



## LEHIGH COUNTY AUTHORITY

May 16, 2011

### BOARD MEETING AGENDA

1. Call to Order
2. Review of Agenda
  - *Public Participation Sign-In Request*
3. Executive Sessions
4. Approval of Minutes
  - *April 25, 2011 Regular Meeting Minutes*
5. Public Comments
6. Action / Discussion Items

#### **FINANCE AND ADMINISTRATION**

- *Risk Management Annual Report 2010 (Acceptance)*

#### **WATER**

- *Long-Term (Phase 2) Water Interconnection with the City of Allentown (Approval)*

#### **WASTEWATER**

- *Long-term Wastewater Capacity – Non-Stream Discharge Wastewater Alternatives (Presentation)*

7. System Operations Overview
8. Staff Comments
9. Solicitor's Comments
10. Other Comments
11. Adjournment

#### **MARCH MEETINGS**

Workshop Meeting  
Board Meeting

June 13 – 12:00 p.m.  
June 27 – 12:00 p.m.

#### **PUBLIC PARTICIPATION POLICY**

In accordance with Authority policy, members of the public shall record their name, address, and discussion item on the sign-in sheet at the start of each meeting; this information shall also be stated when addressing the meeting. Members of the public will be allowed 5 minutes to make comments/ask questions regarding non-agenda items, but time may be extended at the discretion of the Chair; comments/questions regarding agenda items may be addressed after the presentation of the agenda item. Members of the public may not request that specific items or language be included in the meeting minutes.

**FINANCE & ADMINISTRATION**

**ACTION ITEMS**

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1. ***Risk Management Annual Report 2010*** (Acceptance)

The 2010 Risk Management Annual report is attached (***gray***). There was one accident in 2010 that resulted in minor personal injury and 4 vehicular accidents that resulted in property damage. Total man-hours for the safety program, including safety training were 392.5 hours at a total salary cost of \$10,554.

**DISCUSSION ITEMS**

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1. ***None.***

**INFORMATION ITEMS**

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1. ***None.***

## WATER

### **ACTION ITEMS**

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1. **Long-Term (Phase 2) Water Interconnection with the City of Allentown** (Approval)

See the attached Staff memo (*ivory*). The following approvals are being requested:

- Amendment No.1 to Professional Service Authorization for design phase services – Barry Isett & Associates
- Capital Project Authorization Amendment – Construction Phase
- Conditional Award of construction contract - Livengood Excavators, Inc. (Bid Tabulation –
- Professional Service Authorization for construction phase services – Barry Isett & Associates

### **DISCUSSION ITEMS**

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1. ***None.***

### **INFORMATION ITEMS**

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1. **Water Meter Replacement Project, Phase 1**

Phase 1 - Vanguard Utility Service, Inc. had pulled its remaining employees off the job site on February 14. Based on our follow-up conversations with Vanguard, they returned on March 31 to complete the work, which comprised approximately 322 accounts of which 273 are meters that could not be read. We expect all remaining work to be completed by May 16.

Phase 2 –Notices were sent to approximately 3,320 customers in Phase 2 that are not within areas where low pressures are a concern. There are approximately 600 customers in areas where meters will not be installed until the low pressure issue can be further investigated. The notices are intended to introduce the project to customers, and to request that meters be made accessible and recommend that a thermal expansion tank be installed.

Bids were opened for the installation of metering equipment for the Phase 2 project on April 28. A summary of the bid results is attached (*orange*). After the Authority concludes its review of the apparent low bidder, PA-DEP must review compliance with regulations for solicitation of Disadvantaged Business Enterprise (DBE) firms. This generally takes two to three weeks to complete. We will proceed with executing a Contract with the successful bidder upon approval by DEP.

HD Supply Waterworks, the sole authorized dealer for Sensus metering equipment in the Authority's service area, submitted a quote for the Phase 2 project for \$618,469.00. Pricing was held at the same level as the Phase 1 project.

A Capital Project Authorization and applicable Contract approvals will be presented to the Board for action at the June Workshop or Board meeting

2. **Interconnection with Allentown**

Phase 1 - Connection at Schantz Spring – Testing of the emissions from the emergency generator engine proved compliance with EPA regulations. The third-party testing service sent their report to DEP for review.

Phase 2 – Connection to City Transmission System at 26<sup>th</sup> and Chew Streets – PaDEP has approved our applications for the Public Water Supply Permit Amendment and the Amendment to the NPDES Permit for Stormwater Management from Construction Sites – the permit amendments should be received within two weeks. Lehigh County has approved the necessary easement agreement. The easement from the City of Allentown is still pending. Bids were received on April 18 – conditional award of the construction contract is recommended; see Action Item No. 1.

3. **Water Main Replacement Project 2011 – Oakland Park (UMT)**

Due to changes in the NPDES permit requirements effective as of 2011, this project will require that we complete an E&S plan for review by the Lehigh County Conservation District and possibly apply for a NPDES permit prior to the start of construction. We have solicited proposals from engineering firms to complete this work for us. As NPDES approvals typically take multiple months, if a NPDES is required, we will have to delay the start of this project until we have a permit in hand. If that is the case, we do not anticipate a construction start date any earlier than next spring. Otherwise, we may be able to go out to bid later this summer for a late summer/early fall construction period.

4. **Water Main Relocation Project – Slatedale**

PaDOT is widening the bridges on West Grant and Main Streets in Slatedale and our water facilities will be impacted by this effort. Work is slated to start sometime near the end of May and will begin on West Grant Street. Our exposure, by PaDOT Agreement, is about \$25,000.

5. **CLD Water System Model**

Gannett Fleming is calibrating the model. They requested data for the next phase of the project involving analyses of the City of Allentown interconnection and water quality.

6. **WL-1 Tank Replacement**

Construction activity began on March 17, 2010. The work is now complete and awaiting final inspection and approval by DEP.

7. **Developments**

Water system construction is occurring at the following developments:

- Lehigh Hills, Phase 1, 1 commercial lot, UMT
- Valley West Estates, Phases 4, 5 & 6, 46 residential lots (sfd), UMT *(There has not been any construction activity at this development in over a year.)*

Water system plans are being reviewed for the following developments:

- Diocesan Pastoral Center, 2 commercial lots, 3 additional lots, & residual lot for existing cemetery, LMT
- Hamilton Crossings, 3 commercial lots, LMT
- Hickory Park Estates, 3 residential lots (sfd), UMT
- Hillview Farms, 31 residential lots (sfd), LMT/SWT
- Indian Creek Industrial Park, 6 commercial lots, UMiIT, water and sewer
- Morgan Hills, 40 residential lots (sfd), Water & Sewer, WeisT
- North Whitehall Commercial Center (Walmart), 5 commercial lots, NWT, water and sewer
- Rabenold Farms, 205 residential lots (sfd), (Portion south of I-78), UMT
- Rabenold Farms II, 288 apartment units and clubhouse, (Portion north of I-78), UMT
- Red Maple Acres Expansion, 29 units, LMT
- Shepherd's Corner, 1 commercial lot, LMT
- Spring Creek Properties Subdivision 1, 14 commercial and industrial lots, LMT

May 23, 2011

Trexler Business Center, Lot 1, 1 commercial building, LMT  
Trexler Senior Living Center, 2 commercial lots, LMT (*In bankruptcy*)  
Trexletown Shopping Center Remodeling/Expansion, 1 commercial lot, LMT/UMT  
Weilers Road Twins, 82 residential lots (sfa), UMT  
West Hills Business Center, 5 industrial lots, WeisT  
Woodmere Estates, 60 residential units (sfd), UMT  
Wotring North Development, 20 residential units (sfd), UMT

## WASTEWATER

### **ACTION ITEMS**

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1. *None.*

### **DISCUSSION ITEMS**

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1. **Long-term Wastewater Capacity Presentation** (*Discussion*)

The final Natural Treatment and Non-Stream Discharge Wastewater Alternatives Report will be presented by Castle Valley Consultants. The purpose of the report was to determine the feasibility of using either natural based wastewater treatment or non-stream disposal options to meet the future LCA wastewater needs of 4 MGD. Both DRBC and the DEP require such an analysis prior to any approval of new capacity. Included in the analysis is an evaluation of a non-centralized approach. Report is included as a separate attachment.

### **INFORMATION ITEMS**

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1. **Flow Equalization Basin (FEB)**

Staff is working with PennVest to finalize all numbers. PennVest will be conducting an audit of the project in the near future.

2. **South 7th Street Sewer Extension Project - Phase 2 (UMiT)**

Final Payment was made to the contractor completing the construction phase of the contract. There should not be any other contract activity until the end of the maintenance period. To date, two of the ten property owners have connected to the sewer system.

3. **Vera Cruz Area Sewer Project**

Work has begun, with directional boring starting in Salem Drive and Barney Drive. On May 5, we received notice from State Rep. Doug Reichley, that we were awarded an additional \$1,000,000 in grant through the PA H<sub>2</sub>O program. This brings total funding sources to \$2,455,000. Staff is reviewing the impacts of this money on the costs to homeowners in the area. A formal press conference was held on May 13 in the project area, reporters from the Patch, East Penn Press and the Morning Call attended. Substantial Completion and Final Completion are December 30, 2011 and February 28, 2012, respectively.

4. **Infiltration and Inflow (I&I) Program Update**

The 537 plan revisions and SCARP submitted to the DEP in March of 2010 have not been approved to date. Mr. Fritz indicated recently that the approval would be granted in the next few weeks. LCA submitted the first annual report to DEP at the end of March as indicated in the SCARP.

Piezometers (monitoring wells) were installed in 8 locations throughout the wastewater system (including the LCA Operations Center) to monitor the depth of the ground water to determine and document water levels over time. KCE administered the contract and will provide the weekly measurements.

5. **Wastewater Treatment Capacity**

The steering committee will meet again in 2011 when additional or updated information is available.

We have received the COA cost estimate for expansion of the Kline's Island Wastewater Treatment Plant. Malcolm Pirnie has also updated the cost estimates for the LCA WTP upgrading option costs. Both Engineers have updated the costs based on the discussion and will determine life cycle costs of each option. The information will be available for review in the near future.

LCA has provided a cost estimate for the LCA conveyance upgrades necessary for an additional 4 mgd going to the City. At a future date, a cost estimate will be determined for the City conveyance upgrades necessary from Park Pump Station to Kline's Island.

The wastewater characterization report was completed by Malcolm Pirnie to help in facility planning and design purposes. The results confirm that the available N and P in the influent would not be consistently consumed during treatment and additional P removal and nitrification will be necessary to meet the limits of the direct discharge.

The Natural Treatment and Non-Stream Discharge Wastewater Alternatives Report has been completed by Castle Valley Consultants.

6. **WTP Energy Audit**

CET Consulting is performing an energy audit of the WTP with an emphasis on the methane gas utilization. In general, the scope of work includes an evaluation of the plant processes and recommendations for energy improvement measures.

Phase I of the study is complete and was presented to the Board at the February workshop. The report included an economic evaluation of the excess biogas production including a comparison of selling the excess biogas to Kraft Foods or utilizing the biogas on-site at the WTP. We have received written notice from Kraft that they are no longer interested in purchasing the LCA biogas due to the project not being economically feasible for them. LCA met with Kraft to determine if their grant could be transferred to LCA. It has been determined that the Kraft grant cannot be transferred to LCA.

Additional sampling and analysis of the digester waste streams was conducted to confirm the potential for gas production. CET Engineers has evaluated the data and this new data confirms that the calculated gas production is consistent with the actual gas production.

Phase II of the study will include an evaluation of other energy improvement/energy efficiency measures and will specifically look at optimizing digester performance and the hauler waste program for increased biogas production. At the conclusion of Phase II, we should have all the necessary information to decide if co-generation is viable. This report is expected the week of May 16<sup>th</sup>.

The LCA package wastewater treatment plants are being evaluated in Phase III. The consultant has made site visits to the treatment plants. The report is expected within a month.

7. **Arcadia West Wastewater Treatment Plant Upgrade**

Bids were received on March 17 for the General Construction, Electrical Construction and Mechanical and Plumbing Construction contracts (**blue**). The General Construction bid was designed as a Base Bid with Add/Deduct Alternates. During the bidding period, PaDEP received a protest regarding the Alternates provision, and PaDEP is reviewing our bid documents in detail. They have cautioned that if contracts are awarded before they make a determination, we risk losing the PennVEST funding that had been approved for

the project. We will bring recommendations to a future meeting after receiving a decision from PaDEP/PennVEST.

**8. Northern Lehigh Wastewater System**

The project is proceeding in a number of areas:

Wastewater Treatment Plant (on a 5 acre tract at Kids Peace)

(1) North Whitehall Township determined that the proposed wastewater treatment plant is a government facility, as defined in their zoning ordinance. Therefore, a Special Exception must be granted for the use by the Zoning Hearing Board. A sketch plan of the proposed plant was presented at a meeting of the North Whitehall Township Planning Commission on April 26 – the Commission unanimously voted to recommend that the Zoning Hearing Board grant the Special Exception. The hearing before the Zoning Hearing Board is on May 18.

(2) The Delaware River Basin Commission has modeled the water quality in the Lehigh River and has determined the necessary plant effluent limits to meet the DRBC regulations. Discussions are planned with both DRBC and PaDEP regarding the discharge permit, and other permitting issues.

Barring any regulatory delays we expect to have the wastewater treatment plant operational by October 2013. The total cost of the WTP including soft costs is estimated at \$4.69 million.

Conveyance Facilities

(1) Wal-Mart's engineer, the Newton Engineering Group is proceeding with the design of the necessary conveyance facilities, which includes gravity sewers, a pump station and force main to deliver the wastewater from their proposed development and other future wastewater customers to the wastewater treatment facilities. Wal-Mart will be constructing these facilities and dedicating them to LCA. A cost-sharing agreement is being negotiated with Wal-Mart.

(2) An amendment to the agreement with KidsPeace is being negotiated to reflect the changed circumstances since the original agreement was signed in 2006.

The construction cost of the conveyance facilities is estimated at \$1.354 million.



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# MEMORANDUM

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**Date:** May 12, 2011  
**To:** LCA Board of Directors  
**From:** Frank Leist, Michael Barron, P.E.,  
**Re:** LCA – City of Allentown Interconnection, Phase 2

The water service contract with the City of Allentown that was approved in January 2009 calls for the long-term interconnection to be in place by Dec. 31, 2012, the two-year anniversary of the completion of the interim interconnection at Schantz Spring. Anticipating a construction start in August, 2011 and a 10-month construction period, we have approximately 6 months as reserve for schedule slippage.

**A. Professional Services Authorization Amendment – Design Phase** We recommend an addition of \$ 26,296 to the authorization for Barry Isett & Associates for design phase services. This amendment reflects out of scope activities and added-value changes to the scope of the project after their proposal was prepared.

**B. Construction Phase** We have received construction bids and proposals for inspection services, and are recommending these approvals so that the project may proceed.

*1. Capital Project Authorization Amendment* This amends the current authorization to include the anticipated costs of \$ 3,461,700 for the construction phase of the project.

*2. Contract Award* We recommend that the construction contract be awarded to Livengood Excavators, Inc. on the basis of their low bid of \$3,063,473.24, conditioned upon receipt of the necessary permits and proper bonds and insurance documents; and that Staff be authorized to execute the contract.

*3. Professional Services Authorization – Construction Phase* The following proposals were solicited from area engineering firms for the necessary Construction Observation services during construction.

<u>Firm</u>	<u>Total Budget</u>
<b>Barry Isett &amp; Assoc.</b>	
<b>(Design Engineer)</b>	<b>\$ 90,720.00</b>
Keystone Consulting	\$ 96,000.00
RETTEW	\$ 112,500.00
ARRO	\$ 115,750.00
Spotts, Stevens & McCoy	\$ 150,500.00

We request approval of a Professional Services Authorization for Barry Isett & Associates, Inc. to provide construction phase engineering services with a not-to-exceed budget of \$133,589. The tasks include Stakeout, Construction Engineering, and Construction Observation for the transmission main.



Lehigh County Authority

1053 Spruce Street \* P.O. Box 3348 \* Allentown, PA 18106-0348  
(610)398-2503 \* FAX (610)398-8413

**PROFESSIONAL SERVICES AUTHORIZATION**

**Amendment # 1**

**Professional:**  
Barry Isett & Associates, Inc.  
85 S. Rt. 100 & Kressler Lane  
Trexlerstown, PA 18017-0147

**Date:** May 12, 2011

**Requested By:** M. Barron

**Approvals**

**Department Head:** \_\_\_\_\_

**General Manager:** \_\_\_\_\_

**Description of Services ( Work Scope, Steps, Check Points, etc. ):**

**PROJECT: LCA/City of Allentown Water Interconnection, Phase 2 – Design Phase**

A. The following tasks are added to the scope of work, as described in the attached request dated March 4, 2011:

1. Revise project design to coordinate with park bike paths recently installed by the City of Allentown. (+\$2,030)
2. Additional Services for Walnut Street - Not Justified
3. Provide design and permitting for a construction staging area near Haines Mill Park (+\$3,708)
4. Provide additional design services evaluating alternative routes through Dorney Park (+\$14,174)
5. Expand project scope to include the construction of a 12" transmission main on Schantz Road, design by Hanover Engineering to be provided by LCA. (+\$8,588)
6. Attend additional meetings as requested by LCA for easement and permit coordination (+\$4,796)

B. Delete Geotechnical Survey from the scope of work (-\$7,000)

<b>Cost Summary</b>	
Current Authorization	\$ 153,126.00
Proposed Net Increase, this Authorization	\$ 26,296.00
New Authorization	\$179,422.00

**Cost Estimate ( not to be exceeded without further authorization ) :** \$ 179,422 for labor and reimbursable expenses.

**Time Table and Completion Deadline :**

Design work completed, bids received April 18, 2011

**(For Authority Use Only)**

**Authorization Completion :**

**Approval :** \_\_\_\_\_ **Actual Cost:** \_\_\_\_\_ **Date:** \_\_\_\_\_



# BARRY ISETT & ASSOCIATES, INC.

Consulting Engineers & Surveyors

www.barryisett.com

85 S. Route 100 & Kressler Lane  
P.O. Box 147  
Trexlerstown, PA 18087-0147

**610 • 398 • 0904**  
(FAX: 610 • 481 • 9098)

March 4, 2011  
BIA #1033109.000

Mr. Michael A. Barron, P.E.  
Lehigh County Authority  
1053 Spruce Street  
Allentown, PA 18106-0348

Dear Mr. Barron:

**RE: LCA/ALLENTOWN WATER INTERCONNECT**  
Additional Scope of Design Services

As a follow-up to our various meetings and discussions regarding several additional tasks for this project, following are descriptions and costs of those items:

### SCOPE ADDITIONS

1. **City Park Trail Additions** - After we did the initial survey for this project, the City installed new blacktop bike paths. I met on two occasions with City personnel to work out details, including moving some of the paths, and negotiating an agreement to avoid the use of steel casings. After the paths were installed by the City, we sent a survey crew out to get the specific locations of those paths, and provided drafting to add them to the existing features plan.
2. **Provide Additional Design Services for Walnut Street Alternative** - Our original proposal provided for design of the Walnut Street alignment between Haines Mill Road and Cedarbrook Road. However, utilities were not marked after our initial One Call request. We had to make a second One Call request, and because of the extensive utility markings, had to send a field crew back out to verify these additional utility locations.
3. **Staging Area** - Per the County's request, we added a staging area to the plans, which required additional topographic survey, additional easement, additional drafting to add to the E&S plans, and additional BMPs, plus an on site meeting with representatives of Lehigh County. We also had to electronically incorporate the County's consultant Remington, Vermich & Beach plans into our CADD system.
4. **Additional Western Alternatives** - Our original proposal allowed for one design alternative (Walnut Street) between Haines Mill Road and Cedarbrook Road. However, we completed the preliminary design through Dorney Park first. That alignment was completed last year. We then provided three additional conceptual layouts, provided a cost estimate for each, provided an exhibit showing the proposed water line superimposed in Dorney's zoning map, and met with Dorney officials twice to review options. We also field viewed the options before picking the preferred route, then prepared a Supplemental Route Analysis and Report.

5. **Schantz Road Add On** – Per your request, we are adding the plans from Hanover Engineering for the 16" line running south on Schantz Road from the pump station. We have incorporated the plans electronically into our system. We have had to transfer data from the Arryo pump station plans into our system for the contours in this area, to provide for a 12" connection between the pump station 24" x 12" cross, and the 16" x 12" reducer in Schantz Road. Also included in this task was the design of the connection, a field view of the route, quantity take offs to be included in the bid documents, and providing for additional easement. We also note that the 16" line will be changed to a 12" line for the entire length.
6. **Additional Meetings** – There were, and will continue to be, additional meetings with the County, City, Township, pipeline companies, LCCD, and LCA staff beyond that anticipated when we prepared the original proposal.

### SCOPE SUBTRACTIONS

1. Delete Habitat Survey for bog turtle and spadefoot toad.
2. Reduce area for archaeological/cultural resources survey.

### COST PROPOSAL (ADDITIONS)

#### 1. City Park Trail Additions

- |                        |                             |
|------------------------|-----------------------------|
| a. Meetings with City  | 4 hrs @ \$155/hr = \$ 620   |
| b. Additional Survey   | 8 hrs @ \$155/hr = \$ 1,240 |
| c. Additional Drafting | 2 hrs @ \$ 85/hr = \$ 170   |

Subtotal = \$ 2,030

#### 2. Walnut Street Additional Services

- |                               |                              |
|-------------------------------|------------------------------|
| a. Senior Engineering Manager | 8 hrs @ \$155/hr = \$ 1,240  |
| b. Project Professional       | 8 hrs @ \$ 90/hr = \$ 720    |
| c. Project Drafting           | 24 hrs @ \$ 85/hr = \$ 2,040 |
| d. Project Support            | 2 hrs @ \$ 47/hr = \$ 94     |
| e. Additional Survey          | 8 hrs @ \$155/hr = \$ 1,240  |

Subtotal = \$ 5,334

#### 3. Staging Area

- |                                   |                              |
|-----------------------------------|------------------------------|
| a. Senior Engineering Manager     | 8 hrs @ \$155/hr = \$ 1,240  |
| b. Project Professional           | 8 hrs @ \$ 90/hr = \$ 720    |
| c. Senior Environmental Scientist | 4 hrs @ \$100/hr = \$ 200    |
| d. Project Drafting               | 16 hrs @ \$ 85/hr = \$ 1,360 |
| e. Project Support                | 4 hrs @ \$ 47/hr = \$ 188    |

Subtotal = \$ 3,708

## 4. Additional Western Alternatives

a. Senior Engineering Manager	40 hrs @\$155/hr = \$ 6,200
b. Senior Project Manager	6 hrs @\$115/hr = \$ 690
c. Senior Environmental Scientist	4 hrs @\$100/hr = \$ 400
d. Project Professional	12 hrs @\$ 90/hr = \$ 1,080
e. Project Drafting	60 hrs @\$ 85/hr = \$ 5,100
f. Senior Project Technician	4 hrs @\$ 82/hr = \$ 328
g. Project Support	8 hrs @\$ 47/hr = \$ 376

Subtotal = \$14,174

## 5. Schantz Road Add On

a. Senior Engineering Manager	12 hrs @ \$155/hr = \$ 1,860
b. Project Professional	16 hrs @ \$ 90/hr = \$ 1,440
c. Project Drafting	60 hrs @ \$ 85/hr = \$ 5,100
d. Project Support	4 hrs @ \$ 47/hr = \$ 188

Subtotal = \$ 8,588

## 6. Additional Meetings

a. Senior Engineering Manager	30 hrs @ \$155/hr = \$ 4,650
b. Senior Project Manager	12 hrs @ \$115/hr = \$ 1,380
c. Senior Environmental Scientist	4 hrs @ \$100/hr = \$ 400
d. Project Professional	8 hrs @ \$ 90/hr = \$ 376

Subtotal = \$ 6,806Engineering Total (Additions) = \$40,640**COST PROPOSAL (REDUCTIONS)**

1. Habitat Survey (Bog Turtle, etc.)	(-) \$ 2,500
2. Archaeological/Cultural Survey	(-) \$38,140

Environmental Reductions = (-) \$40,640**SUMMARY**

In summary, we would propose to increase the engineering tasks on the Professional Services Authorization by \$40,640 from \$153,126 to \$193,766. We would also propose to reduce the environmental tasks by an equal amount of \$40,640, from \$63,500 to \$22,860, resulting in no change in the project professional Not-to-Exceed amount of \$212,626.

At this point in time, it is presumed that most of this work would be completed in 2011 and billed at rates in effect this year (rate sheet attached).

If, after you have reviewed this proposal amendment, you are satisfied with the terms, please sign one copy and return it to us, or send us a revised Professional Services Authorization. Should you wish to discuss this in more detail, I will be glad to meet with you.

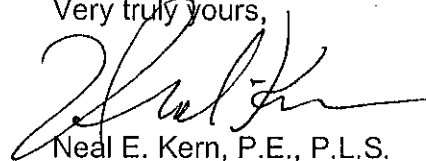
Mr. Michael A. Barron, P.E.

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March 4, 2011

We appreciate the opportunity to continue to serve you on this important project.

Very truly yours,



Neal E. Kern, P.E., P.L.S.  
Department Head  
Municipal Engineering Services

Enclosure

ACCEPTED BY:

DATE: \_\_\_\_\_

\_\_\_\_\_  
(sign name)

\_\_\_\_\_  
(print name and title)



**2011 FEE SCHEDULE**

SENIOR ENGINEERING MANAGER	\$155.00/hr.
ENGINEERING MANAGER	\$135.00/hr.
SENIOR PROJECT MANAGER	\$115.00/hr.
PROJECT MANAGER	\$100.00/hr.
SENIOR PROJECT PROFESSIONAL/DESIGNER	\$100.00/hr.
PROJECT PROFESSIONAL/DESIGNER	\$ 90.00/hr.
STAFF PROFESSIONAL	\$ 85.00/hr.
SENIOR PROJECT TECHNICIAN	\$ 82.00/hr.
PROJECT TECHNICIAN	\$ 72.00/hr.
STAFF TECHNICIAN	\$ 60.00/hr.
PROJECT SUPPORT	\$ 47.00/hr.
CHIEF SURVEYOR	\$120.00/hr.
PROFESSIONAL SURVEYOR	\$ 95.00/hr.
SURVEY CREW CHIEF	\$ 85.00/hr.
SURVEY CREW/GPS CREW	\$135.00/hr.
THREE-PERSON SURVEY CREW	\$190.00/hr.
SENIOR ENVIRONMENTAL SCIENTIST	\$100.00/hr.
PROJECT ENVIRONMENTAL SCIENTIST	\$ 90.00/hr.
STAFF ENVIRONMENTAL SCIENTIST	\$ 75.00/hr.
CONSTRUCTION MANAGER	\$125.00/hr.
CONSTRUCTION BUILDING OFFICIAL	\$ 90.00/hr.
CONSTRUCTION SERVICES	\$ 80.00/hr.
GIS SPECIALIST	\$120.00/hr.
GRANTS SPECIALIST	\$ 90.00/hr.
EXPERT WITNESS TESTIMONY	\$200.00/hr.
EXPERT INVESTIGATION	\$150.00/hr.

NOTE: The cost of reimbursable expenses that are in addition to the basic services will be itemized separately. Reimbursable expenses include mileage, long distance telephone calls, postage and handling, next day mail, preparation of materials for electronic transfer, hand delivery of materials, reproductions, photographs, prints, and any additional insurance coverage or limits (including professional liability insurance) requested in excess of that normally carried.

Costs relating to any outside services contracted directly by BIA will be passed on to the client and may have up to a 15% service charge.

When related to a project, the following rates will be charged for reimbursable expenses:  
Listed prices are for black and white prints only (additional charge for color prints).

Photocopies	\$0.08 per sheet
Large Format Copies	\$0.25 per square foot
Large Format Plotting (tiff,cal,plt,pdf,jpeg)	\$0.30 per square foot
Large Format Scans	\$0.35 per square foot
Large Format Plotting (dwg's)	\$0.50 per square foot

Above rates are subject to change if conditions warrant. Reimbursables subject to Sales Tax.

Effective: 1/1/11 - 12/31/11

KITTATINNY ARCHAEOLOGICAL RESEARCH, INC.  
LCA WATER INTERCONNECTION PHASE 2  
Phase IB Archaeological Investigation - Technical Proposal (July 7, 2010)

**KITTATINNY ARCHAEOLOGICAL RESEARCH, INC.**

**PROPOSAL TO CONDUCT  
A PHASE IB ARCHAEOLOGICAL INVESTIGATION  
OF THE PLANNED LCA INTERCONNECTION PHASE 2 WATER LINE INSTALLATION,  
SOUTH WHITEHALL TOWNSHIP, LEHIGH COUNTY, PENNSYLVANIA  
REVISED**

Price Proposal (July 7, 2010)

**PRICE**

The professional services described in the accompanying technical proposal will be provided by Kittatinny Archaeological Research, Inc. (KAR) for the **NOT TO EXCEED** price of \$12,000.00.

If any of the parameters change or additional information is received, KAR reserves the right to amend this proposal.

**TERMS**

An advance payment of \$ 3,600, 30% of the proposed price, is required for contract initiation.

(original) An advance payment of \$ 4,200, 35% of the proposed price, is required for contract initiation.

Invoices will be submitted on a monthly basis. Invoices other than that for contract initiation will be made payable within (30) days. Late payments will be assessed a two percent (2%) per month late fee.

The client is responsible for payment of the State Museum curation fee, if needed. The fee will be billed directly to the client by the museum.

The terms of this proposal will remain in effect for sixty (60) days, after which adjustment may be necessary.

KAR Proposal 2010-001

KAR P2010-001



# CAPITAL PROJECT AUTHORIZATION

<b>PROJECT NO.:</b>	W-09-2	<b>BUDGET FUND:</b>	Water Capital - Central Lehigh
<b>PROJECT TITLE:</b>	LCA/COA Long Term Water Supply Interconnection (Construction only this Authorization)	<b>PROJECT TYPE:</b>	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Engineering Study / Design <input type="checkbox"/> Equipment Purchase <input checked="" type="checkbox"/> Amendment
<b>COST ESTIMATE:</b>	\$ 3,461,700 (\$ 3,850,000 total project)		

**DESCRIPTION AND BENEFITS:**

In January, 2009 LCA, a water interconnection agreement was finalized with the City of Allentown that provided for an interim supply to LCA of 2.0 MGD from Schantz Spring, and a Long-Term supply from the City's transmission system of up to 7.0 MGD (measured as an annual average). This additional water supply is expected meet the projected LCA water needs until the year 2030. The interim facilities have been completed and are operating. This project, consisting of approximately 14,600 LF of 24-inch pipe will deliver the Long-Term water supply from the City of Allentown distribution system near 26<sup>th</sup> and Chew Streets. This water will be delivered to the booster pumping station that was constructed at Schantz Spring under the previously authorized *LCA/COA Interim Water Supply Interconnection* project. The interim connection to the Schantz Spring supply will remain as an emergency source in the long-term. Approximately 50% of this project will be built within easements on park properties owned by the City of Allentown (Cedar Beach Park) and the County of Lehigh (Haines Mill Park, and Cedar Creek Parkway West). The interconnection agreement calls for these Long-Term facilities to be operational by January 1, 2013 (two years after the interim facilities were operational), when LCA is required to begin purchasing 4.0 MGD of water from the City.

In addition to the Long Term Facilities, 1,300 LF of 12-inch water main in Schantz Road, designed as part of a potential emergency interconnection at Schantz Spring, was added to the scope of the construction project, since it is in the same area as the Long-Term Facilities and would complete a transmission main loop in the area.

**EXPENSES:**

	Prior Authorization	Est. at Completion
<b>Planning Phase (complete)</b>		
Staff	\$ 40,000	\$ 40,000
<b>Design and Bidding Phase</b>		
Professional Services	\$ 216,700	\$ 193,300
Staff	\$ 200,000	\$ 100,000
Rights-of-way	\$ 100,000	\$ 5,000
Permit Fees, Misc.	\$ 60,000	\$ 50,000
Contingencies	\$ 57,300	
Subtotal	\$ 634,000	\$ 348,300
<b>Construction Phase (this authorization)</b>		
Construction Contract	\$ 5,296,000	\$ 3,064,000
Professional Services	\$ 350,000	\$ 133,600
Staff	\$ 150,000	\$ 100,000
Misc.		\$ 10,000
Contingencies	\$ 530,000	\$ 154,100
Subtotal	\$ 6,326,000	\$ 3,461,700
<b>Total</b>	\$ 7,000,000	\$ 3,850,000

The 2011 Water Capital Budget includes \$4,750,000 for this project. No budget amendment is necessary.

**REVIEW AND APPROVALS:**

Project Manager	Date	General Manager	Date
Capital Works Manager	Date	Chairman	Date

**APPROVALS**

The following permits or approvals are necessary for the project

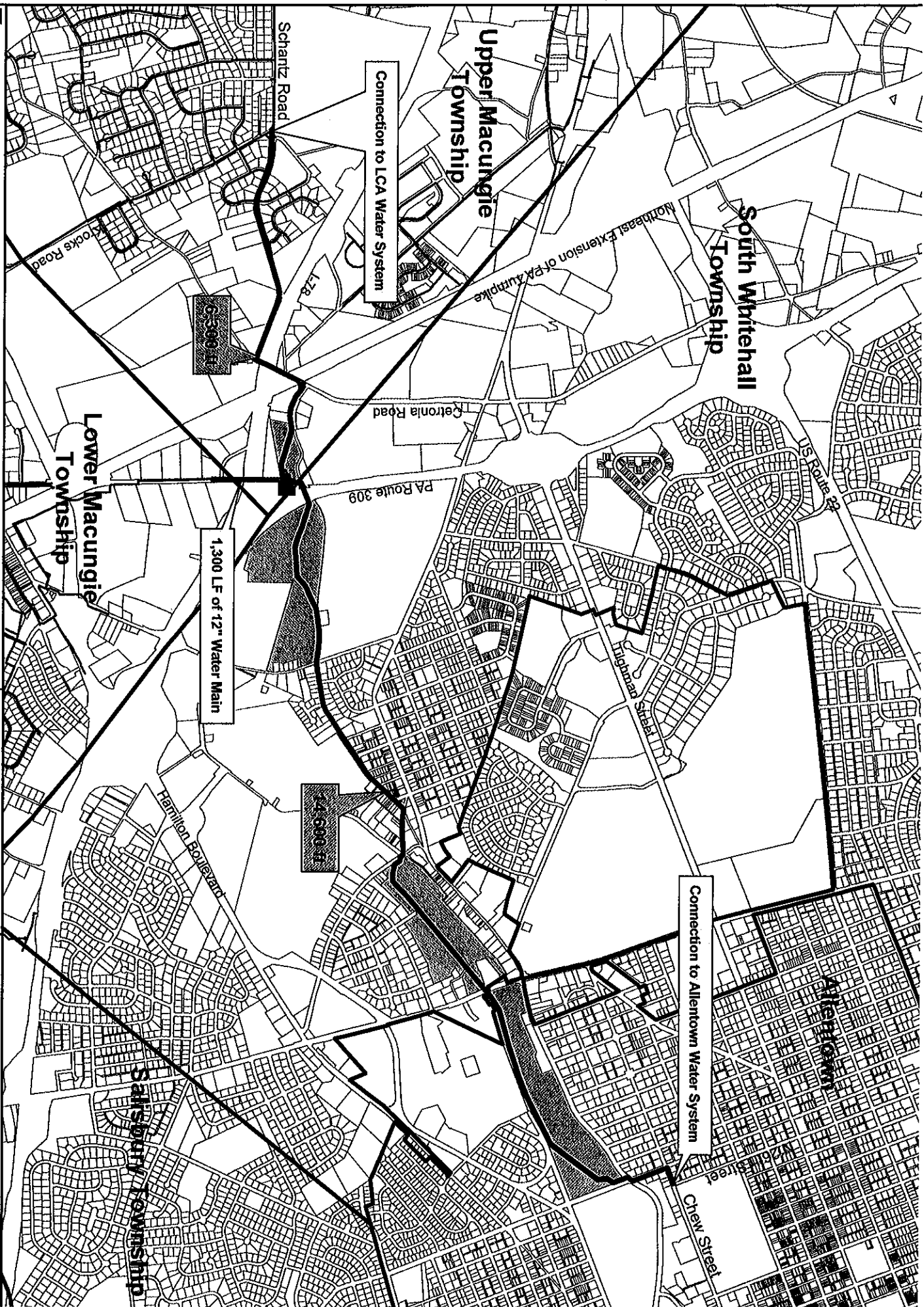
Contact	Permit/Approval	Comment
PA DEP	Public Water System Permit Amendment, NPDES Stormwater Discharge Permit Amendment.	Permit applications have been submitted to PaDEP. The NPDES Permit that is being issued for the Interim Interconnection Facilities will be amended to include the work for this project. Both of these permits will be received shortly.
City of Allentown, South Whitehall Township	Road Occupancy Permits	LCA will obtain Road Occupancy Permits for any construction within City of Allentown and South Whitehall Township roadways.
PennDOT	Highway Occupancy Permit	Highway Occupancy Permits have been obtained for all construction within state highway rights-of-way.
Lehigh County Conservation District	Approval of Soil Erosion and Sedimentation Control Plan	LCCD has approved the Soil Erosion and Sedimentation Control Plan.
PaDEP	General Permit for Utility Stream Crossing	A General Permit (GP-5) has been obtained.
PA DCNR	Affect on threatened or endangered species.	A Phase I study determined that there are no habitats in the project area for bog turtles or spadefoot toads. No Phase II study was required.
PA Historical and Museum Comm.	Affect on historic and cultural resources	PHMC required that a Phase I study be conducted in portions of the project area. Upon review of the Phase I report, PHMC agreed that no further work was necessary to protect cultural or historical artifacts.
Property Owners	Easements	Easements are being obtained from the City of Allentown and the County of Lehigh.

**FINANCING**

The project will be paid for using reserves and new borrowing. Applications were submitted for funding under the H2O PA and PennVEST programs, however no funding was approved

**CONTRACT ARRANGEMENT**

The project was bid as a single construction contract. Because of the possibility of outside funding assistance, the procurement of construction bids met the Disadvantaged Business Enterprises requirements contained in 40 CFR Parts 30 and 31.



**Proposed Facilities**

- Phase 1A Main Extension
- Pumping Station
- Phase 1B (near Schantz Spring)
- Phase 2 Main Extension
- Interim Water Supply Interconnection
- Interim Water Supply Interconnection
- Long Term Water Supply Interconnection

- Existing LCA water mains
- City of Allentown properties
- Lehigh County properties



**Lehigh County Authority & City of Allentown**  
**Water System Interconnection**  
 Upper Macungie Township, South Whitehall Township

**Lehigh County Authority**  
**Summary of Bids Received**  
**LCA-Allentown Water Interconnection, Phase 2**  
**Bid Opening - 1:00 PM      April 18, 2011**

Bidder	Total Bid Price *
<b>Livengood Excavators, Inc.</b> Walnutport, PA	\$ 3,063,473.24
<b>Mazzuca Enterprises Inc.</b> Pottsville, PA	\$ 3,144,625.00
<b>Pioneer Construction Co., Inc.</b> Honesdale, PA	\$ 3,193,577.00
<b>Doli Construction Corporation</b> Chalfont, PA	\$ 3,317,296.00
<b>PACT Construction, Inc.</b> Ringoos, NJ	\$ 3,333,331.00
<b>Michael F. Ronca &amp; Sons, Inc.</b> Bethlehem, PA	\$ 3,583,000.00
<b>Joao &amp; Bradley</b> Bethlehem, PA	\$ 3,583,747.00
<b>N. Abbonizio Contractors, Inc.</b> Conshohocken, PA	\$ 3,585,240.60
<b>Anrich, Inc.</b> Wayne, PA	\$ 3,695,209.00
<b>A. Scott Enterprises</b> Saylorsburg, PA	\$ 3,764,650.50
<b>Marona Construction Co.</b> Colmar, PA	\$ 3,929,620.00
<b>Marks Contracting, Ltd.</b> Lebanon, PA	\$ 4,029,610.00
<b>James T. O'Hara, Inc.</b> Covington Twp., PA	\$ 4,115,530.00
<b>Ankiewicz Enterprises Inc. DBA Grand Prix Excavation</b> Tamaqua, PA	\$ 4,316,710.00
<b>Wexcon, Inc.</b> Mohrsville, PA	\$ 4,468,882.50
<i>Engineer's Estimate</i>	\$ 4,201,215.00

\* Bid prices are preliminary, pending verification.



Lehigh County Authority

1053 Spruce Street \* P.O. Box 3348 \* Allentown, PA 18106-0348  
(610)398-2503 \* FAX (610)398-8413

**PROFESSIONAL SERVICES AUTHORIZATION**

**Professional:**  
Barry Isett & Associates, Inc.  
85 S. Rt. 100 & Kressler Lane  
Trexlerstown, PA 18017-0147

**Date:** May 12, 2011

**Requested By:** M. Barron

**Approvals**

**Department Head:** \_\_\_\_\_

**General Manager:** \_\_\_\_\_

**Description of Services ( Work Scope, Steps, Check Points, etc. ):**

**PROJECT: LCA/City of Allentown Water Interconnection, Phase 2  
Construction Phase Services**

Provide the following engineering services during the construction phase of the LCA/City of Allentown Water Interconnection, Phase 2 project:

Description	Cost
1. Stakeout of pipe alignment. Details of scope are provided in attached proposal of March 4, 2011	\$ 3,385
2. Construction Engineering, including Resident Engineer, Senior Project Engineer, Administrative Support, and reimbursable expenses as detailed in attached proposal of May 12, 2011	\$ 39,484
3. Construction Observation, scope and hour estimate as detailed in the Authority's attached Request for Proposals dated April 11, 2011. Billing rate as proposed in attached letter of May 12, 2011	\$ 90,720
<b>TOTAL</b>	<b>\$ 133,589</b>

**Cost Estimate ( not to be exceeded without further authorization ) : \$133,589**

**Time Table and Completion Deadline :**

Construction contract to be completed within one year of Notice to Proceed

**(For Authority Use Only)**

**Authorization Completion :**

**Approval :** \_\_\_\_\_ **Actual Cost:** \_\_\_\_\_ **Date:** \_\_\_\_\_



# BARRY ISETT & ASSOCIATES, INC.

Consulting Engineers & Surveyors

[www.barryisett.com](http://www.barryisett.com)

85 S. Route 100 & Kressler Lane  
P.O. Box 147  
Trexlerstown, PA 18087-0147

**610 • 398 • 0904**

(FAX: 610 • 481 • 9098)

March 4, 2011

BIA #1033109.000

Mr. Michael A. Barron, P.E.  
Lehigh County Authority  
1053 Spruce Street  
Allentown, PA 18106-0348

Dear Mr. Barron:

**RE: LCA/ALLENTOWN WATER INTERCONNECT**  
Preconstruction Survey Services

Anticipating that we will be bidding this project shortly and construction will hopefully commence in late spring, there is another task that we did not discuss, but which I feel is important to the integrity of the project.

As you and I discussed, we will be requiring the contractor to do field surveys and prepare cut sheets for the entire length of the project to establish accurately the vertical alignments of the pipes. But there is no accurate way to ascertain whether the contractor has located the line within the established easements.

I would propose to do a horizontal survey along the entire length of the project, setting hubs on the centerline of the proposed alignment at each bend or deflection point. The contractor would then use these points to perform his own survey. In this way you would be assured that the entire line would be properly positioned in the easements. This would also give us accurate distances for establishing the lengths of pipe installed, and we could use this for pay quantities.

We would propose to provide this service at a lump sum amount of \$3,885, which would include the field surveys, as well as providing a schematic drawing showing exact lengths and deflection angles.

If, after you have reviewed this proposal and are satisfied with the terms, please sign one copy and return it to us, or send us a revised Professional Services Authorization. I will be glad to meet with you to discuss this in more detail.

We appreciate the opportunity to continue to serve you on this important project.

Very truly yours,



Neal E. Kern, P.E., P.L.S.  
Department Head  
Municipal Engineering Services

Enclosure

ACCEPTED BY:

\_\_\_\_\_  
(sign name)

DATE: \_\_\_\_\_

\_\_\_\_\_  
(print name and title)

# CIVIL/SURVEYING – STANDARD CONTRACT TERMS AND CONDITIONS

## 1. DUTIES AND RESPONSIBILITIES

1.1 Engineer agrees to provide those professional services as agreed to in the scope of services.

## 2. RESTRICTIONS ON USE OF DOCUMENTS

2.1 It is understood that the drawing(s) rendered under this agreement will be prepared in accordance with the agreed scope and will pertain only to the subject project. Use of the drawings, information or data contained therein for other purposes is at user's sole risk and responsibility.

2.2 Client agrees that all documentation including drawings and other work Engineer furnished to Client or Client's agents, which Engineer does not receive compensation for under the terms of this agreement shall remain Engineer's property and shall be returned upon demand and shall not be used for any purpose whatsoever.

2.3 Plans, CADD disks, and specifications, as instruments of service, are and shall remain the property of Engineer, whether the project for which they are intended is executed or not. The plans, CADD disks and specifications shall not be used by Client on other projects, for additions to this project, or for completion of this project by others, except by agreement in writing with the appropriate compensation to Engineer, provided Engineer is not in default under this agreement.

## 3. STANDARD OF CARE

3.1 Services performed by Engineer under the agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession practicing under similar circumstances in the same or similar locality. Our professional services will be performed, our findings will be obtained, and our recommendations prepared in accordance with generally accepted principals of surveying and engineering practice. This warranty is in lieu of all other warranties either expressed or implied.

3.2 Boundary surveys shall be based upon deeds of record and available physical evidence. Unless otherwise specified, Engineer's services do not include research beyond that which is necessary to provide data relative to establishment of boundary lines; rights-of-way, easements, and other matters which may affect the property are specifically excluded except as otherwise provided.

3.3 Plans, drawings, and supporting information required for municipal review shall be prepared in accordance with applicable ordinances and in accordance with Client's instructions. Modifications required by the municipality, or Client shall be made at Client's expense. Due to frequent changes in rules, regulations and interpretations by authorities, Engineer cannot guarantee that any submission will be considered complete or that any agency will issue a permit or approval.

3.4 The location of underground utilities, if shown, shall be based upon surface evidence and/or utility records. Client agrees to advise Engineer of known or suspected underground features or structures which could affect services provided herein, and further agrees to hold Engineer harmless for damages to underground structures where locations are based upon available information, or were not called to Engineer's attention.

## 4. OBSERVATION SERVICES

4.1 If required under the scope of services Engineer will provide personnel to observe and report on specific aspects or phases of construction in accordance with the agreed scope of services. If observational services are required, Engineer's services do not include supervision or direction of the actual work of the contractor, his employees, agents, or subcontractors. Client agrees to notify the contractor accordingly. The contractor shall also be informed by Client that neither the presence of Engineer's field representative nor the observation by Engineer shall excuse the contractor for defects or omissions in his work.

4.2 It is understood that the Engineer shall not be held responsible for any errors or omissions on the part of the contractor, including, but not limited to the contractor's failure to adhere to the plans and specifications regardless of whether or not Engineer is performing observational services. This provision shall be included in the contract between Client and his contractor.

4.3 It is understood that the contractor shall be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work, and that these requirements shall apply continuously and not be limited to normal working hours. Any monitoring of the contractor's performance conducted by our personnel is not intended to include review of the adequacy of the contractor's safety measures in, on or near the construction site.

4.4 Engineer shall not be held responsible for any contractor's failure to observe or comply with the Occupational Health and Safety Act of 1970, and regulations or standards promulgated thereunder, or any state, county, or municipal law or regulation of similar import or intent.

4.5 It is understood that if Engineer's scope of services does not include observation services, then Client assumes all responsibility for interpretation of the Contract Documents and for construction observation, and Client waives any claims against Engineer that may in any way be connected thereto. Client agrees to the fullest extent permitted by law to indemnify and hold harmless Engineer, its officers, directors, employees and consultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising out of or in any way connected with the performance of such services by other persons or entities and from any and all claims arising from modifications, clarifications, interpretations, adjustment or changes made to the Contract Documents to reflect changed field or other conditions.

## 5. TERMINATION, SUSPENSION

5.1 This agreement may be terminated by either party upon written notice. In the event of termination, Engineer shall be paid for services performed to the termination date plus reasonable termination expenses.

5.2 In the event of termination or suspension for more than three (3) months, prior to completion of all services contemplated by the agreement, Engineer may complete such analysis and records as are necessary to complete his files and may also complete a report on the services performed on the date of notice of termination or suspension. The expenses of termination or suspension shall include all costs of Engineer in reporting, completed data, completing such analysis records and reports.

## 6. INVOICES, PAYMENTS

6.1 Engineer will submit invoices to Client monthly and a final invoice upon completion of services. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. Client agrees to pay a service charge of one and one-half (1-1/2) percent per month (18% per annum) or fraction thereof on past due payments under this agreement. If an invoice remains unpaid for a period in excess of sixty (60) days Barry Isatt & Associates, Inc., reserves the right to pursue all appropriate remedies including stopping work and retaining all drawings without recourse.

6.2 Payment to Engineer is a material consideration of this agreement. Therefore, Engineer has a right to suspend services for non-payment. Engineer shall not be liable, nor in any way be responsible for damages, delays or increased costs that may occur as a result of Engineer's suspension of services. Client shall hold harmless, indemnify, and defend Engineer for claims that arise due to any suspension.

6.3 It is further agreed that in the event a lien or suit is filed to enforce payment under this agreement Engineer shall be reimbursed by Client for all court costs and reasonable attorney's fees in addition to accrued service charges.

## 7. DISPUTES

7.1 In the event that Client institutes suit or arbitration against Engineer because of any alleged failure to perform, or for any alleged error, omission, or negligence, and if such suit or arbitration is dropped or dismissed, or if judgment is rendered for Engineer, Client agrees to reimburse Engineer or pay any and all costs and any and all other expense of defense,

immediately following dropping or dismissal of the case or immediately upon judgment being rendered on behalf of Engineer.

## 8. WARRANTY OF AUTHORITY TO SIGN

8.1 The person signing this contract warrants they have authority to sign as, or on behalf of, Client for whom or for whose benefit that Engineer's services are rendered, and also that, if Client is a corporation, that the person signing this contract shall be personally liable, if necessary,

for all monies owed under this agreement. If such person does not have such authority, he agrees that he is personally liable for all breaches of this contract and that in any action against him for breach of such warranty a reasonable attorney fee shall be included in any judgment rendered.

8.2 If a proposal is submitted to Client and Client fails to return a signed copy of the proposal but knowingly allows Engineer to proceed with services, then Client shall be deemed to have accepted the terms of the proposal and these Standard Terms and Conditions.

## 9. CHOICE OF LAW

9.1 This contract shall be construed in accordance with the laws of the Commonwealth of PA.

## 10. SEVERABILITY

10.1 In the event that any provisions herein shall be deemed invalid or unenforceable, the other provisions hereof shall remain in the full force and effect, and binding upon the parties hereto.

## 11. REMEDY

11.1 If the services performed by Engineer are faulty, Client's exclusive remedy shall be for Engineer to re-perform such services to the extent necessary to correct the fault therein without charge to Client or damages limited to those amounts set forth in Warranty, Liability, and Indemnification.

11.2 All claims, disputes, and other matters in question between Engineer and Client, not in excess of \$200,000.00 arising out of or relating to, the contract documents or the breach thereof, shall be resolved as follows:

11.3 A written demand for non-binding mediation, which shall specify in detail the facts of the dispute, and within ten (10) days from the date of delivery of the demand, shall be submitted to "Judicate Headquartered in Philadelphia." The mediator's fee shall be shared equally by the parties. If the dispute has not been resolved by mediation, the matter shall then be submitted to arbitration in accordance with paragraph 11.5.

11.4 No mediation, arbitration, arising out of or relating to this agreement, shall include, by consolidation, joinder or in any other manner, any additional person not a party to this agreement except by written consent containing a specific reference to this agreement, and signed by Engineer, Client, and any other person sought to be joined. Any consent to mediation, arbitration involving an additional person or persons shall not constitute consent to mediation, arbitration of any dispute not described herein. This agreement to mediate, arbitrate (and any agreement to mediate, arbitrate) with an additional person or persons duly consented to by the parties to this agreement shall be specifically enforceable under the prevailing mediation, arbitration law.

11.5 Any dispute between the parties that is to be resolved by arbitration shall be settled and decided by arbitration conducted by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, as then in effect. Any such arbitration shall be held and conducted in Trenton, PA. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. The award rendered by the arbitrators shall be final and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

## 12. VALIDITY

12.1 It is understood that this agreement is valid for a period of sixty (60) days after which time, if it is not rejected by Client, Engineer reserves the right to revise or withdraw this agreement.

## 13. CHANGES IN THE WORK

13.1 The stated total fee constitutes Engineer's estimate of the effort required to complete the project as Engineer understands it to be defined. For those projects involving conceptual or process development work, activities often are not fully definable in the initial planning. In any event, as the project progresses, the facts developed may dictate a change in direction, additional effort, or suspension of effort, which may alter the scope. Engineer will inform Client of such situations so that negotiations or change in scope and adjustments to the time of performance can be accomplished as required. If such change, additional effort, or suspension of effort results in an increase or decrease in the cost of or time required for performance of the services, whether or not changed by any order, an equitable adjustment shall be made and the agreement modified accordingly.

## 14. WARRANTY, LIABILITY, AND INDEMNIFICATION

14.1 Engineer's liability for damages due to error, omission or professional negligence shall be limited to the amount not to exceed \$50,000.00 or Engineer's fee, whichever is less. If Client prefers not to limit Engineer's professional liability to this sum, Engineer will waive this limitation upon Client's request provided that Client agrees to pay an additional consideration for this waiver, prior to commencement of services.

14.2 Client agrees at their/its sole cost and expense to indemnify, defend and hold harmless, Engineer, its subsidiaries, affiliates, officers, employees, and consultants or such other who may have assisted Engineer in the rendering of its services in connection with the project from and against, for any in respect of, and all claims, liabilities, costs, and expenses, including, but without limitation, reasonable attorney's fees and other costs and expenses incident to any claim, demand, suit actions, suffered, sustained or require to be paid by Engineer as a result of any claims, demands or legal proceedings which may be asserted by any party other than Client and in any way relates to any act or error, omission, negligence, carelessness or breach of duty, contractual or otherwise on the part of Engineer in connection with the project. In the event Client is required to defend Engineer under the last paragraph, Engineer shall have the right to counsel of its own choosing.

14.3 Client agrees to be entirely liable for providing any/all contractors working on this project with the latest revisions of all plans.

14.4 Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither Client nor Engineer, their respective officers, directors, partners, employees, contractors or subcontractants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the Project or to this Agreement. This mutual waiver of consequential damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation and any other consequential damages that either party may have incurred from any cause of action including negligence, strict liability, breach of contract and breach of strict or implied warranty. Both Client and Engineer shall require similar waivers of consequential damages protecting all the entities or persons named herein in all contracts and subcontracts with others involved in this project.





# BARRY ISETT & ASSOCIATES, INC.

Consulting Engineers & Surveyors

www.barryisett.com

85 S. Route 100 & Kressler Lane  
P.O. Box 147  
Trexlerstown, PA 18087-0147

**610 • 398 • 0904**

(FAX: 610 • 481 • 9098)

May 12, 2011  
BIA #1033109.000

Mr. Michael A. Barron, P.E.  
Lehigh County Authority  
1053 Spruce Street  
Allentown, PA 18106-0348

Dear Mr. Barron:

**RE: LCA/ALLENTOWN WATER INTERCONNECT PHASE 2**  
Construction Engineering & Inspection Services

As a follow-up to our recent e-mail exchange, we are pleased to furnish this proposal for Construction Engineering and Inspection Services for the upcoming construction of the 24" water transmission main between 26<sup>th</sup> and Chew Streets in Allentown and Schantz Spring in Upper Macungie Township.

We would propose four positions as follows:

1. **Resident Engineer (part time)** – This position would involve the overall responsibility for the construction administration duties associated with a project of this magnitude such as: conduct the preconstruction meeting and prepare minutes of same; conduct biweekly construction meetings with minutes; serve as liaison between LCA and third parties such as the City of Allentown, South Whitehall Township, Lehigh County, LCCD, PA DEP and PennDOT; provide decisions regarding changes that may be required due to unforeseen field conditions; coordinate change orders; review and approve contractors cut sheets; review and approve contractors monthly pay estimates; coordinate final walk through and issue final punchlist; coordinate issuing of substantial and final completion certification

I would suggest an average of eight hours per week for such a position. I would submit myself for that position. During my 40+ year career, I have been involved in the construction phase of numerous utility projects, including the 30" transmission main that we will be tying into. I was the full time Resident Engineer for two full years for the borough-wide sanitary sewer project for the Borough of Coopersburg, a project consisting of over 100,000 L.F. of sewers.

Another advantage is that I have already established a good rapport with the third parties mentioned above, which should prove useful should any problems arise.

2. **Senior Project Engineer** - This position would handle many of the administrative functions during construction such as review of bonds and insurance, creating and coordinating the information required for three additional project manuals that would include addenda, signed agreements and bonds and insurance, providing additional copies of the plans and specifications to the contractor; review, approval and distribution of catalog cuts/shop drawings/material certifications, processing approved change orders, coordinating project close-out documents, coordinating project notes into a final set of as-built plans into AutoCAD, furnishing LCA with AutoCAD and PDF versions of record drawings, and other miscellaneous administrative tasks requested by the Resident Engineer or LCA. Mr. Harry Garman of our office will handle most of these tasks.
3. **Construction Inspector** - This position would be full time when contractor operations dictate, and would involve observing the contractor's operations on a daily basis, making sure the pipe is bedded properly, that the backfill has been properly compacted, providing daily measurements of the pipe and other materials installed, making sure that utilities that are crossed under are properly coordinated, and other items associated with the project site at the end of the work day.  
  
We would propose to use Al Moore for this position. Al was an inspector for me on the Coopersburg project mentioned above. He also worked for the City of Allentown in the Water Department as a construction inspector specifically inspecting water lines. He served in that position for over 28 years, and is well qualified for this position.
4. **Project Support** - This would be an administration position preparing and distributing meeting minutes and correspondence, compiling project manuals, and other administrative tasks.

### COMPENSATION

The total budget for these tasks is based on the following: average of 150 feet per day of pipe installation, two weeks for testing and disinfection, and 60 work days for restoration and paving. Based on those assumptions and the figure in your RFP of 1,440 hours, we propose the following staffing:

#### Construction Engineering & Administrative

Resident Engineer – 288 hrs. x \$98/hr.	\$ 28,224.00
Senior Project Engineer – 60 hrs. x \$115/hr.	\$ 6,900.00
Project Administrative Support – 80 hrs. x \$42/hr.	<u>\$ 3,360.00</u>
	\$ 38,484.00

#### Construction Inspection

Inspector – 1,440 hrs. x \$63/hr.	\$ 90,720.00
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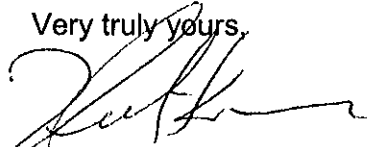
**TOTAL:** **\$129,204.00**

Additionally, we would propose an estimated budget amount of \$1,000.00 for reimbursables, which would include long distance mileage (but not local mileage), printing for additional plans and specs (but not routine reproductions such as daily or monthly reports), special

postage for large packages or overnight delivery (but not routine mailings), printing and assembling additional project manuals and compilation of electronic data onto a disk.

We believe this staffing pattern will provide exceptional and professional coverage to protect the Authority's interests, but we are flexible and will be glad to discuss other options with you in more detail. Please note that these are significantly reduced rates just for this project, as we feel it is a win-win situation for LCA and BIA to continue our relationship on this project. For comparison, my normal rate is \$155/hr; our normal rate for a construction inspector is \$80/hr; and our regular rate for project support (admin) is \$47/hr.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Neal E. Kern', written over a horizontal line.

Neal E. Kern, P.E., P.L.S.  
Department Head  
Municipal Engineering Services

**LCA-Allentown Water Interconnection, Phase 2**

**Scope: Construction Observation**

**A. TASKS**

1. Attend pre-construction meeting and monthly progress meetings.
2. Act as on-site liaison with contractors for Authority and Construction Engineer (*Barry Isett & Associates*). Obtain clarifications from Construction Engineer, as required, and assist contractors in understanding intent of contract documents.
3. Act as on-site liaison with local and State regulatory staff. Accompany visiting regulatory personnel on site visits. Notify Authority and Construction Engineer of such visits.
4. Act as on-site liaison with property owners along the project route, answering questions, as required.
5. Review and maintain copies of executed shop drawings at work site and verify installation of approved materials. Identify any discrepancies in installed materials with approved shop drawings to Construction Engineer.
6. Conduct on-site observations of work in progress to assist in determining if work is proceeding in accordance with contract documents and project schedule.
7. Observe any sampling for material testing by contractor or third-parties. Observe on-site testing, including testing by third parties. Maintain copies of testing reports
8. Submit observation reports to Construction Engineer and Authority. Reports shall include summary of construction equipment and manpower used, testing performed, problems observed and any other relevant information.
9. Maintain digital photographic record of work in progress. Submit photos weekly (JPEG files via e-mail) to Construction Engineer and Authority
10. Review monthly payment applications with contractors to determine whether the application is appropriate for approval, relative to schedule of values. Provide Construction Engineer the approved quantities for monthly payment applications.
11. Maintain mark-up set of plans on-site as record drawings. Review Contractor's set of as-built plans for completeness during contract closeout.
12. Maintain list of punchlist items to be completed. Participate in Substantial Completion and Final Completion walk-throughs.

**B. SCHEDULE**

1. The contract requires Substantially Completion within 10 months from the Authority's issuance of a Notice to Proceed. Final Completion is expected within 60 days of Substantial Completion.
2. 1,440 hours of construction observation are estimated to be needed for the project:
  - 4 weeks @ 10 hours per week during mobilization
  - 20 weeks @ 40 hours per week during pipelaying
  - 2 weeks @ 40 hours per week during disinfection and testing
  - 12 weeks @ 40 hours per week during restoration and paving
  - 4 weeks @ 10 hours per week during punchlist completion