



Memo

Date	Thursday, September 16, 2021 (Updated Monday, September 27, 2021)
Project:	Weeki Wachee River Restoration Project
To:	Janie Hagberg Chief Professional Engineer, SWIM Section Natural Systems and Restoration Southwest Florida Water Management District
From:	Joe Wagner, PE, D.NE, BCEE
Subject:	Pipeline and Powerline Corridor Investigation

On Wednesday, August 11, 2021, HDR Engineering, Inc. (HDR) investigated the current pipeline corridor plan and powerlines over the Shoal Line Blvd Bridge. During the investigation, an HDR team walked the entire length of the current pipeline corridor plan. In addition, the team made observations of the Shoal Line Boulevard Bridge and accompanying overhead powerlines and analyzed Rogers Park public boat ramp as a feasible and manageable access point for mobilization/demobilization of dredging equipment and daily dredging activities.

As a result of this investigation, HDR proposes a revision of the current pipeline corridor plan. Please find the attachment "62277.01 - SWFWMD Weeki Wachee - 100% Plans 05.22.2020 S and S - C2.00," which shows the new proposed pipeline corridor.

Please find HDR's observations below with an appropriate analysis regarding HDR's contracted scope of work.

Figure 1. Rogers Park floating dock and water access, located east of Shoal Line Boulevard Bridge and on the east side of Rogers Park (looking North)



The dock pictured in Figure 1. shows adequate access to the Weeki Wachee River and is the closest public water access point to the project site. The park provides parking for project staff and work crews and sufficient and safe access to the water for daily work activities.

Figure 2. Rogers Park public boat ramp. (Waterside view)



HDR recommends that Rogers Park, as shown in Figure 2, serves as an entry point for heavy equipment. The Contractor could use this boat ramp to mobilize and demobilize dredging equipment instead of offloading it with a crane from the Shoal Line Boulevard Bridge shown in the background.

Figure 3. Rogers Park public boat ramp. (Landside view)



Figure 3. above shows the boat ramp from the landside, which could be the major access point for construction equipment and work crews. Water traffic would be less than the main Weeki Wachee waterway, which could also help minimize the impact on residents and general traffic patterns.

Figure 4. Shoal Line Bridge, looking west from Rogers Park (looking West)



In Figure 4. you can see the relationship between the bridge, the overhead powerlines, and the concrete bulkhead, part of Rogers Park. The overhead powerlines located directly to the East of the bridge would limit mobilizing equipment via the bridge to strictly the west side of the bridge. Also, mobilizing equipment from the bridge would most likely cause a major interruption in daily traffic through the area as Shoal Line Boulevard is the main road in/out of the community.

Figure 5. Private property at the intersection of Shoal Line Boulevard and Ramada Street (from Shoal Line Boulevard looking South towards the private property)



Figure 5. Closeup of waterway and fence line behind/adjacent to the property shown in Figure 4



In the pipeline corridor plan, the dredge material slurry (inflow) and water return (outflow) pipeline are slated to cross through the waterway and private property pictured in Figures 4 and 5, and then diagonally across Shoalline Boulevard directly towards the Dredge Material Treatment and Disposal Area (DMTA). HDR recommends that the plan is changed to relocate the entrance and exit of these pipes completely. This change would completely negate having to work through private property and at the same time having to traverse the main road that supplies the community.

Figure 6. Southwest corner of Shoal Line Boulevard and Ramada Street (looking Northeast)



In Figure 6, the current pipeline plan has dredge pipes running from right to left directly towards the power pole. Once again emphasizing the need to negotiate through private property and over/around/under Shoal Line Boulevard. The relocation would avoid impact to Shoal Line Boulevard bridge and a major effort to restore the private property to its current state.

Figure 7. Power Pole pictured in Figure 6 and the corridor for the dredge pipelines. (looking North)



In Figure 7, you can see the pipeline corridor follows the powerlines down towards the dredge material handling area. There are no major issues here except a fence line and dense vegetation that follows down to the DMTA. The dense foliage shown is mostly a low-lying area with substantial amounts of permanently standing water. HDR would recommend having a contingency plan for scenarios like a burst pipe, i.e., silt curtains for dredge material containment.

Figure 8. Corner of Shoal Line Boulevard and Tropical Drive (looking South)



HDR recommends changing the current pipeline corridor plan to cross Tropical Drive (Figure 8) and down along Shoal Line Boulevard (pictured on the left) through the right-of-way towards Weeki Wachee River. HDR recommends that the SWFWMD and Hernando County investigate installing a permanent pipeline crossing underneath Tropical Drive to provide a pipeline corridor for future dredging projects. The entrance would go through the foliage shown in Figure 9 and enter the waterway just to the west of the Shoal Line Boulevard bridge picture in Figure 10.

Figure 9. Shoal Line Boulevard Bridge (left) and dense foliage (right). (looking south)



Figure 10. Dense foliage and waterway just West of Shoal Line Boulevard Bridge (looking North)



Figure 11. Waterway continued (looking West standing on the Shoal Line Boulevard Bridge)



In Figure 11, you can see a small inlet off of the Weeki Wachee River (left) that could serve as the new entrance and exit point for the proposed dredge pipeline corridor.

Figure 12. Weeki Wachee River, main channel (left) and behind the trees and to the left the inlet that would serve as the new entrance/exit of dredge pipeline (looking West)



HDR recommends adding to the Contractor's scope of work both pre-dredging and post-dredging surveys of the dredge pipeline's new entrance/exit point. These hydrographic surveys will serve to monitor any scouring and/or shoaling to the waterway and ensure that conditions in the inlet are returned to the pre-

dredging condition. HDR recommends requiring that the Contractor identify and undertake preventative measures to reduce scouring, which may include using a diffuser on the water return dredge pipe.

Figure 12. Intersection Tropical Dr (left) and Shoal Line Boulevard (right). (looking North)



Pictured above is the new proposed dredge pipeline corridor. Moving north from the new entrance point, along Shoal Line Boulevard, crossing Tropical Drive and then following along Shoal Line Boulevard (north) (see Figure 13.) toward the north side of the current dredge pipeline crossing (see Figure 7).

Figure 13. Shoal Line Boulevard, Westside Right-of-Way (looking North)





HDR recommends requiring that the Contractor identify and undertake preventative measures to provide a support system, i.e., stakes, to keep the dredge pipe in the right-of-way and out of the vegetation shown in Figure 13. Another example could be a silt curtain system which would serve a dual purpose. It would support the dredge pipe and as containment in case of a burst pipe.

In regards to the changes listed above, Hernando County, in an email dated September 17, has approved allowing an open cut across Tropical Drive (Figure 8). This would allow the pipeline to temporarily cross the side road and avoid permanently disrupting traffic flow on Shoal Line Blvd. The contractor will be required to obtain proper right-of-way permits. Permitting and details of the crossing can be found in the project's detailed specifications and drawings.