



Illinois Environmental Protection Agency
 Permit Section, Division of Water Pollution Control
 P.O. Box 19276
 Springfield, Illinois 62794-9276

For IEPA Use:

**Application for Permit or Construction Approval
 WPC-PS-1**

1. Owner Name: Lake County Department of Public Works

Name of Project: PW 2006.061 Portwine Force Main

Township: Vernon County: Lake

2. Brief Description of Project:

5,210 lineal feet of Slip Lined Installation and 5,080 lineal feet of Directionally Drilled Installation of 16" HDPE IPS DR17. 110 lineal feet of Jack and Bore 20" Casing under Milwaukee Avenue. And all miscellaneous work.

3. Documents Being Submitted: If the Project involves any of the items listed below, submit the corresponding schedule, and check the appropriate boxes.

	<u>Schedule</u>		<u>Schedule</u>
Private Sewer Connection/Extension	A/B <input type="checkbox"/>	Spray Irrigation	H <input type="checkbox"/>
Sewer Extension Construct Only	C <input type="checkbox"/>	Septic Tanks	I <input type="checkbox"/>
Sewage Treatment Works	D <input type="checkbox"/>	Industrial Treatment/Pretreatment	J <input type="checkbox"/>
Excess Flow Treatment	E <input type="checkbox"/>	Waste Characteristics	N <input type="checkbox"/>
Lift Station/Force Main	F <input checked="" type="checkbox"/>	Erosion Control	P <input checked="" type="checkbox"/>
Fast Track Service Connection	FTP <input type="checkbox"/>	Trust Disclosure	T <input type="checkbox"/>
Sludge Disposal	G <input type="checkbox"/>		

Plans: Title PW 2006.061 Portwine Force Main

No. of Pages: 38

Specifications: Title PW 2006.061 Portwine Force Main

No. of Books/Pages: 1

Other Documents: _____
 (Please Specify)

3.1 Illinois Historic Preservation Agency approval letter: Yes No

4. Land Trust: Is the project identified in item number 1 herein, for which a permit is requested, to be constructed on land which is the subject of a trust? Yes No

If yes, Schedule T (Trust Disclosure) must be completed and item number 7.1.1 must be signed by a beneficiary, trustee or trust officer.

5. This is an Application for (Check Appropriate Line):

- A. Joint Construction and Operating Permit
- B. Authorization to Construct (See Instructions) NPDES Permit No. IL00 _____
- C. Construct Only Permit (Does Not Include Operations)
- D. Operate Only Permit (Does Not Include Construction)

6. Certifications and Approval:

6.1 Certificate by Design Engineer (When required: refer to instructions)

I hereby certify that I am familiar with the information contained in this application, including the attached schedules indicated above, and that to the best of my knowledge and belief such information is true, complete and accurate. The plans and specifications (specifications other than Standard Specifications or local specifications on file with this Agency) as described above were prepared by me or under my direction.

Engineer Name: Francis Xavier Tiefert

Registration Number: 062 - 060550
(3 digits) (6 digits)

Firm: Applied Technologies, Inc.

Address: 468 Park Avenue



City: Lake Villa State: IL Zip: 60046 Phone No: (847) 265-7325

Signature X *Francis Xavier Tiefert* Date: 2/9/11

7. Certifications and Approvals for Permits:

7.1 Certificate by Applicant(s)

I/We hereby certify that I/we have read and thoroughly understand the conditions and requirements of this Application, and am/are authorized to sign this application in accordance with the Rules and Regulations of the Illinois Pollution Control Board. I/We hereby agree to conform with the Standard Conditions and with any other Special Conditions made part of this Permit.

7.1.1 Name of Applicant for Permit to Construct: Lake County Department of Public Works

Address: 650 West Winchester Road

City: Libertyville State: IL Zip Code: 60048

Signature X *Peter E. Kolb* Date: 2-14-2011

Printed Name: Peter E. Kolb Phone No: (847) 377-7500

Title: Director

Organization: Lake County Department of Public Works

7.1.2 Name of Applicant for Permit to Own and Operate: Lake County Department of Public Works

Address: 650 West Winchester Road

City: Libertyville State: IL Zip Code: 60048

Signature X *Peter E. Kolb* Date: 2-14-2011

Printed Name: Peter E. Kolb Phone No: (847) 377-7500

Title: Director

7.2 Attested (Required When Applicant is a Unit of Government)

Signature X Willard R. Blauder Date: FEB 15 2011

Title: Lake County Clerk
(City Clerk, Village Clerk, Sanitary District Clerk, Etc.)

7.3 Applications from non-governmental applicants which are not signed by the owner, must be signed by a principal executive officer of at least the level of vice president, or a duly authorized representative.

7.4 Certificate By Intermediate Sewer Owner

I hereby certify that (Please check one):

- 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the environmental Protection Act or Subtitle C, Chapter I, or
- 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction of facilities that are the subject of this application.

Name and location of sewer system to which this project will be tributary:

South East Interceptor

Sewer System Owner: Lake County Department of Public Works

Address: 650 West Winchester Road

City: Libertyville State: IL Zip Code: 60048

Signature X Peter E. Kolb Date: 2-14-2011

Printed Name: Peter E. Kolb Phone No: (847) 377-7500

Title: Director

7.4.1 Additional Certificate By Intermediate Sewer Owner

I hereby certify that (Please check one):

- 1. The sewers to which this project will be tributary have adequate reserve capacity to transport the wastewater that will be added by this project without causing a violation of the environmental Protection Act or Subtitle C, Chapter I, or
- 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction facilities that are the subject of this application.
- 3. Not applicable

Name and location of sewer system to which this project will be tributary:

Sewer System Owner: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Signature X _____ Date: _____

Printed Name: _____ Phone No: _____

Title: _____

7.5 Certificate By Waste Treatment Works Owner

I hereby certify that (Please check one):

- 1. The waste treatment plant to which this project will be tributary has adequate reserve capacity to treat the wastewater that will be added by this project without causing a violation of the Environmental Protection Act or Subtitle C, Chapter I, or
- 2. The Illinois Pollution Control Board, in PCB _____ dated _____ granted a variance from Subtitle C, Chapter I to allow construction and operation of the facilities that are the subject of this application.
- 3. Not applicable

I also certify that, if applicable, the industrial waste discharges described in the application are capable of being treated by the treatment works.

Name of Waste Treatment Works: Des Plaines ^{River} Water Reclamation Facility

Waste Treatment Works Owner: Lake County Department of Public Works

Address: 650 West Winchester Road

City: Libertyville State: IL Zip Code: 60048

Signature X *Peter E. Kolb* Date: 2-11-2011

Printed Name: Peter E. Kolb Phone No: (847) 377-7500

Title: Director

Please return completed form to the following address:

Illinois Environmental Protection Agency
Permit Section, Division of Water Pollution Control
P.O. Box 19276
Springfield, Illinois 62794-9276

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.



Illinois Historic
Preservation Agency

1 Old State Capitol Plaza * Springfield, Illinois 62701-1512 * www.illinois-history.gov

APPLIED TECHNOLOGIES

JUL 15 2009
RECEIVED

Lake County
Riverwoods

PLEASE REFER TO: IHPA LOG #004042409

Portwine Road, Lake Cook Road, Lake County Forest Preserve, Milwaukee Avenue, Aptasick Creek, Des
Plaines River,

ATI-PN 4514 & PW 2006.061,
8.5-acre Force Main/Lake County Public Works Department

July 10, 2009

Robert Doeringsfeld
Applied Technologies, Inc.
468 Park Avenue
Lake Villa, IL 60046

Dear Mr. Doeringsfeld:

Acre(s): 12 Site(s): 1
Archaeological Contractor:

Thank you for submitting the results of the archaeological reconnaissance. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the archaeological Phase I reconnaissance report performed for the project referenced above. The Phase I survey and assessment of the archaeological resources appear to be adequate. Accordingly, we have determined, based upon this report, that no significant historic, architectural, and archaeological resources are located in the project area.

Please submit a copy of this letter with your application to the state or federal agency from which you obtain any permit, license, grant, or other assistance. Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH

cc: Kevin P. McGowan, Ph.D., Public Service Archaeology & Architecture Program

Illinois Environmental Protection Agency
 Division of Water Pollution Control, Permit Section
 Post Office Box 19276
 Springfield, Illinois 62794-9276

Schedule F - Sewer System Lift Station / Force Main

1. **Name of Project:** PW 2006.061 Portwine Force Main

2. **Design Population:**
 Area to be served 2,030 acres. Population to be served 19,402 P.E..

3. **Design Flows:**
 Design Average Flow 867 gpm. Design Maximum Flow 3,851 gpm.

4. **Lift Station will serve:**
 Only separate sewers Only combined sewers Separate and combined sewers
 Domestic waste sewers Industrial waste sewers Domestic and industrial waste sewers

5. **Lift Station is designed to serve:**
 Only the population indicated above An anticipated additional waste contribution of 6,912 P.E.

6. **Force Main:**
 Size of Force Main (inches) 14" Total Length (feet) 10,439
 Pipe material specifications ASTM D3035 Joint specifications ASTM D2657

Are air relief valves provided at high points? Yes No
 Are clean-outs (blow-offs) provided at low points? Yes No

7. **Design Head (Total Dynamic Head):**

A) Static Head:	Discharge Elevation:	<u>636.37</u>	
	Low Water Elevation:	<u>623.23</u>	
	Static Head	<u>13.14</u>	Feet
B) Pipe friction loss:		<u>38</u>	Feet at "C" = <u>120</u>
C) Minor Losses (Valves, etc.)		<u>12</u>	Feet at "C" = 100
	Total Dynamic Head (A + B + C)	<u>63</u>	Feet
	Maximum Suction Lift (if applicable)	<u></u>	Feet

8. **Pumps**

Number of Pumps	Type of Pump	GPM per Pump	at TDH (Feet)	H.P. of Each Pump	Pass 3" Spheres
3	Submersible S6AX (variable speed)	1,925	63	40	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
					<input type="checkbox"/> Yes <input type="checkbox"/> No
					<input type="checkbox"/> Yes <input type="checkbox"/> No

- a. Rated Capacity of Lift Station 3,850 gpm at 63 feet of TDH.
- b. Pumping Capacity with Largest Unit Out of Service 3,850 gpm at 63 feet of TDH.
- c. Are all pumps with positive suction head and/or self priming? Yes No
- d. Have provisions been made to detect shaft seal failure or potential shaft seal failure? Yes No

Schedule F - Sewer System Lift Station / Force Main

9. Valves

- a. Discharge Pipe Gate Check Other _____
- b. Suction Line (if applicable) Gate Check Other _____

10. Wet Well

- a. Effective capacity (volume between pumps off and pumps on switches) = 3,520 gallons
- b. Detention time at design flow = 0.9 minutes
- c. Are there provisions for pump removal? Yes No

11. Buoyancy Calculations

- a. Have buoyancy calculations been submitted? Yes No N/A
- b. Depth of groundwater table: _____ feet below the ground surface.

12. Accessibility

- a. Is the pump station accessible by an all weather road? Yes No

13. Ventilation

- a. Wet Well:
 - Continuous with at least 12 complete air changes per hour? Yes No
 - Intermittent with at least 30 complete air changes per hour? Yes No
- b. Dry Well (if applicable):
 - Continuous with at least 6 complete air changes per hour? Yes No N/A
 - Intermittent with at least 30 complete air changes per hour? Yes No N/A
- c. Is portable ventilation equipment available for use at all times? Yes No

14. Emergency Operations

- a. In case of power failure, is an alternate power supply available? Yes No
If yes, please describe the source: Existing automatic transfer switch between two primaries
- b. Is a portable pump, with adequate pumping capacity, available for use at all times? Yes No
- c. Has a riser from the force main been provided to hook-up portable pumps? Yes No
- d. Length of time between a power failure and commencement of pumping by emergency equipment Immediate
- e. Estimated time interval before damage or sewer backup will occur 30 minutes
- f. Type of alarm system proposed: Telemetry System Audio-Visual with self contained power
- g. Are personnel available at all times to operate emergency equipment? Yes No

15. Flow Measurement

- a. Type of flow measurement provided: Flow meter Elapsed time meters ITR

16. Compliance with Illinois Recommended Standards for Sewage Works

- a. Can the pump station remain operational during the 25 year flood? Yes No
- b. Is the pump station protected from physical damage during the 100 year flood? Yes No
- c. When applicable, will electrical systems and components comply with NEC requirements for Class I, Group D, Division I locations? Yes No
- d. Have provisions been made to automatically alternate the pumps? Yes No
- e. Is the motor control center located outside and protected by a conduit seal? Yes No
- f. Can the motor be electronically disconnected without disturbing the seal? Yes No

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For IEPA Use:

LOG #

DATE RECEIVED:

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
PERMIT SECTION
Springfield, Illinois 62794-9276**

Schedule P - Erosion Control

1. Name of Project PW 2006.061 Portwine Force Main
2. Total area disturbed by excavation: 51,150 Sq. Feet
3. Summary of erosion control practices:

		Area Controlled (Sq. Ft.)	Permanent (P) or Temporary (T)
Vegetative Control	_____ (Sq. Feet)	_____	_____
Interceptor Ditches	_____ (Feet)	_____	_____
Berms	_____ (Feet)	_____	_____
Sediment Basins	_____ (Cu. Yd.)	_____	_____
Debris Basins	_____ (Cu. Ft.)	_____	_____
Desilting Basins	_____ (Cu. Ft.)	_____	_____
Silt Traps	_____ (Cu. Ft.)	_____	_____
Mulching and Matting	<u>Erosion Blanket</u> _____ (Cu. Ft./Sq. Ft.)	<u>51,150 Sq. Feet</u>	<u>T</u>
Other	<u>Silt Fence</u> _____ (Indicate)	<u>3,500 Feet</u>	<u>T</u>

4. Attach topographical or plan maps of construction area and indicate erosion control practices.
5. Drainage area (above and including construction site) _____
6. Slope categories of construction site:

	Area (acres)	Disposition of collected sediment
6.1 0 - 2% slope	<u>1.17 Acres</u>	<u>Replaced soil on eroded areas and reseed</u>
6.2 2 - 4% slope	_____	_____
6.3 4 - 6% slope	_____	_____
6.4 6% slope or greater	_____	_____

Please check one below.

Erosion control practices identified above will be constructed in accordance with Illinois Urban Manual, 1995.

OR

Plans or specifications for the above referenced erosion control practices are attached.