



# LEHIGH COUNTY AUTHORITY

June 24, 2013

## BOARD MEETING AGENDA

1. Call to Order
2. Review of Agenda
  - *Public Participation Sign-In Request*
3. Executive Sessions
4. Approval of Minutes (TO BE SENT UNDER SEPARATE COVER)
  - *April 8, 2013 Workshop Meeting*
  - *April 22, 2013 Regular Meeting*
  - *May 13, 2013 Workshop Meeting*
  - *May 28, 2013 Regular Meeting*
5. Public Comments
6. Action / Discussion Items

### FINANCE AND ADMINISTRATION

- *2012 Financial Statements and Independent Auditor's Report (Acceptance)*
- *Resolution 6-2013-1 – National Penn Bank Transactions (Approval)*
- *Wastewater Capital Recovery Fees (Approval)*

### WATER

- *None*

### WASTEWATER

- *Wynnewood Terrace Pump Station and Main Replacement (Approval)*

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

### JUNE MEETINGS

Workshop Meeting  
Board Meeting

July 8 – 12:00 p.m.  
July 22 – 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. 2012 Financial Statements and Independent Auditors' Report (Statements)  
(Acceptance)**

A presentation will be made by the Authority's Auditor, Zelenkofske Axelrod. The Statements were previously sent under separate cover.

**2. Resolution 6-2013-1 – National Penn Bank Transactions (Approval)**

A resolution is needed to designate Authority employees that are authorized to execute transactions with National Penn Bank on a recently opened account (**green**).

**3. Wastewater Capital Recovery Fees (Approval)**

Attached (**pink**) is the summary of existing fees, recommended changes and supporting detail. The staff recommends approval of the new fees effective July 1, 2013.

**DISCUSSION ITEMS**

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1. *None.*

**INFORMATION ITEMS**

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1. *None.*

**WATER**

**ACTION ITEMS**

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1. *None*

**DISCUSSION ITEMS**

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1. *None.*

**INFORMATION ITEMS**

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1. **Phase 2 Interconnection with Allentown**

Livengood Excavators continues to address several punch-list items. ***No Current Activity***

2. **Water Main Replacement Project – Oakland Park**

Final paving, lawn and driveway restoration was completed in early June. Final project closeout is still expected by June 30.

3. **Arcadia West Pumping Station Modifications**

T&M Associates submitted revised pre-final plans and specifications for our review in preparation for bidding. T&M Associates estimates that the general and electrical contracts will total \$863,000. Public Water Supply Construction Permit No. 3912505 was issued by the Department of Environmental Protection (DEP) on March 18, 2013.

4. **Upper Milford Central Division Radon Mitigation Study**

Board authorized this project in June and our consultant Cowan Associates (CA) is currently evaluating the existing wells in the Upper Milford Central Division (aka Buss Acres). A Draft report was received in late December and a Draft Final report was received in early April. The final report is currently being reviewed by LCA staff. The report findings will be presented to the Board later this year.

5. **LCA Facilities Emergency Power Project**

The Board authorized the construction phase of this project at the April 8, 2013, Work Shop meeting. Notices of Award were issued on April 9, 2013 to Barry J. Hoffman Co., Inc. – Electrical Construction and Lisbon – General Construction. All required documentation from the contractors has been received and Notices to Proceed (NTP) were issued on May 20, 2013. A pre-construction meeting was held on June 11, 2013. Construction is expected to start the week of June 16, 2013. The Agreement requires substantial completion of the project no later November 16, 2013

6. **Developments**

Water system construction is occurring at the following developments:

- Trexler Fields, Phases 2, 3, 4 & 5 (Partial), 28 residential lots (sfa & sfd), 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 four years.*)

Water system plans are being reviewed for the following developments:

- Above & Beyond (personal care facility), 2 commercial lots, UMT
- Diocesan Pastoral Center, 2 commercial lots, 3 additional lots and residual lot for existing cemetery, LMT

Grant Street Townes, 18 residential lots (sfa), WashT  
Hamilton Crossings, 2 commercial lots with 20 buildings having retail, financial, convenience and restaurant uses, 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  
Lehigh Hills, 247 residential lots (sfa/sfd), UMT  
Liberty at Mill Creek, 2 industrial lots, UMT  
Morgan Hills, 40 residential lots (sfd), WeisT, water and sewer  
North Whitehall Commercial Center (Walmart), 5 commercial lots, NWT, water and sewer  
Rabenold Farms II, 288 apartment units and clubhouse, (Portion north of I-78), UMT  
Route 100 Bypass & Cetronia Road Proposed Commercial Development, 1 commercial lot with 4 buildings having auto, convenience, financial and day care uses, UMT  
Shepherd's Corner, 1 commercial lot, LMT  
Spring Creek Properties Subdivision I, 14 commercial and industrial lots, LMT  
Trexler Business Center, Lot 1, 1 commercial building, LMT  
Trexler Senior Living Center, 1 commercial lot, LMT  
Weilers Road Twins, 82 residential lots (sfa), UMT  
West Hills Business Center, 8 industrial lots, WeisT  
Woodmere Estates, 60 residential units (sfd), UMT

## WASTEWATER

### ACTION ITEMS

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**1. Wynnewood Terrace Pump Station & Force Main Replacement**

Staff recommends approval of design, permitting and bidding for replacing the existing 4-inch force main with new 6-inch pipe. Attached is a memo detailing the project and, for approval, is an amendment to the capital project.

As part of the previously approved work, Cowan Associates, Incorporated (CA) evaluated the existing aged force main resulting in a recommendation to replace the line with a new 6-inch line. The existing line is not capable of handling the peak flow requirements of the proposed new pump station. In addition, this line has experienced a number of failures, the most recent in April 2013, resulting in a Sanitary Sewer Overflow. Because access to the line is difficult, the proposed line will be constructed within public right-of-way (*tan*).

### DISCUSSION ITEMS

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1. None.

### INFORMATION ITEMS

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

The following is work planned for 2013:

- Submission of reports to EPA and DEP.
- CCTV work in areas identified as have high leakage to determine the extent of the leakage. Malcolm Pirnie will review the CCTV video and determine a Basis of Rehab.
- Keystone Consulting Engineers (KCE) is generating the population projections for the LCA service area to be used in the Level of Service modeling.
- Completion of the Level of Service Modeling for future growth.
- Rehab effectiveness metering in Phase 1 pipe lining project areas to determine the reduction in peak flows as a result of the rehab work.
- Phase 2 of Signatory pipe lining projects as determined by KCE.
- Rehab effectiveness metering in Phase 2 pipe lining project areas.
- Alternative Modeling and feasibility analysis to evaluate the various alternatives to achieve the preliminary objectives. The alternatives will include various combinations of I & I elimination, storage and capacity increases.
- Long term flow meters will continue on a limited basis. Two rain gauges and meters remain in the system.
- Preliminary Program Objectives Evaluation Report will be submitted to DEP by the end of 2013. This document will define the current system performance and assess what it will take to achieve the system preliminary objectives. The report will include a discussion of the investigation and evaluation work completed including flow evaluation, SSES prioritization, modeling, current and future level of service, current and future system sizing requirements, and will propose the Level of Control for system operation.

- The development of the Capital Improvements Plan is scheduled to begin by the end of the year. This will identify the rehab needs, replacement needs, expansion requirements, costs of improvements and schedule for implementation to achieve the program objectives. **No Current Activity.**

## 2. **Wastewater Treatment Capacity**

The Memo of Understanding (MOU) regarding working together on a joint Act 537 Plan with the City has not been received to date.

A Communications Plan was developed by the consultant with input from LCA and the City. A stakeholder's group has been formed and the kick-off meeting was held in mid-January at the Lehigh County Administration Building. The stakeholders Advisory Committee (SAC) consists of either Municipal Managers or Municipal Officials from each of the City and LCA Signatories. It is expected that there will be 5 meetings with the SAC during the Study to keep the Committee up to date on Plan with the expectation that the adoption of the plan with the various Signatories will be completed in a short period of time.

Talks continue with DEP on the effluent standards applicable to a discharge to the Jordan Creek. A meeting was held with DEP in late May to discuss the Jordan Creek discharge. DEP indicated water quality standards will be applicable to the plant effluent. We are requesting Reuse Standards which are less stringent. We have since received a letter from DEP with the specific requirements for performing a study of the Jordan Creek that must be completed prior to the issuance of effluent standards.

LCA purchased 100,000 gallons of allocation from Salisbury Township at \$6.00 per gallon. The Authority's Solicitor reviewed the language in the Authority's Act restricting the sale of capacity to the cost the seller charges to their residential customers. His finding is that the sale of the allocation is grandfathered under the provisions of (v) in the Authority's Act because the acquisition of the allocation was pursuant the 1981 City Agreement.

## 3. **Northern Lehigh Wastewater System**

The project is composed of the following:

### **Wastewater Treatment Plant (on a 5-acre tract at KidsPeace)**

In March, LCA representatives met with North Whitehall Township (NTW) Supervisor, Steve Pany; Solicitor, Lisa Young; and Township Manager, Jeff Bartlett to discuss the Act 537 Plan. In summary, for the westside of Rt. 309 (the 1-5 year service area) LCA has agreed to limit the size of the Wastewater Treatment Plant (WTP) to 200,000 GPD which in essence reflects the need for this area. Any expansion beyond 200,000 GPD would require NWT approval.

September 18, 2012, after six months of hearings, the Supervisors granted approval of the Conditional Use for the proposed WTP with nine conditions. We have received the written decision from the Township and have accepted all conditions. In late November 2012 the opposition, the Friends of the Jordan, appealed the Township decision to Lehigh County Court of Common Pleas. Legal Briefs were filed by the Friends of the Jordan, NWT and LCA. Argument took place on Wednesday May 29, 2013 with Judge Edward Reibman presiding. On June 5, 2013 the Court ordered "*that the decision of the NWT Board of Supervisors dated October 23, 2012 is hereby reaffirmed*"

The total cost of the WTP including soft costs and KidsPeace acquisition costs is estimated at \$4.69 million.

### **Offsite Conveyance Facilities (OSCF)**

Wal-Mart has stopped 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 until a cost sharing agreement is reached with LCA. Wal-Mart has proposed that LCA assume the responsibility of designing, permitting and constructing the OSCF, which is a change from the previous plan where Wal-Mart had the responsibility. Ongoing cost-sharing negotiations are still on hold while Wal-Mart internally reevaluates the proposed store's financial viability. **No current activity.**

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

**Kids Peace Agreement**

A revised amendment to the Agreement has been sent to KidsPeace. It primarily focuses the financial impact on the Jordan Creek Wastewater system because of KidsPeace's sale of the 101 Acre parcel to Lehigh Carbon-Community College (LCCC). The 101 Acre parcel was an integral economic component for LCA in the 2006 Agreement. **No current activity.**

**Act 537 Plan (Plan) Revision**

NWT continues to work on developing an alternate a solution for the wastewater treatment needs for a revised 1-5 year service area which would include a WTP located on the eastside of Route 309 that would discharge to the Coplay Creek. LCA has agreed to provide support and expertise. Recent discussions with NWT indicate that the Pennsylvania Department of Environmental Resources (PADEP) has agreed to allow data from the on-site sewer system evaluations and water testing conducted for the current Plan to be used for any Plan revisions. NWT has requested preliminary wastewater effluent discharge standards from DEP and has met with the Delaware River Basin Commission (DRBC) to discuss water quality modeling requirements for a discharge on the Coplay Creek. A conceptual short term service area collector system layout has also been developed. **No current activity.**

**4. Arcadia West WWTP Improvements**

Construction activity continues at the site. The new concrete tanks are constructed and tested. Groundbreaking for the building substructure begins the week of June 17. The project is currently on schedule. The total project cost estimate is \$3,502,300.

**5. Wynnewood Terrace Pump Station & Force Main Replacement**

Staff has completed review of the Preliminary Technical Memorandum and returned comments to our consultant Cowan Associates, Incorporated (CA). Design work is proceeding on a below grade self-contained pump station with submersible pumps, as recommended by the memorandum.

**6. Park Pump Station Improvements**

Fuel Tank Replacement – Staff has received and is reviewing the final specifications and plans for replacement of the fuel tank at the Park Pump Station. We expect to place the work to bid by the end of June and award the work at the July Board Meeting.

**7. LCA WTP- Truck Waste Receiving Station**

**Truck Waste Receiving Station (TWRS):**

The Board awarded the General and Electrical construction contracts at the January workshop meeting. The contractors have returned the construction Agreements for our execution. Notices to Proceed (NTP) to the respective contractors were issued on February 26, 2013 and a pre-construction meeting was held on March 7, 2013. Construction is underway; the Agreement requires substantial completion of the facility no later than 270 days from the date of the NTP.

*Digester Mixer Replacements:*

Notice to Proceed for the Construction Phase of the project was issued to both the General and Electrical contractors on October 8, 2012. Electrical construction work is approximately 75% complete, as most of it could be accomplished without draining the digesters. The General contractor has completed the installation of mixers in the first digester. After this digester is put back in service, the 2<sup>nd</sup> digester will be drained and mixers installed. As a note; the mixers will be installed one digester at a time, as it is necessary to always have two digesters operating. Assuming no major difficulty in draining the remaining digesters we expect the project will be completed in the 1<sup>st</sup> quarter of 2014.

*PPL E-Power Customizable Energy Program:*

Applications have been submitted for energy savings rebates and verification methodologies for both the Digester Mixer Replacements and Truck Waste Receiving Station. We are awaiting PPL approval of the methodologies for verifying electrical savings. ***No current activity.***

**8. *Vera Cruz Area Sewer Project***

All construction for this project was completed in 2012. Staff is working with contractors, suppliers and professional services to close out all documentation required by the funding agencies. All but 6 connections have been completed. The application to EPA for final release of retainage, (\$145,500.00) was sent on June 17, 2013.



# **RESOLUTION No. 6-2013-1**

(Duly adopted 10 June 2013)

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## ***A RESOLUTION DESIGNATING PERSONS APPROVED TO EXECUTE TRANSACTIONS AND PERFORM OTHER FUNCTIONS ON BEHALF OF THE AUTHORITY WITH NATIONAL PENN BANK***

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WHEREAS, Lehigh County Authority (hereinafter the "Authority") has established accounts with National Penn Bank (the "Bank"), including recently Account #218110553 as a debt service reserve account in regard to the Authority's Loan No. 27849 with the Pennsylvania Infrastructure Investment Authority ("PennVEST"); and

WHEREAS, the Bank desires to establish the designated person to perform functions related to these accounts; and

NOW THEREFORE, it shall be resolved that:

1. A any one (1 of the 4) of the following persons is authorized as set forth in this resolution ("Authorizing Party"):

- Liesel M. Adam
- Aurel M. Arndt
- Edward J. Bielarski Jr.
- Frank J. Leist

2. The Authorized Party is authorized and empowered to perform any one or more of the following actions for and on behalf of the Authority and on such terms and conditions as such Authorized Party may deem advisable in his/her sole discretion:

- (a) Open and maintain any safe deposit boxes, lockboxes and escrow, savings, checking, depository, or other accounts with the Bank;
- (b) Assign, negotiate, endorse and deposit in and to such boxes and accounts any checks, drafts, notes, and other instruments and funds payable to or belonging to the Authority;
- (c) Withdraw any funds or draw, sign and deliver in the name of the Authority any check or draft against funds of the Authority accounts in such boxes or accounts;
- (d) Implement additional depository and funds transfer services (including, but not limited to, facsimile signature authorizations, wire transfer agreements, night depository agreements, automated clearinghouse agreements, and payroll deposit programs);
- (e) Endorse to the Bank any checks, drafts, notes, or other instruments payable to the Authority;
- (f) Appoint the Bank as attorney-in-fact for any purpose (including, but not limited to, endorsing any checks, drafts, notes or other instruments payable to the Authority);

- (g) Execute any document (including, but not limited to, facsimile signature, authorization agreements, wire transfer agreements, automated clearinghouse agreements, powers of attorney, and waivers) and take any action on behalf of the Authority to carry out the terms of these resolutions and the documents set forth herein; and
- (h) Designate from time to time the person or persons to receive from the Bank any and all cancelled checks and/or statements of account.

3. The endorsement of items for deposit may be by the written or stamped endorsement of the Authority without designation of the person making endorsement.

4. The authority and power of any Authorized Party as provided in this resolution will continue in full force and effect until the Board of Directors adopts a resolution or takes other action amending, modifying or revoking one or more of the preceding resolutions and a certified copy of the properly executed resolution is actually received by the Bank.

5. The Secretary, Assistant Secretary or Solicitor of the Authority is authorized from time to time to certify the adoption of the foregoing resolutions to the Bank, the continuing effect of these resolutions, and the incumbency of the various parties authorized to exercise the rights in these resolutions.

6. The undersigned Secretary certifies that the following persons are duly elected officials or otherwise authorized to act on behalf of the Authority in the capacities set forth below and that the following original signatures are genuine in all respects:

**AUTHORIZED PARTIES**

<i>Name of Authority Employee</i>	<i>Title/Position</i>	<i>Specimen Signature</i>
Aurel M. Arndt	General Manager	
Edward J Bielarski	Chief Financial Officer	
Frank Leist	Capital Works Manager	
Liesel Adam	Customer Care & Communications Manager	

On motion of \_\_\_\_\_, seconded by \_\_\_\_\_, this Resolution was adopted the 10<sup>th</sup> day of June 2013.

❧ ❧

I, Richard H. Bohner, Secretary of Lehigh County Authority, do hereby certify that the foregoing is a true, correct and complete copy of a resolution which was duly adopted by the Authority at a public meeting of the Authority held on 10 June 2013, after notice thereof had been duly given as required by law, at which meeting a quorum was present and voting and which resolution No. 6-2013-1 is now in full force and effect on the date of this certification.

\_\_\_\_\_  
Richard H. Bohner, Secretary

**LEHIGH COUNTY AUTHORITY**  
**ANNUAL SUMMARY OF TAPPING, CONNECTION AND CUSTOMER FACILITIES FEES**  
**WASTEWATER FUND**  
**EFFECTIVE 7/1/13**

Exhibit	Charge	Per Gallon			Per EDU			(3) Gallons per EDU	Costing Method
		Existing Charge	Maximum Charge	New Charge	Existing Charge	Maximum Charge	New Charge		
<b>Interceptor System:</b>									
A	Wastewater Capacity	\$ 4.98	\$ 5.35	\$ 5.35	\$ 1,110.54	\$ 1,193.05	1,193	223	Historical Trended Cost
B	Western Lehigh Interceptor	2.40	2.53	2.53	535.20	564.19	564	223	Historical Trended Cost
C	Little Lehigh Relief Interceptor	0.87	0.91	0.91	194.01	202.93	203	223	Historical Trended Cost
	Total Western Lehigh Service Area	8.25	8.79	8.79	1,839.75	1,960.17	1,960		
<b>Upper Milford Collector System:</b>									
D	Collection Part	10.25	10.35	10.35	2,408.75	2,432.25	2,432	235	Historical Trended Cost
D	Capacity Part	1.92	1.93	1.93	575.75	453.55	454	235	Historical Trended Cost
D	Capacity Part - Other	0.53	0.55	0.55	124.55	129.25	129	235	Historical plus Financing Costs
D	Capacity Part - Lower Macungie	2.19	2.24	2.24	523.41	535.36	535	239	Historical Trended Cost
<b>Heidelberg Heights Collector System:</b>									
E	Collection Part	1.49	2.71	1.64	359.09	653.11	395	241	Historical Trended Cost
E	Capacity Part	9.45	14.71	10.40	2,277.45	3,545.11	2,506	241	Historical Trended Cost
	Total Heidelberg Heights	10.94	17.42	12.04	2,636.54	4,198.22	2,901		
<b>Wynnewood Terrace Collector System:</b>									
F	Collection Part	9.38	9.59	9.59	2,260.58	2,311.19	2,311	241	Historical Trended Cost
F	Capacity Part	5.71	5.84	5.84	1,376.11	1,407.44	1,407	241	Historical Trended Cost
	Total Wynnewood Terrace	15.09	15.43	15.43	3,636.69	3,718.63	3,718		
<b>Sand Spring Collector System:</b>									
G	Collection Part	2.30	2.35	2.35	554.30	566.35	566	241	Historical Trended Cost
G	Capacity Part	3.43	3.50	3.50	826.63	843.50	844	241	Historical Trended Cost
	Total Sand Spring	5.73	5.85	5.85	1,380.93	1,409.85	1,410		
<b>Western Weisenberg System:</b>									
<b>Arcadia West Direct Connections:</b>									
H	Reimbursement Part (1)	68.35	71.77	71.77	17,941.88	18,839.63	18,840	262.5	Historical Trended Cost
H	Collection Part	2.26	2.31	2.31	593.25	606.38	606	262.5	Historical Trended Cost
	Total Western Weisenberg System	70.61	74.08	74.08	18,535.13	19,446.00	19,446		
<b>Western Weisenberg Treatment Plant: (2)</b>									
J	Capacity Part	28.90	76.67	36.00	7,586.25	20,125.88	9,450	262.5	Future Costs

(1) By agreement with Arcadia, this fee only applies to the remaining 5.57 Edu's still available for connections in the Arcadia West Commercial area.  
(2) A new customer connecting directly to the Western Weisenberg System and not contributing a collector line would pay the Arcadia Collector reimbursement fee, the Capacity Reimbursement fee, the Collection part and Western Weisenberg Treatment Plant Capacity fees (\$99.51/gallon).  
A new customer contributing a collector line and not connecting directly to the Arcadia System would only pay the Western Weisenberg Capacity fee.  
(3) The gallons per EDU figure to calculate the per gallon rate has changed with the 2010 census data but the amount sold per EDU remains at 223 gpd.

**EXHIBIT A  
2013 CAPITAL RECOVERY FEES  
WASTEWATER TREATMENT CAPACITY**

	General Pool	(A) Salisbury Portion	Blended Total
Capacity Cost (6/2009 Purchase)	\$ 1,152,500	\$ 600,000	\$ 1,752,500
ENR Index Increase	1.105619025	-	
Trended Capacity Cost	\$ 1,274,226	\$ 600,000	\$ 1,874,226
Capacity in Gallons	250,000	100,000	350,000
Calculated Charge per Gallon	\$ 5.10	\$	5.35
Current charge per Gallon	\$ 4.98		
<b>Calculation of Gallons per Household:</b>			
2010 Census figure per Household - Lehigh County	2.54		2.54
# of Gallons per day per Capita	90		90
Gallons per EDU	229		229
Charge per EDU (223 gals)	\$ 1,167.90	\$	\$ 1,225.15
Current Charge per EDU	1,110.54		

**(A) Allocation purchased on 4/18/13 at \$6.00 per gallon.**

	General	Salisbury
ENR Index June 2009 (Last Purchase Date)	8,578	9,484
ENR Index Salisbury (5/18/13)	9,484	9,484
ENR Index April 2013		10.56%

**EXHIBIT B**  
**2013 CAPITAL RECOVERY FEES**  
**WESTERN LEHIGH INTERCEPTOR**  
**CAPACITY PART**  
**TRENDING COST METHOD**

	(A) Original Interceptor	(B) Phase II, Stg 1	(C) Phase II, Stage 2	(D) Phase II, Stage 4	(E) Flow Equaliz. Basin	Total System
Project Costs	\$ 5,215,326	\$ 884,097	\$ 6,044,664	\$ 3,327,473	\$ 5,495,586	\$20,967,146
Contributions/Grants	(2,536,420)	-	-	-	-	(2,536,420)
	2,678,906	884,097	6,044,664	3,327,473	5,495,586	18,430,726
Trend Factor (H)	5.6419	1.9754	1.6206	1.2580	1.0594	
Trended Value	15,114,066	1,746,464	9,796,239	4,185,934	5,822,178	30,842,703
Outstanding Debt (F)	-	-	(619,194)	-	(4,813,531)	(5,432,725)
Cost Basis	15,114,066	1,746,464	9,177,045	4,185,934	1,008,647	25,409,978
System Capacity (Avg Daily Flow)	7,023,000			3,040,000		10,063,000
<b>Maximum Charge per gallon</b>						<b>\$ 2.53</b>
<b>Rounded Charge per gallon</b>						<b>\$ 2.53</b>
<b>Calculation of Gallons per Household:</b>						
Census figure per Household - Lehigh County						2.54
# of Gallons per day per Capita						90
Gallons per EDU						229
<b>Maximum Charge per EDU</b>						<b>\$ 579.37</b>

- (A) Substantial completion 1/1/72.
- (B) Substantial completion 5/1991.
- (C) Spring Creek PS and Force Main - Substantial completion 1/1/98. No capacity added by this project due to downstream limitations.
- (D) Substantial completion 9/1/05. System Capacity is 7 mgd / 2.3 peaking factor.
- (E) Includes actual costs through 12/31/12. Substantial Completion was 12/1/10.
- (F) As of 4/30/13.
- (G) ENR Index:
 

Substantial Completion	1,681	4,801	5,852	8,952
Apr 2013	9,484	9,484	9,484	9,484
- (H) Substantial completion 10/24/08.

**EXHIBIT C**  
**2013 CAPITAL RECOVERY FEES**

**TRENDING COST METHOD**

Project Cost		Phase 2, Stage 1	
		\$	4,750,332
Contributions			(583,221)
Less: Outstanding Debt			-
Total Cost Basis		\$	4,167,111
Trending Factor (2)			2.1898
Trending Cost Basis		\$	9,125,117
System Capacity (Avg. Daily Flow)	(1)		10,000,000
<b>Maximum Charge per gallon</b>		<b>\$</b>	<b>0.91</b>
<b>Rounded Charge per gallon</b>		<b>\$</b>	<b>0.91</b>
<b>Calculation of Gallons per Household:</b>			
Census figure per Household - Lehigh County			2.54
# of Gallons per day per Capita			90
Gallons per EDU			229
<b>Maximum Charge per EDU</b>		<b>\$</b>	<b>208.39</b>

(1) PPS Peak flow of 24 MGD / 2.4 peaking factor.

(2) ENR Index 12/31/86 (Substantial Completion)  
ENR Index Apr 2013

4,331

9,484

**Exhibit D  
2013 UPPER MILFORD CONNECTION FEE SUMMARY**

Fee	Cost per Gallon		Cost per 1000 Gallons		Costing Method
	Existing Charge	New Charge	Existing Charge	New Charge	
Collection Part	\$ 10.25	\$ 10.35	\$ 10,250.00	\$ 10,350.00	Historical Cost Trended
Capacity Part (F)	\$ 2.45	\$ 2.48	\$ 2,450.00	\$ 2,480.00	Historical Cost Trended
<b>Non-UMIT Interceptor Use:</b>					
Capacity Part	\$ 0.53	\$ 0.55	\$ 530.00	\$ 550.00	Historical Cost plus Financing
<b>UMIT Interceptor Use (C):</b>					
Total Cost per EDU (A)	\$ 5,147.25	\$ 5,104.47	\$ 21,480.00	\$ 22,170.00	
Total Cost per MFR (B)	\$ 4,485.75	\$ 3,846.75			
<b>Other UMIT Areas:</b>					
Total Cost per EDU (A)	\$ 124.55	\$ 129.25			
Total Cost per MFR (B)	\$ 74.73	\$ 77.55			
<b>Lower Macungie (E):</b>					
Total Cost per EDU	\$ 523.41	\$ 535.36			
<b>WLI Fees (D)</b>	\$ 8.25	\$ 8.79	\$ 8,250.00	\$ 8,790.00	

(A) Upper Milford EDU = 250 gallons in 2011 and 235 gallons in 2012.

(B) 2012 MFR for Upper Milford equates to 141 gallons per day or 60% of EDU.

(C) Includes Upper Milford & WLI fees.

(D) Wastewater Capacity and Interceptor fees for a 2012 EDU equates to 223 gallons because fees are sold across municipal lines.

(E) Represents the capacity charge to a Lower Macungie resident connecting to the Upper Milford Interceptor System.

(F) Only applies to connections where flow is transported by Upper Milford interceptors.

**Exhibit D**  
**2013 CAPITAL RECOVERY FEES**  
**LOWER MACUNGIE CONNECTIONS TO LMIT INTERCEPTOR**  
**TRENDING METHOD**

Project Costs: (A)	
Rt. 29 Project Cost	\$ 1,646,084
ENR Index Increase (B)	2.0537
Cost Basis	<u>\$ 3,380,567</u>
Less O/S Debt (C)	-
Project Cost Basis	<u>\$ 3,380,567</u>
% of Project applicable to LMT Interceptor	24.79%
LMT Interceptor Cost Basis	<u>\$ 838,043</u>
Avg Day Capacity in GPD (D)	373,632
Charge per Gallon	\$ 2.24
Calculation of Gallons per Household:	
Census figure per Household - LMT	2.65
# of Gallons per day per Capita	90
Gallons per EDU	239

Maximum charge per EDU	\$ 535.36
Maximum charge per MFR (E)	\$ 321.22

**NOTES:**

- (A) Includes Capitalized interest but excludes treatment capacity purchases.
- |               |            |       |            |         |
|---------------|------------|-------|------------|---------|
| (B) ENR Index |            |       |            |         |
| Rt 29 System  | 8/22/89    | 4,618 | 9,273      | 2,0537  |
|               | Subs. Comp | ENR   | ENR 5/1/09 | ENR Chg |
- (C) Since the projects were built to serve exclusively new customers, outstanding debt does not need to be subtracted.
- (D) Equates to 1.5 mgd / 4 peaking factor.
- (E) Based on 2011 water usage in LMT, an MFR (Apts/Mobile Homes) uses 60% the amount of water of an EDU (SFA/SFD)



**EXHIBIT E**  
**2013 CAPITAL RECOVERY FEES**  
**HEIDELBERG HEIGHTS SYSTEM**  
**TRENDING METHOD**

	Collection	Capacity
Project Costs	\$ 123,157	\$ 785,141
<b>Total System Costs</b>	<b>\$ 123,157</b>	<b>\$ 785,141</b>
ENR Index Increase (A)	1.5216	1.5216
Total Project Cost Basis	\$ 187,393	\$ 1,194,654
O/S Debt 5/1/12	(49,541)	(315,829)
<b>Cost Basis for Capital Recovery Fee</b>	<b>\$ 137,852</b>	<b>\$ 878,825</b>
<b>Capacity:</b>		
Total WW Plant Permitted Capacity (Gpd)	60,000	60,000
<b>Maximum charge per gallon</b>	<b>\$ 2.31</b>	<b>\$ 14.71</b>
<b>Calculation of Gallons per Household:</b>		
Census figure per Household - Heidelberg Twp	2.68	2.68
# of Gallons per day per Capita	90	90
Gallons per EDU	241	241
<b>Maximum charge per EDU</b>	<b>\$ 556.71</b>	<b>\$ 3,545.11</b>

(A) Plant operations initiated on 6/1/00 - Final Acceptance  
 ENR Index 6/1/00 6,233  
 ENR Index 4/1/13 9,484

**EXHIBIT F**  
**2013 CAPITAL RECOVERY FEES**  
**WYNNEWOOD TERRACE WASTEWATER SYSTEM**  
**TRENDING METHOD**

	Collection	Capacity
<b>Total Costs:</b>		
Acquisition Costs	\$ 406,318	\$ 247,393
Improvements	-	-
<b>Total Costs</b>	<b>406,318</b>	<b>247,393</b>
<b>ENR Index Increase (A)</b>	<b>1.4168</b>	<b>1.4168</b>
<b>Total Trended Costs</b>	<b>575,668</b>	<b>350,504</b>
<b>Outstanding Debt</b>	<b>-</b>	<b>-</b>
<b>Total Net Costs</b>	<b>\$ 575,668</b>	<b>\$ 350,504</b>
<b>Capacity:</b>		
Total WW Plant Permitted Capacity (GPD)	60,000	60,000
<b>Maximum charge per gallon</b>	<b>\$ 9.59</b>	<b>\$ 5.84</b>
<b>Calculation of Gallons per Household:</b>		
Census figure per Household - NWT	2.68	
# of Gallons per day per Capita	90	
Gallons per Household	241	
<b>Maximum charge per EDU</b>	<b>\$ 2,311.19</b>	<b>\$ 1,407.44</b>
(A)		
ENR Index 7/1/03	6,694	
ENR Index 4/1/12	9,484	

**EXHIBIT G  
2013 CAPITAL RECOVERY FEES  
SAND SPRING WASTEWATER SYSTEM  
TRENDING METHOD**

	<u>Collection</u>	<u>Capacity</u>
<b>Acquisition Costs</b>		
ENR Index Increase (A)	\$ 58,452	\$ 88,048
Total Trended Acquisition Costs	<u>1,2997</u>	<u>1,2997</u>
	\$ 75,971	\$ 114,437
<b>System Improvements - 2005</b>		
ENR Index Increase (B)	\$ -	\$ 6,358
Total Trended Sys Improvement Costs	<u>-</u>	<u>1,2895</u>
	\$ -	\$ 8,198
<b>System Improvements - 2010</b>		
ENR Index Increase (C)	\$ 5,980	\$ -
Total Trended Sys Improvement Costs	<u>1,0632</u>	<u>-</u>
	\$ 6,358	\$ -
<b>Total Cost Basis</b>	\$ 82,329	\$ 122,636
<b>Outstanding Debt</b>	-	-
<b>Total Net Costs</b>	<u>\$ 82,329</u>	<u>\$ 122,636</u>

<b>Capacity:</b>	
Total WW Plant Permitted Capacity (Gpd)	35,000
<b>Maximum charge per gallon:</b>	<u>\$ 2.35</u>
	<u>\$ 3.50</u>

**Calculation of Gallons per Household:**

Census figure per Household - NWT	2.68
# of Gallons per day per Capita	90
Gallons per Household	241

<b>Maximum charge per EDU</b>	\$ 566.35	\$ 843.50
<b>Maximum charge per MFR (D)</b>	\$ 368.13	\$ 548.28

- (A) Acquisition
  - ENR Index 1/1/05 7,297
  - ENR Index 4/01/13 9,484
- (B) System Improvement - 2005
  - ENR Index 4/1/05 7,355
  - ENR Index 4/01/13 9,484
- (C) System Improvements 2010
  - ENR Index 10/01/10 8,920
  - ENR Index 4/1/13 9,484
- (D) Based on 2011 water usage in NWT, an MFR uses 65% the amount of water of an EDU.



**EXHIBIT J**  
**2013 CAPITAL RECOVERY FEES**  
**WESTERN WEISENBERG TREATMENT PLANT**

W. Weisenberg Treatment Plant Estimated Cost (A) \$ 3,501,500      Capacity \$ 3,501,500

Portion attributable to New Customers 0.437

Total \$ attributable to new customers \$ 1,528,667

Design Capacity (Prorated) GPD 19,937

Maximum Fee per Gallon \$ 76.67

2012 Existing Fee \$ 28.90

2013 Recommended fee per gallon (A) \$ 36.00

Plant Allocation:	Total Allocation (gpd)	LCA Share	Future Expected Fees	12/31/12 Paymts To Date	Total Payments Expected	Gallons Purch
Arcadia West	10,537	-	-	-	-	-
Arcadia - Remaining Commercial	1,463	1,463	161,044	-	161,044	-
West Hills Business Ctr	12,000	-	-	-	-	-
Weisenberg Elementary School	8,000	8,000	234,000	37,500	196,500	1,500
Bandit Truck Stop	3,000	3,000	108,000	-	108,000	-
Unallocated	5,000	5,000	180,000	61,850	118,150	2,474
	40,000	17,463	\$ 683,044	\$ 99,350	\$ 583,694	3,974
						43.7%

(A) The unrecovered capital costs will be captured through ongoing user fees. The 2013 fee represents a 24.5% increase over 2012.  
 Note: These fees exclude existing Arcadia West customers and the West Hills Business Center, which is constructing the plant and contributing towards the plant.

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**MEMORANDUM**

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**Date:** June 18, 2013

**To:** Authority Board  
**From:** Lance M. Babbitt  
**Subject:** Wynnwood Terrace Pump Station and Force Main Replacement  
Design Phase - Capital Project and Professional Services Authorizations  
Amendments

**MOTIONS / APPROVALS REQUESTED:**

No.	Item	Amount
1	Capital Project Authorization – Amendment No. 1 Force Main Design Phase	\$74,670
2	Professional Services Authorization - Cowan Associates, Inc. – Amendment No. 1 (1)	\$42,670

(1) Included in the Capital Project Authorization, Amendment 1.

**PROJECT OVERVIEW:**

Lehigh County Authority acquired the Wynnwood Terrace Sewer System located in the northeastern part of North Whitehall Township in July of 2003. The system currently serves 217 residential and 2 commercial customers in the Wynnwood Terrace subdivision in North Whitehall Township. The system includes a 60,000 gpd extended aeration wastewater treatment plant, three wastewater pump stations and 22,500 feet of collector sewers of PVC.

**PROJECT STATUS:**

Project approval for the evaluation, design, permitting and bidding of the Primary Pump Station, was granted in September 2012 to Cowan Associates, Inc. (CA). That approval also allowed for initial evaluation and possible utilization of the two abandoned water tanks at the treatment plant site and the evaluation of the existing 4" force main in the development.

1. The Pump Station evaluation included reviews of existing performance data, records of failures and available flow data. Additional flow data was acquired through the use of Flo-totes within the collection system. This information established the pump station adequately handled average daily flows, but was severely limited in handling peak flows and flows during storm events. The pump station is approximately 25 years old and is in a stage of advance deterioration. CA evaluated above grade and below grade facilities and communications were held with officials in North Whitehall Township, as to the appropriate land use and zoning issues. After careful review, it was recommended that design proceed with a below grade facility, utilizing two-20 Horsepower submersible pumps, each with a capacity of 150 gallons per minute (gpm), giving the proposed facility a range of 150 to 300 gpm. This design work is proceeding.
2. Evaluation of the two existing tanks (previous used by a privately owned community water system serving the development) was conducted to see if there was merit in: either use as an equalization basin for incoming high volume flows, or as sludge holding for later hauling. Preliminary results indicate that there is sufficient holding capacity within the existing equalization tank, for recorded incoming flows, even during storm events.

Sludge holding may have some merit, but would only result in less frequent hauling if larger hauling equipment was available. Land development restrictions, initiated by the change in use, would restrict future tank usage to one tank, as the other is within building set back restrictions. Additional zoning and regulatory approvals would also be required. Overall, there does not seem to be any benefit to retrofitting these tanks for the uses investigated or any other use.

3. The force main was evaluated to verify the condition and continued use of the existing 4" line, with a new pump station. Hydraulic tests were conducted and records researched. Results of this effort, pointed out four concerns:
  - The 4-inch force main has experienced numerous failures in the past, requiring emergency repairs, with the most recent in April 2013. The force main constructed by the developer utilized multiple material types, some of which did not even meet pressure class pipe requirements.
  - The existing 4-inch force main does not have the capacity to accept the anticipated peak flows from the proposed pump station.
  - Both hydraulic and structural limitations increase the risk of force main failure resulting in future sanitary sewer overflows (SSO) during peak flow conditions.
  - The current route of the force main limits accessibility for repairs due to long reaches located on private property, much of which passes under sheds, trees and landscaping.

**THIS APPROVAL – DESIGN PHASE NEW 6" DIAMETER FORCE MAIN:**

With Board approval, design will move forward with the replacement of approximately 3,000 linear-feet of existing 4-inch force main with 6-inch pipe. The construction will take place within the existing public rights-of-way. Two types of construction methods will be considered. Conventional open cut and the use of "No dig" technology, such as horizontal drilling. A NPDES Storm Water Construction Permit will be required.

**CONSULTANT SELECTION PROCESS:**

Due to their continuing efforts for study and coordination of design, we recommend the use of Cowan Associates for this work. A coordinated approach to regulatory permitting is essential to success.

**PROJECT SCHEDULE:**

Award Work	June 24, 2013
Complete Design	August 23, 2013
Complete Specification	October 31, 2013
Receive Permits	December 31, 2013
Contract Proposals due	January 10, 2014
Start Construction	February 15, 2014
Complete Construction	End of 2014

**FUTURE AUTHORIZATIONS:** Capital Project Authorization (CPA) Amendment(s) will be presented to the Board at a later date for the Construction phase of the Project, which will include both the pump station and force main.

## CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:       S-12-1       BUDGET FUND:       NORTHERN LEHIGH WASTEWATER CAPITAL      

PROJECT TITLE:       Primary Pump Station and Force Main Replacement        
      Wynnewood Terrace Sewer System      

PROJECT TYPE:

- Engineering Study
- Design
- Construction
- Amendment 1

**This Authorization** \$       74,670        
**To Date (w/Above)** \$       141,670      

**DESCRIPTION AND BENEFITS**

**This Amendment - Force Main Design Phase**

Replacement of 3,000 feet of existing 4 " Force Main, along with the primary pump station is necessary to assure reliability of service. The existing force main has experienced a number of pipe failures due to mixed materials and remote locations. The most recent was early April 2013. This phase of the project involves design, permitting and bidding for the construction of a new 6" Force Main.

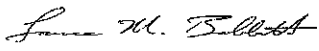
Previous Authorizations	
Pump Station Evaluation and Design	\$ 67,000

REQUESTED THIS AUTHORIZATION	
Staff	\$ 15,000
Professional Services	42,670
Permits	6,000
Rights-of-Way	5,000
Miscellaneous	1,000
Contingency	5,000
<b>Total This Authorization</b>	<b>\$ 74,670</b>

Future Authorization	
Construction Phase -Primary PS and Force Main Replacement	\$ 850,000

<i>Total Estimated Project</i>	<i>991,670</i>
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**REVIEW AND APPROVALS**

	6/18/2013		
Project Manager	Date	General Manager	Date
Capital Works Manager	Date	Chairman	Date





Lehigh County Authority

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

**PROFESSIONAL SERVICES AUTHORIZATION**

Amendment No. 1

**Professional:** Cowan Associates, Inc.  
120 Penn-Am Drive  
PO Box 949  
Quakertown, PA 18951

**Date:** June 18, 2013

**Requested By:** Lance M. Babbitt

**Approvals**

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

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

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

Previous approval included services related to design for the Primary Pump Station Replacement, Wynnewood Terrace.

Cowan Associates, Inc. agrees to perform all work as described in the attached Technical and Cost proposal dated May 24, 2013. The following summarizes additional services related to the design of the Force Main.

- Prepare design drawings.
- Secure all permits, both municipal and regulatory.
- Prepare specifications suitable for public bidding.
- Place project to bid, prepare any addendum.
- Hold bid opening and make a recommendation to award.

\_\_\_\_\_  
Name (Signature)

\_\_\_\_\_  
Name (printed):

Title:

Cost Estimate (not to be exceeded without further authorization):

**\$ 42,670.00**

Time Table and Completion Deadline:

**Complete by January 31, 2014**

**(For Authority Use Only)**

**Authorization Completion:**

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