From: Brad Hinote <bradhinote@cityofpensacola.com>
Date: May 24, 2022 at 3:06:55 PM CDT
To: "Grover C. Robinson, IV" <GRobinson@cityofpensacola.com>
Cc: Amy Tootle <ATootle@cityofpensacola.com>
Subject: Carpenter's Creek

Mayor,
Per your request, the following is a description of the functionality of the proprietary stormwater treatment unit installed adjacent to the Davis Highway bridge over Carpenters Creek. To begin, FDOT owns and maintains the 72" stormwater pipe which runs under Davis Highway and discharges under the Davis Highway bridge. This pipe begins at Creighton Road and runs all along Davis Highway and ultimately into Carpenters Creek. Historically, this 72" pipe has discharged untreated stormwater into Carpenters Creek. In keeping with the City's water quality improvement initiatives for Carpenters Creek, the City completed installation of a proprietary stormwater treatment unit in late 2019. This unit serves to remove pollutants, oil, grease, and floatables from stormwater prior to that water entering the creek.

Our field review of the 72" pipe during the design process resulted in what appears to be a significant flow of groundwater which may have infiltrate the 72" pipe. This hypothesis was based on the evidence of a continuous flow of water in the 72" pipe at multiple locations along Davis Highway, even during dry conditions.

Next, the functionality of the stormwater treatment unit is predicated on a diversion of stormwater. Specifically, a weir wall was installed inside the existing storm structure in the right of way of Davis Highway. This weir wall elevation was set to divert the "first flush" of stormwater from the 72" pipe and through our stormwater treatment unit and back into the creek via our new 24" pipe as treated effluent. Obviously, significant engineering considerations were employed to ensure this weir elevation was designed to also "hold back" the flow of Carpenters Creek.

To date, there is a misconception that water from Carpenters Creek is being diverted through the stormwater treatment unit. We recognize why this misconception exists due to the fact there is nearly continuous flow coming out of our stormwater treatment unit. However, this nearly continuous flow is the above described dry-weather flow. In addition, the water in the creek does "swirl" in such a way as to convince the laymen that this water is running "up" the 72" pipe. However, this is not the case due to the above described design parameters as well as the pressure of water within/coming down the 72" pipe both during a normal day as well as in a rain event.

To further depict the above described functionality of the stormwater treatment unit, I have attached a sketch which should help "paint a picture" for those curious about our stormwater treatment unit's functionality.

I hope this email serves to accommodate your request and we'll be happy to provide any additional information at your request.
Thanks,

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