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# NEWSLETTER #4

# TIP Project No. U-4438

## Rehabilitation of East Elizabeth Street (US 158) and Replacement of Bridge No. 19

September 2010

*This newsletter is published by the North Carolina Department of Transportation (NCDOT) to inform citizens about Transportation Improvement Program (TIP) Project U-4438 and provide an update on the project's status. As part of this project, NCDOT proposes to rehabilitate US 158 (East Elizabeth Street) in Elizabeth City from US 17 Business (Road Street) to Water Street, as well as replacing the eastbound bridge (Bridge No. 19) over the Pasquotank River.*

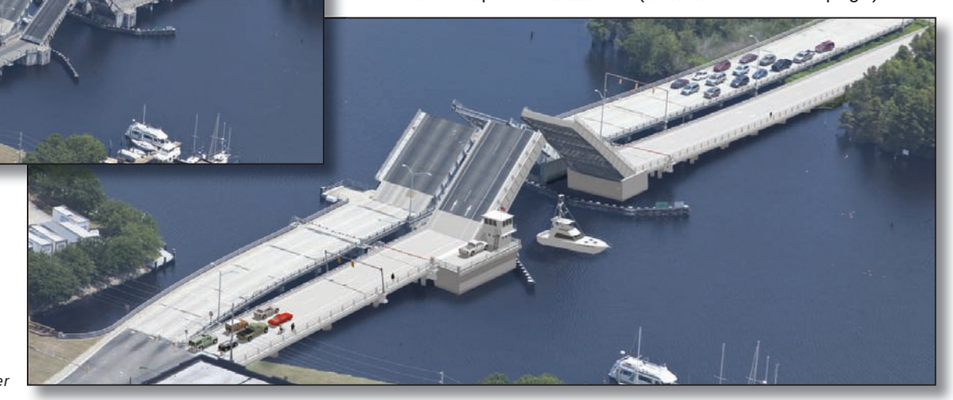
The East Elizabeth Street improvement project is in the final design and right-of-way acquisition phase.

## Project Description

NCDOT is in the final stage of engineering and environmental studies for rebuilding a section of US 158 (East Elizabeth Street), and replacing eastbound Bridge No. 19, the older of the two bridges that carries US 158 over the Pasquotank River. A new bridge tender's house will be constructed as well.

The purpose for improving the section of US 158 between US 17 Business (Road Street) and Water Street is to correct the differential settling, or sinking, of the roadbed and eliminate other problems with the roadway. Where possible, the proposed design will rebuild East Elizabeth Street on the existing footprint and at the same elevation. The soil under the roadbed will be stabilized, and the curbs and sidewalks will be replaced. The stormwater drainage system on East Elizabeth Street will also be improved. The purpose for replacing Bridge No. 19 is to build a reliable and safe structure for long-term use before the existing bridge is unsafe. The eastbound drawbridge over the Pasquotank River will be replaced in the same location with a wider drawbridge that allows pedestrians and bicycles to use the bridge.

*Before*



*After*

## How long will construction take?

Construction is expected to last about four years. See the "What's Next" box on the next page for more scheduling details.

## How will the roadway be built?

Through the planning and design phases of this project, NCDOT has investigated several construction methods for improving East Elizabeth Street. Challenges include saturated soils and voids under the road; buildings located next to the sidewalks; and a historic district. Some of the construction techniques that were considered to stabilize the roadbed—but will not be used—include:

- driving piles using the traditional hammering method, and
- a dry-soil mix column described at the last public workshop.

East Elizabeth Street from Road Street to Martin Luther King, Jr. Street is built directly on the ground, like a typical road. This western section of the project has had problems with sinking, and has needed more ongoing maintenance than a typical road. The section from Martin Luther King, Jr. Street to Water Street is supported by timber piles topped with a concrete slab, similar to a bridge. This structure under the road has helped stabilize it. (Continued on next page).

Different construction solutions are anticipated for the western and eastern sections of East Elizabeth Street. For the western section, the ground under the roadway will be stabilized. Long piles (similar to telephone poles) will be installed into the ground using methods that minimize vibration. Other ways to strengthen the soils also are being investigated. For the eastern section, the existing structure may be rehabilitated and strengthened rather than replaced.

For the entire project, the final roadway surface will be concrete instead of asphalt. A final decision on design solutions will be made in the next several months.

## What will happen to traffic during construction?

Two lanes of traffic will remain open during construction, with traffic traveling on one lane in each direction. However, road closures may be necessary for utilities and drainage construction. The preliminary construction plan is divided into four phases. Anticipated traffic patterns for each phase are shown beginning on the next page. More information on changes to access and parking during construction will be provided during the public workshop in early 2011.

## Will utilities be moved as part of this project?

Yes, utilities will be relocated. Water and sewer pipes—which are under East Elizabeth Street— will be moved to parallel streets, such as Colonial Street and Pearl Street. The city is managing the utilities relocation; work is expected to begin this winter.

Power and telephone lines, which are on wood poles along East Elizabeth Street, will be moved either under the road or behind the buildings. The utility companies will do this work themselves, and may begin this fall.

The utility relocation work will affect traffic on streets that are parallel with East Elizabeth Street, as well as several that cross it. More information on this work will be available from the City before the work begins.

## How will NCDOT make sure this project doesn't affect the buildings?

NCDOT is very concerned with making sure construction on East Elizabeth Street does not damage adjacent buildings. Several of the buildings are within the historic district, and many have had problems with settling just as the road has. To prevent construction induced damage, NCDOT will prepare a Vibration Monitoring Plan that limits the levels of vibrations allowed by construction equipment, and will monitor vibrations during the period of roadway construction. This will be done in conjunction with using construction methods that minimize vibration and digging.

## Where can I get more information?

A public workshop will be held in early 2011. By that time, all design work will be finished, and we will present the final design and traffic phasing plans. We also will be able to answer your questions about changes to access and parking, expected noise and vibration impacts, and other concerns you may have. The workshop will be announced through the mail and in the local newspaper. Information about upcoming construction and traffic pattern changes will be available on the City's website (www.cityofec.com).

## WHAT'S NEXT?

The planning for this project is completed, and final design and right of way acquisition is underway. The remaining schedule can be divided into six steps. We are currently at Step 2.

**Step 1 (July 2010)**

Begin right of way acquisition

**Step 2 (Fall 2010)**

Testing and investigation for roadway design
Select design solution
Overhead utility relocations begin (power/phone projects)

**Step 3 (Winter 2010-2011)**

Finalize design plans
Hold public workshop
Underground utility relocations begin (City project)

**Step 4 (Spring 2011)**

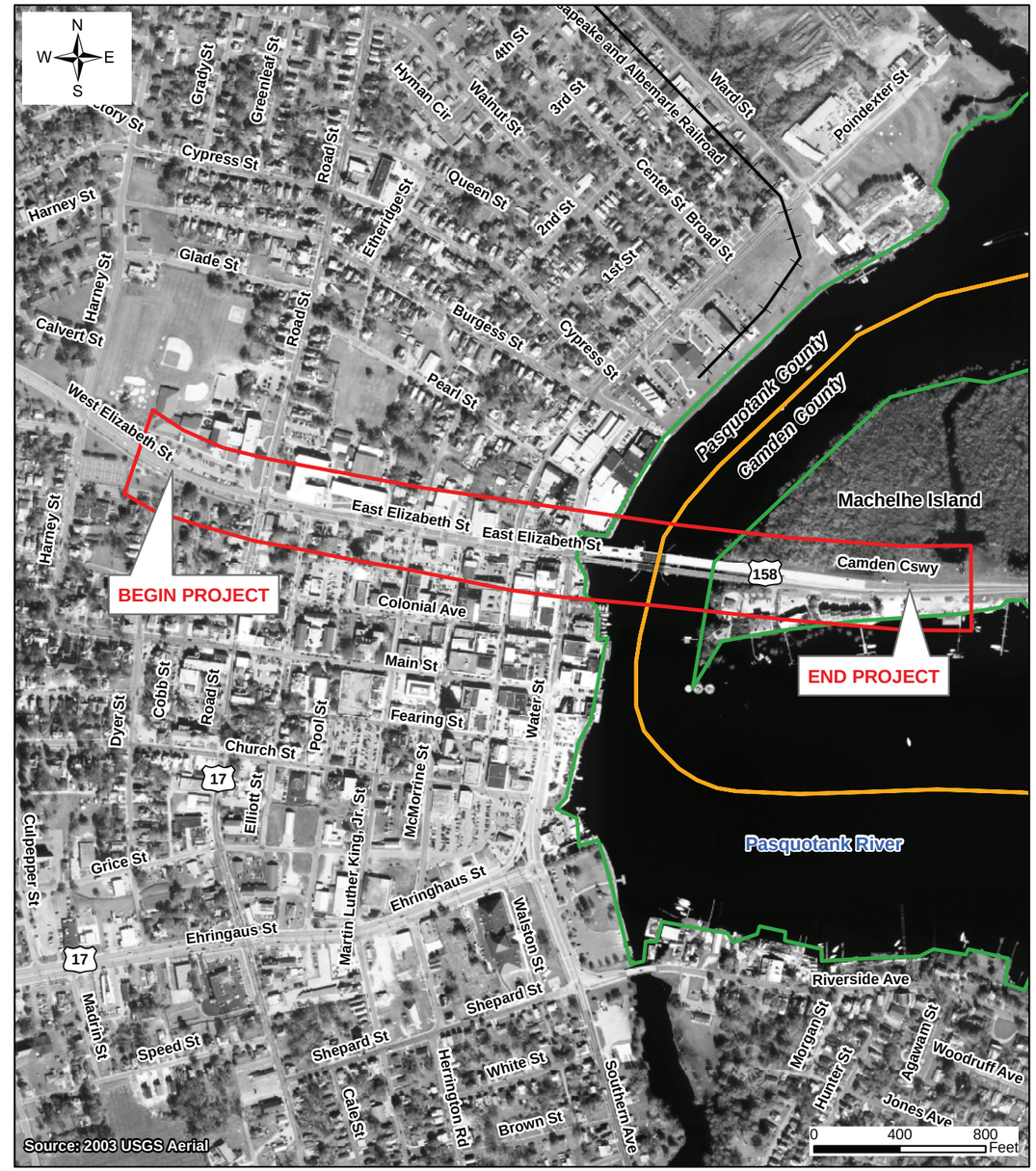
Roadway construction contract is approved

**Step 5 (Late Summer/Early Fall 2011)**

Roadway construction begins
Underground utility relocations are completed

**Step 6 (Fall 2015)**

Construction is completed



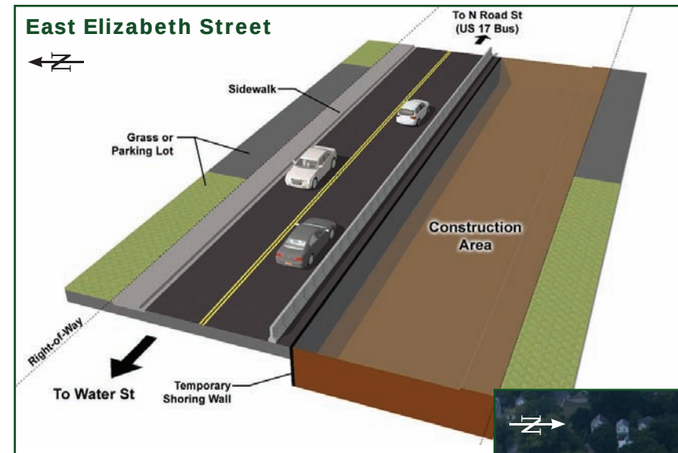

**LEGEND**

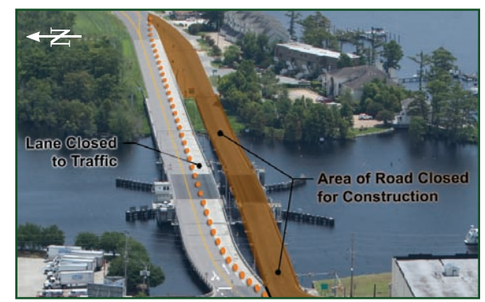
- U-4438 StudyArea
- Railroad
- County Boundary
- Municipal Boundary

## Phase 4

After the new bridge is completed, Phase 4 will begin. Traffic will be shifted to the new bridge, and the westbound bridge structure will be closed for a short period of time while the north side of Water Street is constructed. The north leg of Water Street will be closed permanently during this phase. This will complete the project.

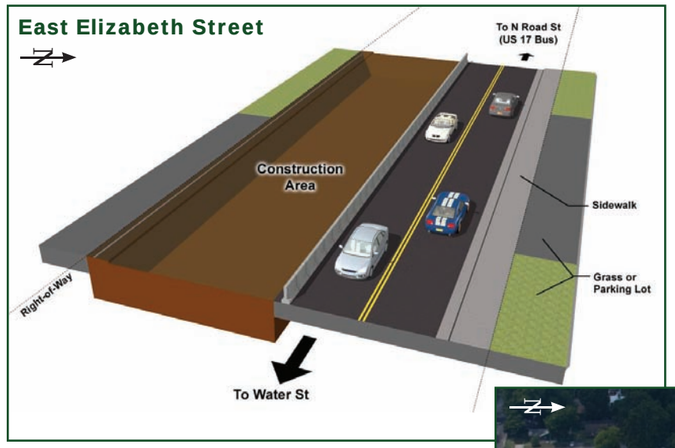
Please note that minor changes to the proposed phasing may occur and the public will be notified of these changes.



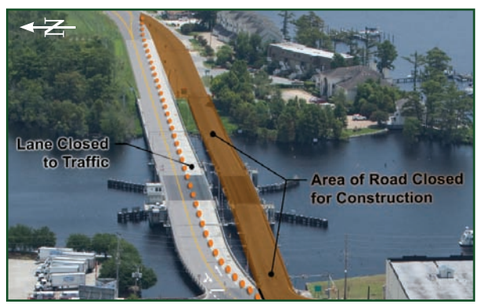

## Phase 1

During the first phase, construction on the eastbound bridge structure will begin. Traffic will use the other bridge structure (with one lane in each direction). Construction may begin on the north side of East Elizabeth Street in Phase 1. Portions of Road Street, Martin Luther King, Jr. Street, and Poindexter Street to the north will also be closed. Traffic on East Elizabeth Street will use the two remaining lanes, with one lane in each direction. When feasible, Poindexter Street, Martin Luther King Jr. Street, and Road Street will be open to traffic.




## Phase 2

The second phase will shift the two lanes of traffic onto the newly constructed north side of East Elizabeth Street completed in phase 1. Traffic will use these two new lanes (one lane in each direction). Portions of Road Street, Elliott Street, Pool Street, Martin Luther King, Jr. Street, McMorrine Street, and Poindexter Street to the south will also be closed. The eastbound bridge structure will continue to be closed during this phase, with traffic using the other bridge structure as in Phase 1. When feasible, Poindexter Street, Martin Luther King, Jr. Street, and Road Street will be open to traffic.



## Phase 3

Phase 3 mainly involves the construction of the south side of the Elizabeth Street and Water Street intersection. This work will require the closure of Water Street. Water Street traffic will be detoured during this time. Although the rest of East Elizabeth Street will be completed by this time, one of the eastbound lanes will be closed to traffic so that the Water Street construction does not create a bottleneck at the bridge. The eastbound bridge structure will still be under construction as shown here.