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## MEMORANDUM

**To: Michael Pappas, Borough Administrator**

**From: William H. Burr, IV, P.E., Borough Engineer**

**Date: July 19, 2017**

**Re: Water System Improvements  
MC Project No. HIB-014**

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At your request, we have performed a preliminary review of the Borough's existing water system, as well as, discussed with and reviewed Mike Hann's proposed list of needs in an attempt to quantify the amount of work that would be needed should the Borough retain ownership of the water system. Attached is a cost estimate of proposed improvements and expenses that the Borough would likely encounter moving forward should they retain ownership of the existing water system. In total, we estimate a little over \$7M worth of work would be needed in the near future to address existing and potential issues.

As mentioned, we have discussed the system with Mike Hann and have developed the following list of infrastructure related improvements that are necessary including:

- Water main upgrades/replacement including along:
  - Sunset Dr. - all
  - Mary Jo Crest – all
  - Jane Lane - all
  - Hoffman Road - all
  - West Main Street - portion
  - Central Ave. - portion
  - Dewey Ave. – portion
  - Highland Ave. – all
  - Nassau Rd. - portion
  - Washington Ave. - portion
  - Tisco Ave. - all
  - Wilson Ave. – portion
  - Solitude Village – most
  - Mine Road – portion



- Water valve installations including to replace broken/non-functional valves, as well as, to install new valves where they are needed.
- New fire hydrants to replace the older and/or non-functional hydrants.
- New water meters with radio reads including related hardware/software and installation.
- Find and locate water mains within Voorhees State Park and along Fine Road. The Borough apparently has never been able to locate these.
- Update water system maps (i.e. as-builts) so that the Borough has an updated record of the infrastructure.

As mentioned, this list is preliminary in nature and only includes known issues that were brought to our attention by Mike Hann. The list does not include any upgrades/improvements to the water treatment system(s) or water storage tank(s).

If you have any questions, please do not hesitate to contact me.

WHB/dw

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Engineer's Estimate - Review Function Only  
 NOT TO BE USED FOR CERTIFICATION OF PAYMENTS  
**PROJECT NAME: Water System - General Improvement Costs**  
 MUNICIPALITY: High Bridge Borough  
 COUNTY: Hunterdon County

Estimator: PTB  
 Date: 7/17/2017  
 Checker: WHB  
 Date: 7/18/2017

ESTIMATED QUANTITIES - WATER SYSTEM IMPROVEMENTS					
PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
1	TRAFFIC CONTROL	L.S.	1	\$ 100,000.00	\$ 100,000.00
2	CLEARING SITE	L.S.	1	\$ 250,000.00	\$ 250,000.00
3	DENSE-GRADED AGGREGATE BASE COURSE, 6" THICK	SY	17700	\$ 10.00	\$ 177,000.00
4	HOT MIX ASPHALT 19M64 BASE COURSE	TONS	5150	\$ 90.00	\$ 463,500.00
5	HOT MIX ASPHALT 9.5M64 SURFACE COURSE	TONS	2100	\$ 90.00	\$ 189,000.00
6	DUCTILE IRON WATER PIPE, CLASS 52	LF	26500	\$ 100.00	\$ 2,650,000.00
7	GATE VALVE	UNIT	60	\$ 2,500.00	\$ 150,000.00
8	FIRE HYDRANT WITH AUXILIARY GATE VALVE	UNIT	82	\$ 7,000.00	\$ 574,000.00
9	CUT & CAP EXISTING MAIN	UNIT	54	\$ 2,000.00	\$ 108,000.00
10	WATER SERVICE CONNECTION	UNIT	600	\$ 1,500.00	\$ 900,000.00
11	WET TAP	UNIT	50	\$ 6,000.00	\$ 300,000.00
12	NEW WATER METERS WITH RADIO READS	L.S.	1	\$625,000.00	\$ 625,000.00
13	LOCATE WATER MAINS IN STATE PARK & FINE ROAD	L.S.	1	\$25,000.00	\$ 25,000.00
14	UPDATE WATER SYSTEM MAPS - AS-BUILTS	L.S.	1	\$15,000.00	\$ 15,000.00

	<b>SUB-TOTAL:</b>	<b>\$ 6,526,500.00</b>
CONTINGENCY - 10%		<b>\$ 652,650.00</b>
	<b>TOTAL:</b>	<b>\$ 7,179,150.00</b>