

ILLINOIS POLLUTION CONTROL BOARD

VILLAGE OF HOMEWOOD, HOMEWOOD)	
ILLINOIS, VILLAGE OF ORLAND PARK,)	
ORLAND PARK ILLINOIS, VILLAGE OF)	
MIDLOTHIAN, MIDLOTHIAN ILLINOIS,)	
VILLAGE OF TINLEY PARK, TINLEY PARK	)	PCB 16-14 (Homewood)
ILLINOIS, EXXONMOBIL OIL CORPORATION,	)	PCB 16-15 (Orland Park)
VILLAGE OF WILMETTE, WILMETTE	)	PCB 16-16 (Midlothian)
ILLINOIS, CITY OF COUNTRY CLUB HILLS,	)	PCB 16-17 (Tinley Park)
COUNTRY CLUB HILLS ILLINOIS,	)	PCB 16-18 (ExxonMobil)
NORAMCO-CHICAGO, INC., FLINT	)	PCB 16-20 (Wilmette)
HILLS RESOURCES JOLIET, LLC, CITY OF	)	PCB 16-21 (Country Club Hills)
EVANSTON, EVANSTON ILLINOIS,	)	PCB 16-22 (Noramco-Chicago)
VILLAGE OF SKOKIE, SKOKIE ILLINOIS,	)	PCB 16-23 (INEOS Joliet)
ILLINOIS DEPARTMENT OF	)	PCB 16-25 (Evanston)
TRANSPORTATION, METROPOLITAN WATER	)	PCB 16-26 (Skokie)
RECLAMATION DISTRICT OF GREATER	)	PCB 16-27 (IDOT)
CHICAGO, VILLAGE OF RICHTON PARK,	)	PCB 16-29 (MWRDGC)
RICHTON PARK ILLINOIS, VILLAGE OF	)	PCB 16-30 (Richton Park)
LINCOLNWOOD, LINCOLNWOOD ILLINOIS,	)	PCB 16-31 (Lincolnwood)
CITY OF OAK FOREST, OAK FOREST ILLINOIS,	)	PCB 16-33 (Oak Forest)
VILLAGE OF LYNWOOD, LYNWOOD ILLINOIS,	)	PCB 19-7 (Village of Lynwood)
CITGO HOLDINGS, INC., VILLAGE OF NEW	)	PCB 19-8 (Citgo Holdings)
LENOX, NEW LENOX ILLINOIS, CITY OF	)	PCB 19-9 (New Lenox)
LOCKPORT, LOCKPORT ILLINOIS,	)	PCB 19-10 (Lockport)
CATERPILLAR, INC., CITY OF CREST HILL,	)	PCB 19-11 (Caterpillar)
CREST HILL ILLINOIS, CITY OF JOLIET,	)	PCB 19-12 (Crest Hill)
JOLIET ILLINOIS, MORTON SALT, INC.,	)	PCB 19-13 (Joliet)
CITY OF PALOS HIEGHTS, PALOS HEIGHTS	)	PCB 19-14 (Morton Salt)
ILLINOIS, VILLAGE OF ROMEOVILLE,	)	PCB 19-15 (Palos Heights)
ROMEOVILLE ILLINOIS, IMTT ILLINOIS LLC,	)	PCB 19-16 (Romeoville)
STEPHA CO., VILLAGE OF PARK FOREST,	)	PCB 19-17 (IMTT Illinois)
PARK FOREST ILLINOIS, OZINGA READY MIX	)	PCB 19-18 (Stepan)
CONCRETE, INC., OZINGA MATERIALS, INC.,	)	PCB 19-19 (Park Forest)
MIDWETS MARINE TERMINALS LLC.,	)	PCB 19-20 (Ozinga Ready Mix)
VILLAGE OF MOKENA, MOKENA ILLINOIS,	)	PCB 19-21 (Ozinga Materials)
VILLAGE OF OAK LAWN, OAK LAWN	)	PCB 19-22 (Midwest Marine)
ILLINOIS, VILLAGE OF DOLTON, DOLTON	)	PCB 19-23 (Mokena)
ILLINOIS, VILLAGE OF GLENWOOD,	)	PCB 19-24 (Oak Lawn)
GLENWOOD ILLINOIS, VILLAGE OF MORTON	)	PCB 19-25 (Dolton)
GROVE, MORTON GROVE ILLINOIS, VILLAGE	)	PCB 19-26 (Glenwood)
OF LANSING, LANSING ILLINOIS, VILLAGE OF	)	PCB 19-27 (Morton Grove)
FRANKFORT, FRANKFORT ILLINOIS,	)	PCB 19-28 (Lansing)
VILLAGE OF WINNETKA, WINNETKA	)	PCB 19-29 (Frankfort)
ILLINOIS, VILLAGE OF LA GRANGE, LA	)	PCB 19-30 (Winnetka)
GRANGE ILLINOIS, INOREDION, INC.,	)	PCB 19-31 (La Grange)
VILLAGE OF CHANNAHON, CHANNAHON	)	PCB 19-33 (Channahon)
ILLINOIS, COOK COUNTY DEPARTMENT OF	)	PCB 19-34 (CCDTH)

TRANSPORTATION AND HIGHWAYS,	)	PCB 19-35 (Niles)
VILLAGE OF NILES, NILES ILLINOIS, SKYWAY	)	PCB 19-36 (Skyway)
CONCENSSION COMPANY LLC, VILLAGE OF	)	PCB 19-37 (Elwood)
ELWOOD, ELWOOD ILLINOIS, CITY OF	)	PCB 19-38 (Chicago)
CHICAGO, CHICAGO ILLINOIS, VILLAGE OF	)	PCB 19-40 (Crestwood)
CRESTWOOD, CRESTWOOD ILLINOIS, and	)	PCB 19-48 (Riverside)
VILLAGE OF RIVERSIDE, RIVERSIDE	)	(Time-Limited Water Quality
ILLINOIS,	)	Standard)
	)	(Consolidated)
Petitioners,)	
)	
v.)	
)	
ILLINOIS ENVIRONMENTAL PROTECTION)	
AGENCY,)	
)	
Respondent.)	

NOTICE OF FILING

To: See Attached Service List

PLEASE TAKE NOTICE that on January 17, 2020, the VILLAGE OF FRANKFORT electronically filed with the Office of the Clerk of the Illinois Pollution Control Board its **Pre-Filed Testimony**, a copy of which is hereby served upon you.

Dated: January 17, 2020

VILLAGE OF FRANKFORT

By: /s/ Marron A. Mahoney
One of Its Attorneys

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PROOF OF SERVICE

The undersigned attorney certifies, under penalties of perjury pursuant to 735 ILCS 5/1-109, that she caused a copy of the foregoing **Pre-Filed Testimony**, to be served via E-mail on the 17th day of January to:

See Attached Service List

By: /s/ Marron A. Mahoney
One of Its Attorneys

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VILLAGE OF RIVERSIDE, RIVERSIDE)	(Time-Limited Water Quality
ILLINOIS,)	Standard)
)	(Consolidated)
Petitioners,)	
)	
v.)	
)	
ILLINOIS ENVIRONMENTAL PROTECTION)	
AGENCY,)	
)	
Respondent.)	

**PRE-FILED TESTIMONY OF SHANNON NICHOLE SCHAEFFER
PROFFERED BY THE VILLAGE OF FRANKFORT IN PCB 19-29**

The undersigned, Shannon Nichole Schaeffer, being first duly sworn, on oath, deposes and says that she is familiar with the facts stated herein and if called as a witness, proffered by the Village of Frankfort in PCB 19-29, can competently testify as follows:

1. I am the Environmental Department Manager and a Senior Environment Engineer for Baxter & Woodman, Inc. based in Mokena, Illinois.
2. I have a Bachelor of Science in Civil Engineering with Environmental Emphasis and a Master of Science in Environmental Engineering from the University of Iowa, Iowa City, Iowa.
3. I have a current and in good standing Professional Engineering (PE) license granted by the State of Illinois: License Number 062.059467. I obtained my PE license on December 12, 2006.

4. I have a Board Certified Environmental Engineer Specialty Certification in Water Supply and Wastewater granted by the American Academy of Environmental Engineers and Scientists. This certification was granted on October 31, 2017.

5. I have 20 years of experience working as a civil and environmental engineer.

6. I assist municipalities with a variety of compliance tasks with their wastewater National Pollutant Discharge Elimination System (NPDES) permits. Examples are pollutant influent reduction measures, wastewater treatment plant effluent data evaluation and reporting, coordination with IEPA Water Quality Section for data evaluation, receiving stream hardness and metal translator studies, and NPDES permit special condition compliance reporting.

7. My curriculum vitae is attached as *Exhibit A*.

8. I am a consulting engineer on several projects for the Village of Frankfort, IL.

9. In 2012, I was the project manager of an industrial user survey which focused on the use of and/or generation of chlorides by commercial and industrial water customers who may discharge chlorides into non-domestic wastewater conveyed to the Village of Frankfort.

10. Since 2015, I have worked with the Village of Frankfort on a continuous basis specifically with NPDES permit renewals and compliance assistance for the Village's Wastewater NPDES discharge permits for the North, West and Regional Wastewater Treatment Plants (WWTPs). I continue to work with the Village on NPDES permit compliance.

11. As I have been assisting the Village of Frankfort with NPDES permit renewals and permit modifications, I am aware of the chloride daily maximum limit of 500 mg/L for the Regional WWTP that will go into effect when the Regional Plant reaches an Average Design Flow of 5.65 million gallons per day (MGD). Currently the Regional Plant is operating at the Average Design Flow of 4.67 MGD and there is no chloride limit under this condition of the NPDES Permit; the requirement is monitor only.

12. I have assisted the Village in the process of petitioning the Illinois Pollution Control Board to request a Time Limited Water Quality Standard for chlorides.

13. The Village has 10 potable drinking water supply production wells, which produce on average 3,300,000 gallons per day of drinking water.

14. The Village's source for potable water are shallow groundwater wells, which contain hardness and iron.

15. Many of the water customers in the Village utilize water softeners to remove hardness, to improve household use of water such as cleaning and bathing, and to remove iron to prevent staining of driveways, sidewalks, fixtures, and for drinking water taste.

16. The Village currently has some 11,182 drinking water customers.

17. Residential water softeners produce a chloride-laden backwash when regenerating the ion exchange media used for the water softening process that is discharged into the sanitary sewers and is conveyed to the Regional WWTP.

18. Typically, domestic WWTPs are not designed to remove chlorides from wastewater and the Regional WWTP is not designed to remove chlorides with any specific process. Generally, nearly all chlorides are passed through the treatment plant to the receiving stream.

19. While residential water customers using water softeners that produce chlorides is a factor for the Village to petition the Illinois Pollution Control Board for a Time Limited Water Quality Standard for chloride, the application of road salt by entities outside of the Village's control is a greater factor to consider.

20. Map of Hickory Creek and its tributaries is attached as *Exhibit B*.

21. Hickory Creek is the receiving stream for the Regional WWTP discharge.

22. Union Ditch and Frankfort Tributary are named, small waterways upstream and tributary to Hickory Creek.

23. Union Ditch appears to originate in Country Club Hills, IL in a storm water retention pond in a subdivision directly adjacent to the east of Interstate 57 and directly adjacent to the north of Flossmoor Road.

24. Union Ditch as it flows towards Hickory Creek, crosses under Interstate 57, is directly adjacent to Flossmoor Road, Ridgeland Avenue, crosses Harlem Avenue (IL-43), cuts behind the Brookside Marketplace, a commercial shopping area in Tinley Park, IL, crosses under 80th Avenue and 191st Street in Mokena, IL, and cuts through subdivisions in Mokena, IL and Frankfort, IL before connecting with Hickory Creek in Frankfort, IL.

25. Frankfort Tributary waterway as it flows toward Hickory Creek crosses under Steger Road, Harlem Avenue (IL-43), Laraway Road, Sauk Trail, and goes through the Prestwick Subdivision where it connects to Hickory Creek.

26. These roadway and parking lot locations are either adjacent to or cross over tributaries to Hickory Creek itself and are maintained by entities other than the Village. These roadways and parking lots are salted in the winter with stormwater runoff containing chlorides draining into the tributaries upstream of the Village of Frankfort.

27. A map showing the Village boundary and the US Highways and surrounding roadways is attached as *Exhibit B*.

28. Harlem Avenue (IL-43) from Sauk Trail to Steger Road is maintained by Cook County, IL.

29. Laraway Road from Harlem Avenue (IL-43) to 80th Avenue is maintained by the Will County, IL Highway Department.

30. The Village of Frankfort is situated such that US Highway 30 (Lincoln Highway) and US Highway 45 (LaGrange Road) intersect the Village.

31. These US Highways and Illinois State Highways are maintained by the Illinois Department of Transportation (IDOT).

32. US Highway 30 is approximately 5.2 miles long, a 4-lane arterial, from Harlem Avenue (IL-43) to Wolf Road (East to West).

33. Using an approximate 26 foot width from curb to curb (one direction, two-lanes), this equates to approximately 1,427,700 square feet of total highway surface area to be maintained with road salt during winter storm events. This is an approximate square footage not including turning lanes and full areas of intersections.

34. The 2017 Annual Daily Average Traffic Counts available on the IDOT website, gettingaroundillinois.com, indicate that on various segments of US Highway 30 the traffic counts from Harlem Avenue to Wolf Road range from 18,000 to 35,000 vehicles per day.

35. US Highway 45 is approximately 4.6 miles long, a 4-lane arterial, from La Porte Road to Steger Road (North to South).

36. Using an approximate 26 foot width from curb to curb (one direction, two-lanes), this equates to approximately 1,262,900 square feet of total highway surface area to be maintained with road salt during storm events. This is an approximate square footage not including turning lanes and full areas of intersections.

37. The 2017 Annual Daily Average Traffic Counts available on the IDOT website, gettingaroundillinois.com, indicate that on various segments of US Highway 45 the traffic counts from La Porte Road to Steger Road range from 12,400 to 34,400 vehicles per day.

38. Based upon the traffic counts indicating heavily traveled highways through the Village of Frankfort, the need to apply road salt for public safety is evident.

39. Harlem Avenue (IL-43) is maintained by IDOT.

40. When wintertime weather events create hazardous road conditions, road salt is utilized by IDOT on the US Highways within the Village limits and the Village has no control over the dosing/distribution of road salt.

41. The Village cannot control the quality of storm water runoff into the Hickory Creek watershed from the US Highways maintained by IDOT and all roads, and residential and commercial subdivisions maintained by the public and private entities in the watershed of tributary waterways to Hickory Creek.

42. The Village has received stream monitoring data from 2019 that indicate a difference in Hickory Creek chloride concentration an order of magnitude greater in winter compared to summer. The available data shows that in Hickory Creek just downstream of the Regional WWTP outfall, the chloride concentration had an average of 350 mg/L in January of 2019 and an average of 53 mg/L in May-June 2019.

43. Therefore, the contribution of chlorides from winter road maintenance outside of the Village's control is a significant factor for the Village to petition the Illinois Pollution Control Board for a Time Limited Water Quality Standard for chlorides for the Village's NPDES permit for the Regional WWTP.

44. The Village applies road salt to Village maintained roads and has control of the quantities applied during winter storm events requiring road salt.

45. The Village utilizes a beet juice additive called Thermapoint AP as a road salt additive to reduce the amount of road salt to be applied to Village maintained roadways.

46. The Village has published information on several occasions in the Village newsletter to residents on the proper settings for residential water softeners to educate residents and water customers.

47. It is my professional opinion that while the Village can continue efforts to educate its water customers and residents on proper water softener settings and of the importance of doing so, the major factor contributing to chlorides in the tributaries of and into Hickory Creek is the application of road salts during winter storm events by entities other than the Village of Frankfort who maintain the roadways and shopping areas.



Shannon Nichole Schaeffer
*Environmental Department Manager and
Senior Environment Engineer for
Baxter & Woodman, Inc., Mokena, Illinois*
Proffered by the Village of Frankfort
in PCB 19-29

State of Illinois

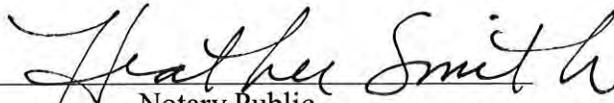
County of Will

Signed before me on January 16 th 2020 (date) by

SHANNON Nichole Schaeffer (name of person).

(seal)




Notary Public



Nichole Schaeffer, PE, BCEE

Environmental Department Manager - Senior Environmental Engineer

Education

M.S., Environmental Engineering
University of Iowa, 2000

B.S., Civil Engineering
Environmental Emphasis
University of Iowa, 1998

Joined Firm in 2008

Years of Experience: 20

Registrations

Licensed Professional Engineer:
Illinois

Board Certified Environmental Engineer, American Academy of Environmental Engineers

Certifications

40-Hour OSHA HAZWOPER

Process Safety Management Training, Conoco-Phillips Refinery

Associations

Illinois Water Environment Association (IWEA), Pretreatment Committee Member

Industrial Water, Waste, and Sewage Group (IWWSG), Vice Chair

Illinois Section of Central States Water Environment Association (CSWEA), Pretreatment Committee Member

Nichole's education, training and experience have made her well-rounded in civil and environmental engineering design and regulatory compliance. Her primary focus is industrial wastewater pretreatment and wastewater NPDES Permit compliance. She has developed relationships with the clients for whom she serves and with the industrial users who are regulated under the clients' pretreatment programs. Nichole managed the day-to-day operations of a USEPA approved pretreatment program for four years.

Additionally Nichole's pretreatment experience as an engineer and project manager include classification of industries, discharge permit writing, completing annual business inventory surveys, survey database development and implementation, ordinance writing, USEPA Pretreatment Compliance Inspections (PCI), and pretreatment program audit and evaluation.

While working with the pretreatment programs, Nichole has developed a system to electronically manage WWTP monitoring data, evaluate it and organize it for the USEPA Annual Report. This system is used for all the pretreatment programs that Baxter & Woodman administers.

Working with IT, Nichole has upgraded the pretreatment survey database and reporting system such that the core pretreatment survey questionnaire has flexibility to be customized to suit client's needs.

Nichole has developed a strong relationship with IEPA permit engineers, water quality section and NPDES compliance staff. This is invaluable to the clients she serves when assisting with all aspects of compliance with NPDES permit special conditions and associated tasks.

Her background contains both civil and environmental engineering. She has studied wastewater treatment design and has a broad range of experience with water and wastewater infrastructure design, water and wastewater and hydraulic modeling, environmental regulatory compliance (RCRA, TRI Reporting), remediation of contaminated soils and groundwater, management of field sampling activities, landfill monitoring, and air construction permitting.

Representative Projects

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION

City of Joliet, Illinois

Pretreatment Program Development and Implementation 2012 - Current

Project Engineer and Manager for updates to the City's federally approved pretreatment program and supports City staff with day-to-day program implementation. Responsibilities include a review and report of the entire program to identify both deficiencies and good practices in the program, review of the classification of the Categorical Industrial Users (CIU) in the program and updated classification of several CIU, created a master industrial user discharge permit with updated ordinance citations, updated Discharge Permits for 12-CIU, 2-Significant Industrial Users; and 5-Non-Significant Industrial Users. Performs IU permit renewals including monitoring data evaluation and IU process evaluation. Conducted industrial site inspections for classification updates, assists the City with non-compliance investigations, continuously track and manage all industrial user

Presentations

2019 IWEA-IWPC

Pretreatment Track: Identifying Industrial Users within Your Service Area

2019 B&W Pretreatment

Seminar: Educating Industrial Users and Building Relationships

2017 B&W Pretreatment

Seminar: Remote Pretreatment Audits – Expectations and Strategies for Compliance

2016 Illinois Section AWWA

Watercon: Industrial Wastewater Pretreatment Training Tips for Industrial Users in Your Program

2016 B&W Pretreatment

Seminar: Industrial User 101- Pretreatment Training Tips for Industrial Users in Your Program

2015 B&W Pretreatment

Seminar: IEPA New Wastewater Source Permit Requirement Guidance

2014 B&W Pretreatment

Seminar: FOG Management Tools For Your Community

Continuing Education

NACWA (National Association of Clean Water Agencies)

National Pretreatment & Pollution Prevention Workshop and Training, 2011, 2012, 2018, 2019

NACWA Advanced Local Limits Training, 2018

NACWA FOG Training, 2019

"Nutrient Removal Fundamentals" Workshop, WEFTEC, 2015

monitoring data, track and manage all three WWTP monitoring data, provide laboratory coordination, prepare program documentation and annual reporting to IEPA and USEPA Region 5 for the Village's wastewater pretreatment program. Presented an Industrial User Pretreatment Training Workshop for all permitted industries. Service to the City of Joliet is ongoing.

City of Joliet, Illinois

Industrial User Survey Campaign 2016-2018

Project Engineer and Manager, conducted annual survey of business parks, in Joliet and it's communities tributary to the City's WWTPs, identified firms to be screened and classified, and managed the user database. Performed site inspections and classification of industries. Prepared annual survey/business inventory report including industrial user classification memo.

Village of Itasca, Illinois

Pretreatment Program Day-to-Day Operation 2010 - 2014

Project Engineer running the Village's federally approved pretreatment program. Responsibilities included review of applications for new industries to determine treatment needs prior to occupancy, evaluated industrial user permit applications and historical monitoring data, issued and renewed industrial user discharge permits, monitored operation of the Village's approved pretreatment program, provided laboratory coordination, investigated industrial user non-compliance issues and implemented enforcement, prepared program documentation and annual reporting for the Village's wastewater pretreatment program, and performed annual site inspections of permitted industrial users.

Curtis Metal Finishing, Machesney Park, Illinois

Pretreatment Compliance, 2018

Project Engineer and Manager. Assistance to the CIU, a permittee in the Rock River Water Reclamation District, with a compliance investigation into zinc and nickel violations. Evaluated monitoring data, facility industrial process, and pretreatment system, and provided an assessment of possible sources of zinc and nickel in their domestic discharge line and recommended remedial actions. Provided a compliance plan of action for the CIU to submit to RRWRD as required for compliance by the RRWRD enforcement response plan.

Village of Frankfort, Illinois

Industrial User Survey/Influent Reduction Measures for Phosphorous Discharge Optimization Plan (NPDES Special Condition), Copper Translator Study, 2016-2018

Project Engineer and Manager on the IU survey. Conducted a windshield survey of the business parks, used B&W Custom GIS online survey database for survey collection and tracking. Performed site inspections, process evaluation and classification of industries. Prepared annual survey/business inventory report including industrial user classification memo.

Influent Phosphorous Reduction Measures

Prepared report of phosphorus user findings from the IU Survey as part of the whole PDOP report for the Regional WWTP NPDES special condition requirement.

Copper Translator Study for Regional WWTP

A translator study for copper was conducted and a report prepared. The results were approved by IEPA and the effluent copper limits for the WWTP were successfully made less stringent in their modified NPDES permit.

**Aqua, IL, University Park WWTF
Industrial User Survey , 2015-2017**

Project Engineer on the IU survey, included evaluating industrial users within Aqua Illinois' service area, including University Park and Monee. Conducted site inspections and process evaluations to classify industries in the service area.

**Village of Plainfield, Illinois
Pretreatment Program Development and Implementation 2010 - Current**
Project Engineer conducts industrial site inspections, evaluates commercial and industrial survey evaluations and classification, and have conducted follow-up inspections for non-domestic wastewater slug loads to WWTP.

**Village of Glendale Heights, Illinois
Pretreatment Program Implementation 2010 - 2013**
Project Engineer whose responsibilities include Coordinating with Village staff, evaluate IU data, issuing summary reports, prepare surcharge and enforcement cost summaries for cost recovery, attended site inspection of a classified industry, assisted with screening and classification of industries from the 2009 survey, conducted site inspections of industries to finalize classification as part of the industrial user survey process, and prepared an industrial user classification letter report for the Village.

**City of Crest Hill, Illinois
Pretreatment Ordinance Update**
Project manager for the update of the City of Crest Hill's sewer use ordinance (SUO) to include pretreatment language to give City legal authority to issue discharge permits. Held meetings with the client during update progress stages, coordinated review comments from client and client attorney, teamed with one other B&W staff member to write updates to the SUO, QA/QC of the draft SUO update, and prepared deliverable to client.

**City of Crest Hill, Illinois
Industrial User Survey for Copper Sources**
Project Engineer executing the steps of an industrial user survey to determine possible non-domestic sources of copper in the wastewater. Tasks included screening the current business license holders and non-domestic water users, screening the Illinois Manufacturing and Services Directory to identify possible non-domestic sources of wastewater, conduct a window survey of the commercial and industrial zones of the City, compiled a list of survey recipients, coordinated with the City for the mailing and receipt of completed surveys, managed the B&W online database of users and collected information, screened the received surveys to identify any categorical industrial users or significant industrial users, conducted site inspections of businesses to confirm process and wastewater generation, and completed report with the classification and identification of non-domestic sources of wastewater in the WWTP service area.

**Village of Frankfort, Illinois
Industrial User Survey for Chloride Sources**
Project Engineer and Manager executing the steps of an industrial user survey to determine possible non-domestic sources of chloride in the sanitary collection system. Tasks included screening the current business license holders and non-domestic water users, screening the Illinois Manufacturing and Services Directory to identify possible non-domestic sources of wastewater, conduct a window survey

of the commercial and industrial zones of the Village service area, compiled a list of survey recipients, coordinated with the Village for the mailing and receipt of completed surveys, managed the B&W online database of users and collected information, screened the received surveys to identify sources of chlorides and completed the survey report.

Village of Frankfort, Illinois**West Plant NPDES - Cyanide Assistance**

Project and Manager for the evaluation of effluent cyanide data at the West WWTP and to remove cyanide from the final NPDES permit during the renewal cycle. Worked with Village operations staff to collect effluent samples at the proper effluent location to eliminate analytical interferences of chlorine, and with proper methods, interfaced with Village's contract lab, contacted IEPA regarding the results of the testing during the 12-week monitoring period, and prepared a submittal to IEPA water quality division to remove cyanide from the final NPDES permit.

Village of Antioch, Illinois**Annual Pretreatment Report Assistance 2010-Current**

Project Engineer providing assistance and QA/QC of the WWTP plant monitoring data required for the annual pretreatment report.

Village of Bensenville, Illinois**Pretreatment Program Development and Implementation 2010 - Current**

Project Engineer assists with conducting annual industrial site inspections. Assist with QA/QC of WWTP monitoring data and industrial user data for use in the Annual Pretreatment Report.

Village of Wood Dale, Illinois**Pretreatment Program Annual Survey Updates 2010 - 2013**

Project Engineer conducted annual survey of business parks, identified firms to be screened and classified, and managed the user database. Prepared annual survey/business inventory report with industrial user classification memo. Trained other staff on the survey procedures.

City of Crest Hill, Illinois**Pretreatment Assistance, Rich Foods**

Project engineer assisting with the classification and process determination of Rich Foods, understanding the industry's wastewater generation, held meetings with client and industry, prepared wastewater discharge agreement, and conducted a site inspection of the facility during the final construction phase of the plant and pilot testing run.

Village of Romeoville, Illinois**Pretreatment Program Annual Survey Updates 2010**

Project Engineer conducted annual drive-by of business parks and identified firms that required screening and classification, and managed the user database.

NPDES PERMIT COMPLIANCE/USEPA ADMINISTRATIVE ORDERS OF CONSENT (ILLINOIS)**City of Momence****Village of Frankfort (3 WWTPs)****Village of Beecher****Glenbard Wastewater Authority****City of Joliet****Village of Park Forest**

Project Engineer and Manager on behalf of the clients listed above. Have assisted with various compliance reports, studies, and tasks associated with multiple NPDES permit special conditions, including but not limited to effluent limit studies and compliance schedules, annual Phosphorous Discharge Optimization Plan reports, combined sewer overflow (CSO) ordinance updates, and metal loading studies. Have assisted multiple clients with compliance actions and reporting pertaining to their AOCs from USEPA Region 5.

NPDES PERMIT REVIEWS (ILLINOIS)**City of Momence****Village of Plainfield North STP****Marseilles South STP****Fox River Grove WWTP****Village of Bloomingdale WRF****City of Elmhurst WRF****City of Rochelle WRP****Glenbard Wastewater Authority (Main Plant and CSO Facility)****City of Joliet (3 Plants)****Village of Frankfort (3 Plants)****Carol Stream Water Reclamation Center****Village of Beecher****Aqua Illinois - University Park WWTP****Village of Glendale Heights**

Project engineer on behalf of the clients listed above executed the review of draft wastewater facility NPDES permits during the IEPA permit renewal cycle. This included reviewing pre-draft and public notice stage NPDES permits, at each stage identifying changes from current NPDES permits, identifying items of concern, reviewing and evaluating WWTP Discharge Monitoring Report Data, preparing responses to IEPA with comments on behalf of the client, negotiating with IEPA for changes to final permits, and tracking submittals and verification of the official final issued permits.

SANITARY SEWER IMPROVEMENTS**Downers Grove Sanitary District, Illinois****Sanitary Sewer Grouting Program 2008, 2009**

Project Engineer responsible for developing the project manual for the renewable sanitary sewer grouting contract, obtained price quotes, developed a cost schedule, and prepared contract documents.

Village of Plainfield, Illinois**Nature's Crossing Sanitary Relief Sewer**

Project Engineer for the design of a 3,300 lineal feet of sanitary relief sewer (18 and 21 inch diameter) cutting through the park area in the existing Nature's Crossing

subdivision. Prepared plans and specifications for the project and directed AutoCAD technicians. Coordinated the design with the Plainfield Park District.

Village of Elwood, Illinois
JTA Water and Sewer Design

Project Engineer responsible for the development of plan sheets for the design of 3,900 LF of 8 and 12-inch water main, 1,500 LF of 6-inch force main, 2,700 LF of 8-inch and 18-inch sanitary sewer, and a duplex sanitary lift station. Directed AutoCAD technicians and coordinated information and design efforts between B&W, the U.S. Army Corps of Engineers and the client's architectural firm.

Village of Plainfield, Illinois
Sanitary Sewer Master Plan Update

Project Engineer for updates to the existing master plan for all existing and future sanitary sewer in the Village. The report included investigating flow meter results, determining existing capacity of the system, determining which improvements had been built since the master plan was prepared, and determining cost recovery for the Village of the relief sewers built by developers.

WATER SYSTEM IMPROVEMENTS

City of Oak Forest, Illinois
2010 Water System Improvements

Project Engineer responsible for the development of plan sheets and specifications for the design of approximately 17,500 lineal feet of water main (8 to 16 inch diameter) and appurtenances distributed across three separate project areas. Directed AutoCAD technicians and attended client meetings.

Village of Park Forest, Illinois
2009 Water Main Replacements

Project Engineer responsible for the development of plan sheets and specifications for the design of approximately 14,500 LF of water main of various sizes, including horizontally directional drilled pipe. This project is spread across seven regions within the Village. Directed AutoCAD technicians and attended client meetings.

Village of Elwood, Illinois
JTA Water and Sewer Design

Project Engineer responsible for the development of plan sheets for the design of 3,900 LF of 8 and 12-inch water main, 1,500 LF of 6-inch force main, 2,700 LF of 8-inch and 18-inch sanitary sewer, and a duplex sanitary lift station. Directed AutoCAD technicians and coordinated information and design efforts between B&W, the U.S. Army Corps of Engineers and the client's architectural firm.

ENVIRONMENTAL REGULATORY PROJECTS

I.E. DuPont de Nemours, Inc.
TRI Reporting, Chambers Works Facility, Deepwater, New Jersey

Project engineer and manager for the completion the Toxics Release Inventory (TRI) for the DuPont Chambers Works Secure Environmental Treatment plant (40 MGD rated industrial WWTP) for 2004 and 2005. This project was 6-months in

duration for each year performed. Tasks included performing a threshold analysis and mass balance of the TRI listed chemicals for the wastewater treatment plant, completion of the New Jersey Air Emission Statement for the plant and gathering process data from individual treatment-process areas and calculating pollutant emissions.

Various Industrial Clients

Iowa

Completed Iowa DNR air construction permitting, Form Rs, and state of Iowa Emission Inventory Questionnaires (EIQs) for industrial clients.

City of Cedar Rapids, Iowa

Bluestem Solid Waste Agency, and others

Completed quarterly landfill monitoring reports, Leachate Control System Plan Evaluation Reports and Annual Water Quality Reports for the IDNR for various landfills.

ENVIRONMENTAL REMEDIATION

I.E. DuPont de Nemours, Inc.

Geosynthetic and Earthen Cap, Spelter, West Virginia

Staff Engineer provided engineering support on a 44-acre geosynthetic and earthen cap design to contain zinc tailings and impacted soils. Responsibilities included writing specification for the project design, obtaining technical information for cap construction materials, performing storm water runoff and drainage calculations, completed QA/QC on calculations, specifications, and drawings.

Conoco-Phillips Refinery

Site Remediation Field Monitoring, Trainer, Pennsylvania

Site Co-Supervisor and Project engineer for sampling activities at the Conoco-Phillips Refinery. Responsibilities included coordinating manpower and efforts of the multi-consultant sampling teams with plant personnel and sub-contractors, writing the daily summaries of the activities at the site for distribution to the project manager and client project directors, executed and maintained the records for all sub-contracts, maintaining the health and safety records required by OSHA, obtaining plant drawings and conducting site reconnaissance for sample point locations.

Ashland Specialty Chemical

Indiana Remediation Site

Project engineer; Completed an operational evaluation of an air sparge/soil vapor extraction system. This consisted of a site visit and an analysis of operations data to identify key factors that improved the removal efficiency of VOCs from impacted groundwater. The evaluation was submitted to the USEPA as part of a site's remedial progress report.

Phase I and Phase II Environmental Site Assessments (ESAs)

Completed Phase I and Phase II Environmental Site Assessments (ESAs) for several industrial clients and municipalities in the state of Iowa. This work included site surveys, Brownfields investigations, records reviews, site sampling of water and soils, and report writing.

Village of Frankfort
Regional WWTP

Electronic Filing: Received, Clerk's Office 01/17/2020

Approx. location of
Union Ditch

Union Ditch confluence with
Hickory Creek

Hickory Creek
Upstream of
Village of
Frankfort

US Highway 30
(Lincoln Highway)
from IL-33 Harlem
Avenue to Wolf Rd.

Red line is Village of
Frankfort boundary

Flow Direction



Frankfort
Tributary,
Tributary to
Hickory Creek

US Highway 45 La Grange
Rd. from La Porte Rd to
Steger Rd.

Exhibit B

