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April 5, 2018 Teresa Gibson

## **Darien River Bridge engineer gives update to local Bridge Task Force**

courtesy of Kathleen Russell & The Darien News

As promised by the Georgia Department of Transportation (GDOT), an update was provided to local officials and the Darien River Bridge Task Force in the early Spring and the meeting was held on March 16 at the Coastal Regional Commission in Darien.

Making the presentation was Umit Seyhan, the Senior Transportation Engineer with Arcadis, the company that received the bid to build the bridge. Also on hand was Brian McHugh, GDOT Planning Manager.

Seyhan reported about the project that began in October 2017, with the collection of information and surveys. "Right now, we are in the process of collecting all of the information from all the agencies, including the U.S. Coast Guard and U.S. Army Corps of Engineers, the stakeholders in Darien and the project area. We are coordinating with the GDOT office as to how we can handle this project.

"We are trying to replace the existing bridge in the existing bridge location. Our concerns...the constraints are all the salt marsh on the south side of the bridge and the historical and archaeological constraints on the north side. We'd like to replace the bridge at the same place and the only way we can do it is to stage the traveling in directions during the construction.

Seyhan continued, "So, we are going to look into how we can stage and if we need to close the bridge or if we can stage the bridge. But, our initial analysis will show that we might be able to do staging. If we can stage half of the bridge, we can cut off half of the bridge and replace the east side of the bridge first and then put the traffic on this side of the bridge and then build the west side of the bridge in the second stage. But, again, we have not done the detailed analysis yet.

"The existing bridge has a 150-foot steel span and we still need to look at the detail analysis to see if it can be doable. This is going to be the next stage for the project. We can get the task force to do that and I will have more information in the future if we can do the staging 100 percent."

Presently, the scheduled year to begin construction is FY2021.

Arcadis submitted a concept report to GDOT in December and McHugh reported that the report has not been approved by GDOT.

McHugh said, "There is still some work to be done to make sure that the technical studies and analysis for keeping the bridge open will still be feasible. So, they are working on that now. The concept should be defined in 2018. There will be a public informational meeting after that in 2019. But, it really depends on the project and how it progresses."

"The right-of-way phase of the project would be in 2020 and construction start in 2021. Those are round numbers. There's some detailed analysis that has to go with the environment and with what is being proposed for the structure. A replacement is much more difficult than most bridges, so we are taking our time with that." (And the time frame could move.)

Seyhan said they are talking with the U.S. Coast Guard about the vertical clearance between the high water level and the bridge. There is a 31-foot required clearance from the high tide water level.

He said, "For the existing bridge when constructed, they showed the height of the water level at 4.33 feet, but the previous studies around this area of the Darien River right now show a 7.5-foot high water elevation. Our next level, we will get the tidal survey in this area and we are going to do the tidal modeling for the bridge and we will get the exact number of the high water elevation. And, based on that, we are going to adjust the bridge height and depending on the span, we are going to have the mean height and the depth and we are going to adjust the profile based on that.

"We expect the bridge might be higher—like three feet—because of the tidal level. But, our goal is we like to tie the bridge just before the Fort King George Drive. We are going to tie back into the side street. We are going to be within the right-of-way ...so, we are not going to impact the other parcels or other areas. We are going within the right-of-way," Seyhan explained.

He mentioned moving the high point of the bridge toward the south if possible. "But, we need the general profile to see if it is enough clearance over the water for the boat passage."

City Manager Tim Sweezey suggested GDOT would use Champney Park as a staging area for the construction of the bridge.

Seyhan said, "We are looking at a staging area downstream. We will build the bridge off sight and put it on the barge and bring it to place on top of the new columns. So, we are looking at those locations too and looking at putting the signal during the staging to see how we can do both ways in the one lane. One of the issues is a safety issue, because

the bridge has a hump and on the north side, a vehicle cannot see a vehicle coming from the south side.”

Because of the safety issue, Seyhan said the speed of vehicles would be 25 mph on the bridge. If signals were installed on each end of the bridge to allow traffic to go north for awhile and then allow traffic to go south for awhile, during a.m. peak hours, there would be about a 15 minute delay, with a line of about 5,000 feet. During the p.m. peak hours, there would be a 20 minute delay, with a 7,500 foot line.

Seyhan emphasized, “That delay, 20 minutes, is excessive. If you do the detour for one direction, the initial detour is only 4 miles and is less than 8 minutes delay for travelers. So putting the signal on both sides and utilizing the one lane for two directions is delaying 20 minutes for the users. It is excessive and we don’t recommend it because of safety and delay.

Deputy County Manager Shawn Jordan asked if there could be the option of having the lane open southbound in the mornings and open in the evenings for northbound traffic.

Seyhan said they were looking at that option, but noted again it was a safety issue.

“How are we going to inform the traffic, especially the traffic coming from the south side of Darien? We would have to put early warning signs and changeable message signs on each end of the bridge and each end of the I-95 exits to inform the traffic. We will look at it, but my first gut feeling is—because of the safety—it won’t pass. But, I’ll look at that and let you know,” Seyhan explained.

Andy Grinstead, owner of the property where the Friendly Express station is located on the northeast side of the bridge, asked how long it would take to construct the bridge.

Seyhan said, “It would take three years, without using accelerated bridge construction.”

Grinstead said, “If it is going to be that long, we may need going south in the morning and north in the evening. There are a lot of people who go back and forth that way. We are a suitcase community for Glynn county. That is a long way around.”

Seyhan said, “We will look at it. The additional detour is only 4 miles and less than 8 minutes. We think that the detour for one direction will be safer for the user.”

Stecey Kessel, Darien Downtown Development Authority Director, said, “I think the big concern is businesses in our downtown. Because, once something becomes a pattern for somebody, they maintain it and then the longer we keep people away from having access to businesses in downtown; they are going to feel the crunch. We have some real concerns to maintain some businesses that are there.”

Seyhan said, "Let me explain the staging. We are going to build the east side half of the bridge during the first stage. We are going to build a new bridge on the east side. And in the second stage, we are going to put both traffic—north and south bound—on the bridge at the same time. After the first stage, there is not going to be a detour condition. In the second stage, both directions of traffic are going to be on the new bridge. And, that is going to be the regular traffic pattern basically."

Kessel asked how long would the first stage take to complete and Seyhan said they would have to look at the accelerated bridge replacement construction schedule.

To be able to have answers to these questions, Seyhan said the analysis stage must be completed and then there would be more information.

McHugh stated, "The detailed analysis has been to keep it open. And that hasn't been proven yet. There has just been a preliminary analysis. GDOT bridge program said, 'Yes, let's go ahead and pursue this. It is worthwhile. We think it can be done.' But that analysis will take a few months and once that has been decided, then the thought is, if it is approved, then in stage 1, there would be a period of a full detour, but not the period of the full construction of the bridge. So, when we talk about up to three years, that's demolition, bridge construction through the stages, utilities, delivery location and getting the bridge back on line as new on both sides. An in-between period, which will be a lot of it, will still be two-way traffic."

Concern was expressed about GDOT utilizing Darien Waterfront Park and both sides under the bridge for a staging area. The GDOT representatives indicated that it was envisioned that those areas would be closed to the public.

County Manager Patrick Zoucks and Jordan concurred that the area may have to be closed. Jordan said, "We are going to have to make some accommodations to speed up the building process."

Kessel said, "We have a lot of concerns. Tourism is a lot of our economy here. And, we have festivals. There is a time constraint, so we need more information to be able to make some of these decisions."

McHugh said, "We need more time to have answers to the more detailed questions, because time frames and the durations will still shift. So really, the next two years, they are defining the project. We are set to meet on a regular basis to take input and give updates on what has changed. We may find something that surprises the consultant that changes what we told you. So, we will keep meeting and we will get you up to date as the studies come in. It is two years out before something has to happen."

Questions were asked if thought has been given to making the bridge four-lanes, since there are plans to four-lane Hwy. 17 to the north end of Glynn County. Seyhan said the traffic analysis did not indicate the need to four-lane the bridge.

Currently the new bridge accommodates bike lanes and side walks on both sides of the bridge.

The Task Force has requested a historical design to the bridge.

Seyhan said they were looking at the concept sensitive ideas because of the historical and archaeological resources on the north side of the bridge in the city. "We want to keep the same parapet on the bridge and I think that is doable. A request was to put an arch at the end of the bridge like the existing bridge. We will look at that for the vertical clearance and profile. We will look at that in this second stage of the design."

When questioned again about where the bridge would end on the north side, Seyhan said, "We are trying to be as close as possible to the existing location as we can. But it seems we are going to have to increase the profile about three feet, because of the tidal water increase. We are going to look at it during the preliminary design and we will have more information.

City Attorney Richie Braun said, "If you can give the business owners in this room far enough out of the worse scenarios that they've got, that's what they need. They need time to prepare. They don't want to know a month before it happens. Give them as much time as you can."

Seyhan reiterated, "You will get your feedback. We will try to accommodate as much as possible. Again, we have to replace this bridge, because of the safety. We will try to figure out the best way to replace it."

McHugh added, "We are looking at the accelerated building bridge techniques now. There will be a constructurability review. We will try to make the most efficient method in constructing it. There are also contract penalties for going too long on contracts. All of those will be looked at in this process."

The next meeting with GDOT is planned for August or September.