the heat of the sun, which during the summer can be a lot. If the cable stays were a darker color like black or navy blue, they would absorb the heat, which would not be good for the cable stays and the cables inside of them.

### **Pylon Top - Slanted Top With Railing**

The public had three choices for the top of the pylon: slanted top with railing, slanted top without railing, and slanted top with slot. The slanted top with railing was the overall winner with 504 votes.

This area of the pylon, its highest point, is home to the beacon that will assist pilots flying planes and in boats. By law, each pylon must have a beacon. The person going up to maintain the beacon will be over 250 feet in the air!



### **Lighting Features - Recessed Nautical**

The public had the opportunity to choose the lighting fixture that will line the public walkway over the bridge. There were three choices: recessed semi-circle, recessed rectangular, or recessed nautical. The recessed nautical option was the overall winner with 762 votes.

The fixtures will be activated at night to enable people walking over the bridge to have a safe, lighted walkway to use when crossing from one side to the other.



## ***Employee Spotlight!***

***This is where you get to meet someone who is building the Indian River Inlet Bridge!***



What's your name?: Craig Stevens

Who do you work for?: DeIDOT for 7 years

What is your job title?: Bridge Design Project Engineer

Where are you from?: Reston, VA

Where do you live now?: Camden, DE

What are some special skills that you bring to the project?: Bachelor of Science degree in Civil Engineering with a specialty in structures, analytical skills, people skills, and management ability.

What made you become an engineer?: My dad held a doctoral degree in Civil Engineering and I wanted to follow in his footsteps.



# Photos from the Job Site

## Summer 2010



Stay cables prior to installation (James Pernol, DeIDOT).



An employee prepares a cable stay for installation (Skanska USA Civil Southeast).



Concrete on the deck of the new bridge is being poured and smoothed (Skanska USA Civil Southeast).



The PERI-form is removed from one of the towers (Skanska USA Civil Southeast).



Construction of the form traveler prior to it being suspended from the bridge for deck construction over the inlet (Tim O'Brien, DeIDOT).



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