

# ENGINEER'S REPORT



Report Date: February 14, 2019

*Prepared for:*

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ARH #32-01000

## **ROADWAY & DRAINAGE PROJECTS**

### **1. NJDOT FY2018 Municipal Aid Program – Sepulga Drive (ARH #32-04026.03)**

The Township has received a grant in the amount of \$266,870 for the Sepulga Drive Phase II project. Bids were received for this project on October 11, 2018. The apparent low bidder for this project was Arawak Paving in the amount of \$218,900. The Township awarded a contract to Arawak. We have also discussed the opportunity to pave the remainder of Sepulga Drive, from west of Talladega Trail to Choctaw Drive using the remainder of the NJDOT allocation and a combination of Public Works forces. Arawak is amenable to this arrangement.

An Incidental Modification to Project Scope/Limits form has been completed and submitted to the NJDOT for approval.

A preconstruction meeting with Arawak and the Township has been scheduled for February 21, 2019 at 10:00 am, with anticipation of starting construction in early Spring.

### **2. NJDOT FY2019 Municipal Aid Program**

Applications were due on October 8, 2018, for the NJDOT FY2019 Municipal Aid Program. We have submitted an application for the resurfacing of South Lakeshore Drive. A copy of the application has been sent via email for your records.

### **3. Scammell Drive Drainage Repairs**

We have reviewed the situation and identified two possible solutions:

- A. Replace the storm sewer pipe from the inlet at Marie Drive to the next inlet across from Adams Avenue (approximately 440 linear feet)
- B. Construct a doghouse inlet over the existing main just past the developing sinkhole (approximately 120 linear feet)

We have prepared cost estimates for each option and identified the positives and negatives for each option. In addition to the solutions above, the Public Works department is investigating cast-in-place pipe, which may be a viable option as well as a cheaper alternative.

We have identified this project as one that may be a candidate for NJDEP Environmental Infrastructure Trust funding, due to the fact that the existing asbestos cement water mains pose a significant challenge in reconstructing the storm sewer system. It is our understanding through discussions with Township officials that there are numerous drainage issues within that neighborhood.

### **4. North Road Drainage Repairs**

The Township is investigating issues of title associated with North Road.

Chris Rehmann prepared a summary outlining information he has obtained through research and had forwarded that by email on August 29, 2018.

Our office has prepared a proposal to provide the following:

- Determine a proposed right-of-way location and width for the private lane for the purpose of including the road in the Township system;
- Prepare a preliminary estimate to reconstruct the road, culverts and downstream protection;
- Perform the surveys necessary to obtain right-of-ways for the extension of North Road;
- Attend a meeting with the resident to discuss the plan.

## **DAM PROJECTS**

### **1. Regular Inspection of Mirror Lake Dam (ARH #32-01005)**

The formal inspection report due July 2015 was submitted to NJDEP on 6/26/2015 and we did not receive any comments. The regular inspection was performed on June 28, 2017. The Dam Inspection Report has been completed, and submitted to NJDEP Bureau of Dam Safety and Flood Control for review. The next Regular Inspection will be due in June 2019. Our office will submit a proposal for this work in the upcoming weeks.

### **2. Presidential Lakes/Lebanon Forest Dam Inspection (ARH #32-01013)**

The Regular Visual Inspection Report has been completed, and was submitted on June 8, 2018 to NJDEP Bureau of Dam Safety and Flood Control, along with an updated Emergency Notification Flowchart. The next inspection will be due four years after acceptance of the as-built plans.

### **3. Regular Inspection of Bayberry Street Dam (ARH #32-01016)**

The regular inspection was performed on June 28, 2017. We have received a letter from the NJDEP Bureau of Dam Safety and Flood Control, which states that the as-built plans and most recent inspection report have been accepted. The next Regular Inspection will be due in June 2019. Our office will submit a proposal for this work in the upcoming weeks.

### **4. Regular Inspection of County Lakes Dams 1, 2, &3 (ARH #32-01015 & 32-01015)**

The as-builts and construction completion report for these dams were submitted in October 2016. As Class II dams, these will need a regular inspection every two years. Our office will submit a proposal for this work in the upcoming weeks.

## **PARKS & RECREATION PROJECTS**

### **1. West End Park (ARH #32-01049.01)**

We are in receipt of another review letter from the Pinelands dated November 14, 2018. The major issue with the project is the inclusion of the asphalt trail within the wetlands buffer. There are additional comments, which can be addressed. As discussed at our meeting on November 19, 2018, the removal of the asphalt trail is not desired at this time.

We have reached out to Rhonda Ward at the Pinelands to schedule a meeting to review her latest review letter and discuss the project in detail prior to submitting the project for review. We have also received a copy of the email from Green Acres requesting a status update. We will respond to them with an update. Our office is performing some additional test pits on February 15, 2019, which were required as part of the November 14th review letter. Once completed, we will review and resubmit the project to Pinelands in approximately 2 weeks.

The Township had previously authorized the preparation of a Cultural Resource Survey. The report has been completed. Our office has reviewed the report, and will forward it to the Pinelands with our next submission package

### **2. Safe Streets to Transit (ARH #32-04025)**

We have received all required permits, including concurrence from NJDOT to bid the project.

The project was rebid on February 14, 2019. The low bidder was South State Inc. with a Base Bid in the amount of \$507,360.00. South State also provided a unit price of \$23,000 to upgrade the bridge decking to Ipe hardwood from southern yellow pine. The bid specified southern yellow pine as a cost savings measure. If the funding is available, the Township may want to consider opting for the Ipe hardwood upgrade as it lasts much longer than standard pine and looks better. Our recommendation will be sent under separate cover.

Our office will return the bid packages to the Clerk and send a copy of the low bidder to the Solicitor, with our recommendation, for review.

## **WATER SYSTEM PROJECTS**

### **1. Linnet Avenue Water Main Extension (ARH #32-03021.02)**

Cardinal completed the construction of the water main on December 20, 2017. Partial restoration was performed shortly after. The water main has been disinfected and was pressure tested on January 11, 2018. Cardinal has performed the final bacteria tests on the water main.

We are in discussions with the Contractor to close this project out. The previous project manager is no longer with Cardinal, which explains the lack of communication. Closeout documentation will be submitted as soon as it is received and prepared.

## 2. **Pemberton Water System (ARH #32-03024)**

The Test Well contract was awarded to Steffen Drilling, Inc., in the amount of \$179,000. The well drilling permit was approved on December 20, 2018 and received by Steffen on January 1, 2019. Steffen has mobilized but is waiting for delivery of casing, so they anticipate drilling in about one to two weeks.

Per discussions with the NJDEP, they believe we will find water within 300 feet below surface. Our bid specifications requested a depth of 400 feet. Since there would be a cost savings realized due to a shallower drill depth, the Contractor agreed to upgrade the well from an 8" x 14" well to a 10" x 16" well, with the only additional cost being the increase in size of the well screen. The larger well will be consistent with other wells within the Township, provide more room and provide easier access to the pump and monitoring equipment.

The drilling of the test well began on Tuesday, January 29, 2019. The Contractor encountered an issue during drilling. He got to a depth of 150 feet, and hit a confined aquifer under great pressure. The pressure within this area has been too difficult to overcome and get any deeper using the current drilling method. The pressure gradient is at or slightly above ground level. He fought with it for days and tried using denser fluids to perform the drilling, but the sidewalls of the hole keep collapsing around the drill head. The bottom of the hole is also in a layer of seashells, which may be contributing to the problem. The Contractor submitted a cost estimate to change the drilling method. To use the same borehole, the driller would need to swap out his reverse rotary drill with a direct mud drill. This drill setup will let him progress through the confined aquifer. There is an additional cost to do this in the amount of \$35,000. In addition, there is an anticipated increase of \$8,000 to upgrade the specified 8" well screen to a 10" well screen. We have found ways to cut costs in order to minimize the increase to the contract. As it stands today, the change order required to finish the well is at least \$36,000.

Our office has surveyed the Rail Trail tract and to prepare the environmental permits for the water main extension. The proposed site and water main will be located in the vicinity of freshwater wetlands, flood hazard area, and habitat for threatened and endangered species. Wetlands have been delineated along the trail and the survey and base plans are complete. We are working on the water main design plans and technical specifications. We anticipate submitting the permit application once the test well has been drilled and the availability of water is confirmed.

Investigation of potential contamination due to the location of the rail bed was also authorized by Council. Test pits were completed, and testing on samples was performed. Some samples tested positive for elevated metal levels, so additional testing is currently being performed.

We are also preparing the NJDEP Bureau of Safe Drinking Water permit applications.

## 3. **Deborah Heart and Lung Center Water System Connection (ARH #32-03027)**

The Township has authorized our office to proceed with the design and permitting of the interconnection required to connect the Deborah water system with the Township water system.

The Burlington County Engineer has approved the road opening permit to allow for installation of the water service connection by open cut. The Road Opening Permit has been signed and submitted, and the Traffic Interference Report has been submitted and approved. The County has also approved Saturday work.

We are also preparing a revised proposal to include the necessary work to provide electrical service and a backup generator to the existing well houses.

The request for an Exemption Letter from the Pinelands has been submitted on December 4, 2018.

We solicited a quote from Steffen Drilling to perform the paperwork necessary to reclassify the Deborah wells as public community wells. The cost to perform the work is \$2,470.00. We have met with Steffen to review the wells and the paperwork will be submitted in approximately 2 weeks.

#### **4. Water Quality Accountability Act (WQAA) (ARH #32-03026)**

Our office has completed the Pilot Study, which entailed the data collection of all fire hydrants and water valves within the Lake Valley development. All field data has been collected and ARH/CS has developed the WQAA valve and hydrant GIS dashboard and app interface for valve and hydrant inspections. We would like to meet with the Water Superintendent to go over the GIS system to ensure that we have included everything that he needs prior to providing a full-scale cost estimate. ARH has been authorized to proceed with the completion of the WQAA GPS/GIS project and we are scheduled to begin data collection of February 19, 2019.

In addition to the mapping of the Township's water system assets, the Township is required to submit an asset management plan, which defines such items as maintenance, repairs, and upgrades schedules, as well as developing a hydrant flushing and valve-exercising program. Our office is committed to working with the water department to develop the schedules and programs needed to meet the regulations. We are currently working on a proposal to develop the asset management plan.

### **SPECIAL PROJECTS**

#### **1. DPW Fuel Facility (ARH #32-01012)**

The required Remedial Investigation (RI) Report has been submitted to the NJDEP on October 25, 2017. We have issued a memorandum to Mr. Gonzalez, which summarizes the information submitted to the NJDEP and the results of the recent soil sampling and testing. The soil tests indicate the presence of numerous contaminants. The groundwater testing indicates the presence of two contamination plumes that are migrating off-site. The results indicate the need for additional remediation activities.

Our office has had correspondence with the NJDEP regarding the RIR submission, and due to a technical deficiency, we had to withdrawal the report. The new office building appears to be within 30 feet of a plume containing a volatile organic compound. The rules require a receptor evaluation of the vapor intrusion pathway, since the building contains a bathroom, breakroom, and employees. Council has authorized our office to perform the vapor intrusion study. The study will begin during the week of October 15, 2018.

Two permanent monitoring wells and several temporary wells were installed/sampled in April 2017. Two of the new permanent monitoring wells installed in April 2017 have been disturbed. These wells will need to be replaced. In September 2016 we received a quote of \$2,845 to replace the two monitoring wells. An updated quote and proposal has been prepared and submitted to Mr. Gonzalez under separate cover. We will resubmit the proposal for review and consideration.

## 2. **Presidential Lakes Firehouse (ARH #32-01054)**

We have received approval from the SCD on February 6, 2018. The certified plan was delivered to David Benedetti for use by the Township. The application received final project approval from the Pinelands Commission on April 13, 2018.

We have met onsite with the representative from Modular Genius to review the site grading and building floor plan. Modular Genius took some elevations in the graded area, and we provided a marked up plan showing the additional earthwork needed to get the site to grade. We modified the cut sheet and sent it to Tom McNaughton. We have also been requested to restake the building as many of the stakes have been damaged. We will restake the building as soon as we can.

We have received authorization to proceed with the design of a septic system. The test pit has been performed and soil test results have been received. The septic system has been designed. The application and fee have been received on February 14, 2019 and the package will be submitted to the Burlington County Department of Health next week for review. The existing septic tank and disposal bed have been located, and will be abandoned in place.

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