

JLA Geosciences, Inc.

HYDROGEOLOGIC CONSULTANTS

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MEMORANDUM

To: Shannon LaRocque, P.E.

From: Shelley Day, P.G.
Jim Andersen, P.G.

RE: Village of Wellington Surficial Aquifer Well Rehabilitation Recommendation – Well 24

Date: November 19, 2019

The Village of Wellington's (Village's) public water supply Well 24 was constructed in 1989. Very minor rehabilitation of Well 24 occurred in the past, with documented efforts including chlorination and brushing of the casing and screen. In July 2019, Florida Design Drilling (FDD) was authorized to replace the well screen and riser assembly in Well 24 after the pre-rehabilitation video showed the screen had a hole in it. Following the screen and riser replacement, it became evident during well development that the integrity of the surface casing seal had either been compromised or a previous failure was exacerbated; this resulted in the well producing sand as surficial sediments were able to channel down along the casing and invade the well screen. In addition, some subsidence of the well site occurred. The Village has two options with regards to Well 24, reconstruct the well in-place or relocate the well. FDD has provided the Village with a proposal to restore the functionality of the well and stabilize the well site by overdrilling the existing surface casing and reconstructing public water supply Well 24 in-place.

FDD will mud the well and remove the recently installed new well screen and riser assembly (to be reinstalled later) and gravel pack. They will then proceed with overdrilling the existing 20-inch diameter steel surface casing. After removal of the old steel casing, new 24-inch diameter steel surface casing will be installed and grouted in place. FDD will ream the screen interval and reinstall the screen and riser assembly, gravel pack the screen, and perform well development.

Upon completion, Well 24 will essentially be a new well, having replaced all of the subsurface components. Based on FDD's proposal, the overall cost upon completion of Well 24 will be \$296,875.00. Considering the cost of the rehabilitation efforts to date, the cost to reconstruct well 24 in place is approximately \$117,000 less than the well construction cost that would be required to relocate Well 24. In addition to the well construction cost, relocation of Well 24 would require added expenses related to additional engineering, piping, and electrical. JLA Geosciences agrees with FDD's proposed approach and recommends that the Village reconstruct Well 24 using FDD's proposed scope of work.