

## **EXHIBIT O4**

# Corrective Action Plan Narrative

Big Beaver Borough/Big Beaver Borough Municipal Authority

Borough of Big Beaver  
Beaver County, PA

*Prepared for:*  
Pennsylvania Department of Environmental Protection

*Prepared by:*  
Michael Baker International, Inc.  
100 Airside Drive  
Moon Township, Pennsylvania 15108

September 2020

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## CORRECTIVE ACTION PLAN

### A. BACKGROUND

The Big Beaver Municipal Authority (BBMA) owns and operates a sanitary sewer system that conveys sanitary sewer from the Borough of Homewood and a portion Big Beaver Borough in Beaver County. BBMA is in the process of being dissolved and ownership of the sanitary sewer facilities transferred to the Borough of Big Beaver (Borough). Sewage is conveyed through the sanitary sewer facilities which discharges into the City of Beaver Falls (City) wastewater collection & conveyance system and is ultimately transported to the City of Beaver Falls Waste Water Treatment Plant (WWTP) for processing. The Beaver Falls sanitary sewer facilities also accepts and provides treatment of sewage to several other surrounding municipalities.

Through correspondence dated June 22, 2020 the Borough was notified by the Pennsylvania Department of Environmental Protection (DEP) that the City of Beaver Falls system was receiving excessive amounts of flow during precipitation events which are causing hydraulic overloads to the conveyance system prior to reaching the WWTP. The Borough was identified as a contributor to these extreme wet weather flows through a flow monitoring program implanted by the City and the Borough has therefore been requested to provide a Corrective Action Plan (CAP) to the DEP to mitigate the potential sources of inflow & infiltration (I&I) from the Borough.

### B. CORRECTIVE ACTION PLAN SCHEDULE

As part of the CAP a timetable with associated tasks, which utilized the Schedule and Progress Reporting Table provide by the DEP in the aforementioned correspondence, has been provided in Appendix A. The tasks provided in the Table are the measures that will be undertaken by the Borough to identify and rehabilitate sources of I&I within the sanitary sewer system to reduce the hydraulic overload condition to the City.

### C. CORRECTIVE ACTION TASKS

The following Corrective Action Tasks will be undertaken as part of the CAP:

1. Install flow meters at all pump stations: The BBMA collection & conveyance system currently make use of eight (8) pump station to convey the wastewater throughout the system. The pump stations are equipped with a Mission Communications SACDA system with only one (1) of the stations having a flow meter and the remaining seven (7) the that can view pump run times to determine pump flows. Under this Task, which is currently progressing, all of the pump stations will have flow meters installed and connected to the SCADA system to accurately monitor the flows from each station.

The following table presents the existing pump stations with the design flows and metering:

Pump Station Name	Design Capacity		Current Flow Metering
	GPM	GPD	
(1) Wallace Run Pump Station	220	316,800	Flow Meter
(2) College Pump Station	220	316,800	Run Time
(3) Homewood Pump Station	44	63,360	Run Time
(4) Stockman Run Pump Station	250	360,000	Run Time
(5) Eagle Rock Pump Station	30	43,200	Run Time
(6) Westgate Business Park PS#1	80	115,200	Run Time
(7) Westgate Business Park PS#2	80	115,200	Run Time
(8) Turnpike Pump Station	75	108,000	Run Time

During the summer of 2020 and the dry weather the pump station flow data from the Wallace Run Pump Station and the College Pump Stations were reviewed. Since all other flow from the system flows through these stations, they were chosen for review and they are the final stations before the interconnect with the City sanitary system. There are very few tap connections between the stations with College pumping to Wallace Run and then Wallace Run to the City. When the data was tabulated and reviewed, it was found that the current dry weather flow for these two stations was fluctuates between 35,000 GPD and 50,000 GPD.

2. Evaluation/Analysis of pump station flow data: The data from the existing flow meter and pump run times is currently under review to determine how the flows react during dry weather and periods of rain. Once all of the pump stations are outfitted with flow meters this data for the entire system can be more accurately evaluated and potential areas of I&I can identified and prioritized for future CAP Tasks. If necessary, portable flow monitors will be installed to further identify and narrow the worst I&I prone sections of the system.

3. Rehabilitation/Replacement of existing deficient manholes: There are series of manholes in the system that have recently been found to be either structurally deficient or potential sources of I&I that will be rehabilitated or replaced as necessary after further assessment. Existing manholes in low lying or flood prone areas will have manhole inserts and/or chimney seals installed as necessary.
4. Smoke Testing, Dye Testing and/or CCTV assessment: Areas of potential I&I will be prioritized after reviewing the flow data from the pumps stations. Smoke testing, dye testing and CCTV inspections will be performed to determine illicit connections, deficiencies in the collection system and service laterals and manholes inspected while carrying out other aspects of this Task. In anticipation this Task needing to be performed, the Borough recently purchased a CCTV system to enable the work to be performed by Borough personnel to the extent possible and when not possible, the work will be performed through contracted services.
5. Identify deficiencies and sources of I&I: Evaluation of the smoke and dye testing will be assessed and findings tabulated. All CCTV work will be reviewed for broken pipes, cracks, sags, direct connection and other sources of I&I. Deficiencies from all work under this Task will be assessed and ranked based upon severity of I&I and further corrective action.
6. Perform necessary repairs to the system: Through the previous Tasks performed, areas and sources of I&I will be identified and repairs will be performed and/or enforcement actions undertaken to rectify these problems within the system. Repairs required due to sources associated with the public system will be performed through contract services or Borough personnel when possible. When illicit connections and deficiencies are found on private property or service laterals, the property owners will notified and provided the opportunity to make rectify the identified condition prior to enforcement action by the Borough.
7. Monitor system and provide remediation measures: After all identified sources of I/I have been repaired, the Borough will continue to monitor the system to determine the effectiveness of the remediation efforts. Any additional, remediation measures will be immediately undertaken when the effectiveness is determined ineffective or inadequate.

#### D. ANTICIPATED FLOW REDUCTION

The Borough is committed to reducing I&I within the sanitary sewer system through the work provide in the TAP schedule and Tasks. It is anticipated that after completion of these Tasks including identifying and rehabilitation, remediation and/or replacing system infrastructure components will reveal a significant decrease in the total monthly flows and would foresee a minimum reduction of 25 percent. Regardless of the flow reduction the Borough is obligated to eliminating it's contribution to the hydraulic overload within the City of Beaver Falls wastewater collection & conveyance system and will remain diligent to the I&I reduction efforts until full compliance is achieved.

## E. TAP CONTROL PLAN

The Borough does not have and does not anticipate a large increase of residential development or individual homes being constructed within the areas of the Borough with sanitary sewers. The Borough has two (2) major intersections that are attractive and direct gateways into the commercial sector of the community. The first intersection being the Pennsylvania Turnpike Exit 13 at Big Beaver Boulevard, State Route 18 and the second is Exit 26 off of Interstate 376 to Fairlane Boulevard, State Route 351. These access points to commercial areas of the Borough and also the areas where the sanitary sewer infrastructure exists. These areas are key to any development in the Borough as the commercial development is currently the primary foundation of expansion of the Borough's tax base.

The most recent Act 537 Plan Update dated May of 2002, identified the current flows to the College and Wallace Run Pump Stations as being 89,500 GPD using 350 GPD for residential flows and the water usage data from 1999 and 2000 for the business flow. As indicated previously, current 2020 flow dry weather flow at these stations is approximately 35,000 GPD and 50,000 GPD. This reduction in the flow can partially be attributed to a general decline in population and the loss of businesses in the past few years. Therefore, it is the desire of the Borough to continue to allow for potential development of the community which requires the ability to connect to its sanitary sewer facilities, it is proposing to implement and maintain a Tap Control Plan allowing for additional taps to the system with an additional flow of 45,000 GPD for the first year of the CAP.

## F. BOROUGH RESPONSIBILITIES

The Borough fully recognizes the fiduciary responsibility and duty to the DEP to abide by the Rules and Regulations of the Pennsylvania Code and Sewage Facilities Act. This Borough also extends this same duty and obligation to the paying customers of the sanitary sewer facilities and to maintain and properly operate the system in an efficient and cost effective manner.

The Borough is determined to administer the Tap Control Plan, as approved by the DEP, in accordance with the requirements of Chapter 94. In addition, the Borough will provide semi-annual progress reports in January and June of each year while implementing the CAP and every year under the CAP restrictions.

APPENDIX A

Corrective Action Plan (CAP) Schedule

**BIG BEAVER BOROUGH CORRECTIVE ACTION PLAN SCHEDULE AND PROGRESS REPORT**

REPORTING PERIOD  
FROM \_\_\_\_\_ TO \_\_\_\_\_

Municipality Big Beaver Borough  
County Beaver

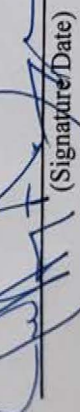
Task Description	Proposed Start Date	Actual Start Date	Required Completion Date	Actual Completion Date	Percent of Project Complete	Other Comments
1. Install flow meters at all pump stations	Ongoing		March 2021			
2. Evaluation/Analysis of pump station flow data to determine areas of potential I&I	Ongoing		March 2021			
3. Rehabilitation/Replacement of existing manholes with known deficiencies	March 2021		June 2021			
4. Perform smoke testing, dye testing and/or CCTV work in areas of potential I&I	June 2021		October 2021			
5. Identify deficiencies and sources of I&I	November 2021		March 2022			
6. Perform necessary repair to system	April 2022		January 2023			
7. Monitor system for additional sources of I&I and provide remediation measures	February 2023		August 2023			

TAP ALLOCATION FOR THIS YEAR \_\_\_\_\_

TAPS UTILIZED THIS REPORTING PERIOD \_\_\_\_\_

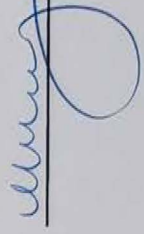
Based on the above information, are you in compliance with the approved schedule? Yes  No  If no, attach explanation.

Engineer

  
(Signature/Date)

9-21-2020

Municipal Official

  
(Signature/Title/Date)

9/21/2020  
(Signature/Title/Date)

**BIG BEAVER BOROUGH CORRECTIVE ACTION PLAN SCHEDULE AND PROGRESS REPORT**

Municipality Big Beaver Borough  
 County Beaver

REPORTING PERIOD  
 FROM \_\_\_\_\_ TO \_\_\_\_\_

Task Description	Proposed Start Date	Actual Start Date	Required Completion Date	Actual Completion Date	Percent of Project Complete	Other Comments
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TAP ALLOCATION FOR THIS YEAR \_\_\_\_\_

TAPS UTILIZED THIS REPORTING PERIOD \_\_\_\_\_

Based on the above information, are you in compliance with the approved schedule?

Yes X No \_\_\_\_\_ If no, attach explanation.

Engineer [Signature] 9-21-2020  
 (Signature/Date)

Municipal Official [Signature] Council President 9/21/2020  
 (Signature/Title/Date)

WQA-38B (Rev. 9/26/03)

June 22, 2020

Jason Landsbach, Borough Council President  
Big Beaver Borough  
114 Forest Drive  
Darlington PA 16115

Re: Sewer System Overload Condition  
Big Beaver Borough  
Beaver County

Dear Mr. Landsbach:

Recently this Department received information concerning excessive wastewater flows to the City of Beaver Falls system during precipitation events. These high flows create hydraulic overloads in the conveyance system there prior to reaching the treatment plant. Beaver Falls has implemented a flow monitoring program to determine the source(s) of these high flows by placing meters in locations that isolate the flow contributions of each connected community, with certain exceptions. Because of this, as Big Beaver Borough is one of these communities, we are requesting the following from Big Beaver Borough:

1. Submit a written Corrective Action Plan (CAP) setting forth the actions to be taken to reduce the overload and provide the needed capacity to achieve compliance to the Department within 90 days of receipt of this letter. The plan must also include a program for a limitation on and control of new connections to the overloaded sewerage facilities and a schedule showing the dates each step toward compliance will be completed.
2. Restrict new connections to the sewer system tributary to the overloaded sewerage facilities to those connections fitting the exceptions described in 25 Pa. Code §§ 94.55, 94.56 and 94.57 until the requested plan and schedule is approved by DEP.

Section 7 of the Sewage Facilities Act, as amended by Act 149, does not provide for planning exemptions when sewage facilities have an existing hydraulic or organic overload or projected five-year overload.

Enclosed you will find a table form of the semiannual progress reports required for submission in January and June of each year of the plan implementation. Please use this as a template for noting completion percentages and include it with your reports.

The Borough is responsible for administering the tap control plan, approved as part of this CAP, in accordance with the requirements of Chapter 94 of the Rules and Regulations. Remember that additional flows are not permitted to areas with unresolved basement flooding and any other

unpermitted discharges. Also, the Borough's ability to allocate approved annual connections is contingent on adhering to the schedule in the approved CAP. If the schedule is not being met, the Department may rescind the approval to grant new connections.

The Borough shall submit an Annual Tap Control Plan to the Department by January 31 each year until such time as the CAP is terminated. If unused during the calendar year in which they were awarded, taps expire at the end of the calendar year.

When you have developed a plan and schedule or if you have any questions about this notice, please call me at 412-442-4045 or email me at Droote@pa.gov.

Sincerely,

***David J. Roote***

David J. Roote  
Water Quality Specialist Supervisor  
Clean Water Program

Enclosures



Southwest Regional Office

December 14, 2020

Michelle Joy, Borough Council President  
Big Beaver Borough  
114 Forest Drive  
Darlington PA 16115

Re: Corrective Action Plan  
Big Beaver Borough  
Beaver County

Dear Ms. Joy:

We hereby approve the Corrective Action Plan (CAP) submitted by Michael Baker International on behalf of Big Beaver Borough on September 24, 2020. Progress reports (two copies) should be submitted to the Department every six months using the enclosed reporting form. Reports are due by July 31 and January 31 of each year. The first Progress Report is due July 31, 2020.

This letter includes approval for twenty (20) taps requested for the remainder of 2020, and also for 2021. Please remember that the Big Beaver Borough must affirm that adequate capacity in their system is available for each tap request submitted to this Department for approval.

The Borough should take all necessary actions to prevent unpermitted discharges, basement flooding, and the associated public health hazards. At all times, including while the CAP is in effect, the Borough remains responsible for all violations of the Clean Streams Law and is liable for the civil penalties provided for such violations. Bypassing and basement flooding are illegal discharges. Enforcement action may be warranted if the approved schedule is not followed, or if conditions indicate that such action is necessary to protect the environment or public health.

The Borough is responsible for administering the tap control plan, approved as part of this CAP, in accordance with the requirements of Chapter 94 of the Rules and Regulations. Remember that additional flows are not permitted to areas with unresolved basement flooding. Also, the Borough's ability to allocate approved annual connections is contingent on adhering to the schedule in the approved CAP. If the schedule is not being met, the Department may rescind the approval to grant new connections.

Please be aware that requests for CAP revisions will be expected by this Department if the examination of the system shows that additional remedial work is needed, that is not known now. Please notify us immediately when this becomes evident, so we may approve CAP extensions.

The Borough shall submit an Annual Tap Control Plan to the Department by January 31 each year until such time as the CAP is terminated. If unused during the calendar year in which they were awarded, taps expire at the end of the calendar year.

If you have any questions regarding this letter, please contact David Roote of my staff at [droote@pa.gov](mailto:droote@pa.gov) or 412-442-4045.

Sincerely,

*Christopher J Kriley*

Christopher J. Kriley, P.E.  
Program Manager  
Clean Water Program  
Southwest Region

Enclosure