



LEHIGH COUNTY AUTHORITY

LCA Main Office:
1053 Spruce Road
Wescosville, PA 18106
610-398-2503

Agendas & Minutes Posted:
www.lehighcountyauthority.org

Published: October 4, 2016

BOARD MEETING AGENDA – October 10, 2016

1. Call to Order
 - *Public Participation Sign-In Request*
2. Review of Agenda / Executive Sessions
3. Approval of Minutes
 - *September 26, 2016 Board meeting minutes*
4. Public Comments
5. Action / Discussion Items:

FINANCE AND ADMINISTRATION

- *2017 Draft Budget – Presentation & Discussion only (yellow)*
- *2017 Western Lehigh Sewer Rates – will be sent under separate cover*
- *2017 Minimum Municipal Obligation (MMO) for LCA Pension Plan (green)*
- *Resolution Authorizing Management Staff to Institute Certain Employee Policies – Approval (tan)*

WATER

WASTEWATER

- *Engineering Study of Pretreatment Plant Expansion – will be sent under separate cover*

6. Monthly Project Updates / Information Items (1st Board meeting per month)
7. Monthly Financial Review (2nd Board meeting per month)
8. Monthly System Operations Overview (2nd Board meeting per month)
9. Staff Comments
10. Solicitor's Comments
11. Public Comments / Other Comments
12. Executive Sessions
13. Adjournment

UPCOMING BOARD MEETINGS

Meetings begin at Noon at LCA's Main Office, unless noted otherwise below.

October 24, 2016

October 31, 2016 Special meeting to be held only if needed to complete 2017 budget approval process

November 14, 2016

November 28, 2016

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. During the Public Comment portions of 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.

REGULAR MEETING MINUTES

September 26, 2016

The Regular Meeting of the Lehigh County Authority was called to order at 12:13 a.m. on Monday, September 26, 2016, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Kevin Baker, Tom Muller, Norma Cusick, Scott Bieber, Ted Lyons and Deana Zosky. Authority Staff present were Liesel Gross, Ed Klein, Frank Leist, Brad Landon, Chuck Volk, John Parsons, Phil DePoe and Lisa Miller.

REVIEW OF AGENDA

Liesel Gross stated that there are two additional items to the Agenda under Staff Comments and an item for Executive Session regarding potential litigation. The order of the agenda was adjusted due to the anticipation of a lengthy Budget presentation.

APPROVAL OF MINUTES

September 12, 2016 Regular Meeting Minutes

Scott Bieber said he would like to see the vote on the 2017-2021 Capital Plan reflect the no vote by Deana Zosky and the reason why. The Board said that moving forward, the Minutes should reflect a negative vote including the reason why. Liesel Gross stated that there were no additional comments after the vote and that Ms. Zosky's comments were captured in the Minutes. Ms. Zosky confirmed that the Minutes explain why she voted no.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the Minutes of the September 12, 2016 meeting as amended (7-0). Tom Muller abstained.

PUBLIC COMMENTS

None.

ACTION AND DISCUSSION ITEMS

Resolution #9-2016-2 Authorizing Management Staff to Institute Certain Employee Policies

Liesel Gross reported the Resolution is a follow-up to prior discussion related to employee policies, in which the Board agreed that employee policies that have a discretionary financial impact should be brought to the Board for approval, and to allow staff to develop and approve other policies that may be required by law on an administrative basis. The resolution was drafted to also include language regarding Conflict of Interest. The Board commented that any policy changes that might have a detrimental impact on the Authority's image should be clarified and reported to them along with a report on any policy changes that change the risk the Authority may face as it relates to employee actions. Liesel Gross agreed this information could be included in monthly reports already provided to the Board, and explained the purpose of the Resolution is to allow the Staff to administratively write and adopt policies required by law and bring any policy with a discretionary type of financial impact to the Board for approval. Deana Zosky suggested that approvals or authorizations delegated to staff should have process control and review procedures in place and stated to ensure proper segregation of duties. Ms. Zosky also requested the word *delegates* changed to *provides* under paragraph 1. Ms. Gross stated that a process is already in place regarding segregation of duties but will codify it in the Resolution and a new draft of the Resolution will be brought back to the Board.

Purchasing Financial Guideline revisions

Liesel Gross explained that some minor changes in language have been made to this policy along with one more significant change related to how Emergency declarations are addressed for purposes of authorizing emergency purchase of materials or services. Some discussion followed.

On a motion by Ted Lyons, seconded by Norma Cusick, the Board approved the revisions to the Purchasing Financial Guidelines (8-0).

Board Meeting recordings

Liesel Gross updated the Board on the proposals received to install a system to allow for recording of Board meetings, the cost of which falls below the Purchasing Guidelines thresholds. Microphones would be installed so sound would be heard on the video. The Board stated their concern regarding sound and being able to hear the meeting when on the conference phone. Ms. Gross said Staff will look into those improvements as a separate effort as the phone system is administered by a separate contract. The Board asked about the potential for live streaming the meetings, which is not included in the current set of proposals, and directed the Staff to investigate costs and set up. The Board agreed to proceed with a recording and video system.

Upper Milford-Central Lehigh Division Interconnection

Frank Leist reviewed the highlights of the project for the Board. He stated the reason for the request for the interconnection is to provide water service to the 125-lot Kohler Tract subdivision and the Authority has agreed to share in the costs. Mr. Leist reviewed the cost sharing and explained the calculations. The Board had concerns with financing a developer. Mr. Leist explained the benefits to the Authority noting that it will improve water service and save money long term. In addition, when paying for improvements through a financing arrangement, all LCA costs are recovered, plus 1 percent. Ed Klein commented that the financial impact of the project is a net positive with an overall rate of return of 9.8 percent when accounting for future revenues and reduced operating expenses. Mr. Leist reviewed how the contribution is calculated and stated that the project is in accordance with the Authority's Assisted Water Main Extension Financing Policy and the Water Service Agreement with Upper Milford Township.

Mr. Leist requested approval of the interconnection project as presented in the memo based upon the associated Authority proportional cost sharing percentages as reviewed and discussed. He also asked for a variance to the Authority's contribution policy by inclusion of certain costs that are normally excluded from the allowable cost categories for the purpose of sharing project costs for the off-site main extension because of the system benefit that it will provide. The impact of approving the variance would be approximately an additional \$42,000.00 cost to the Authority. The Board expressed its concerns with the variance as providing additional incentive for the developer that is outside of normal Authority policy. Mr. Leist also requested approval of allowing the Authority to offer financing to the developer, should it be requested, for the pumping station project, which type of facility is not specifically included in the Authority's developer financing policy. Deana Zosky stated that the policy says that the Authority *may* provide financing, not that the Authority *must* provide financing. Mr. Leist agreed and commented that the action requested is simply to allow the Authority to implement the financing policy should the developer request it. Mr. Leist is also requesting authorization for the Authority to obtain the offsite water main extension easements that may be required, and authorization for the Chief Executive Officer to execute the necessary agreements to implement the project.

Chairman Nagle called an Executive Session at 1:23 p.m. to discuss real estate negotiations. The Executive Session ended at 1:27 p.m.

On a motion by Linda Rosenfeld, seconded by Norma Cusick, the Board approved the interconnection project based upon the associated Authority proportional cost sharing percentages for the Pumping Station not to exceed the percentage shown in Table-1 in the memo and for the off-site water main extension not to exceed by more than 5% of the percentage shown in Table-1 in the memo (7-1). Deana Zosky opposed. Ms. Zosky stated that she will vote against four out of the five requested action items not because of the project itself, but to express her opposition to providing so many variances to existing Authority policy. In her opinion, if the Authority grants variances on many of the items in its policies, then why have the policies. Organizationally, she is opposed to doing business this way and feels that the Authority should have a more systematic approach and adhere to its existing policies.

On a motion by Tom Muller, seconded by Norma Cusick, the Board moved to approve the variance from the Authority Contribution Policy and to allow the inclusion of certain costs that are normally excluded from the allowable cost categories for the purpose of sharing project costs for the off-site main extension as set forth in the memo (4-4). Deana Zosky, Scott Bieber, Kevin Baker, and Ted Lyons opposed the motion. Motion failed.

On a motion by Norma Cusick, seconded by Ted Lyons, the Board approved allowing the Authority to assume responsibility for obtaining certain easements required for the off-site water main extension as set forth in the memo (7-1). Deana Zosky opposed.

On a motion by Tom Muller, seconded by Norma Cusick, the Board approved allowing the Authority to offer financing to the developer for his respective share of the Pumping Station costs as set forth in the memo (8-0).

On a motion by Norma Cusick, seconded by Scott Bieber, the Board approved allowing the Chief Executive Officer to approve and execute the necessary Agreements between the developer and the Authority, to include but not be limited to Pump Station Cost Sharing Agreement, water main upsizing provision in the Developer's Water System Agreement; if applicable, Financing Agreements for the Off-site Main Water and Pumping Station; and authorize design phase of the Pumping Station project with execution of associated professional services contracts (7-1). Deana Zosky opposed.

MONTHLY FINANCIAL REVIEW

The August 2016 Financial report was attached to the Board agenda. No comments were made.

SYSTEM OPERATIONS OVERVIEW

John Parsons reviewed the August 2016 report that was attached to the Board agenda.

STAFF COMMENTS

Liesel Gross reported the Authority received a certificate of recognition from Delaware Valley Workers' Compensation Trust for exemplary achievement and leadership in minimizing workplace injuries and illness during 2015.

Ms. Gross also brought up a question from the Board regarding the article in The Morning Call which claims the Waterfront Development Company installed utilities directly above major sewer lines owned by Coplay-Whitehall Sewer Authority. Frank Leist addressed the Board's concerns by informing them of the Authority's process for reviewing plans submitted by developers when other utilities may traverse the Authority's easements.

2017 Preliminary Budget

Liesel Gross said that Ed Klein will present the preliminary 2017 Budget and described the timeline and procedures for the upcoming meetings for the Budget. At the October 10, 2016 meeting, there will be a line item review of the Budget. Ms. Gross asked the Board to consider the October 10, 2016 meeting be held at 6:30 p.m. to allow for public input. At the meeting on October 24, 2016, the Budget will be refined to include any adjustments, and approval requested at that meeting. A special meeting has been scheduled for October 31st should the staff and Board need additional time to refine the Budget for approval. The Board agreed to the October 10, 2016 meeting to be held at 6:30 p.m. and directed the Staff to advertise.

Ed Klein presented a PowerPoint presentation to the Board to review the 2017 preliminary Budget. Deana Zosky asked the Staff for information on customer water and sewer rates that relate to the projected increases in revenues included in the budget.

SOLICITOR'S COMMENTS

Brad Landon stated that he has an item for Executive Session related to potential litigation.

PUBLIC COMMENTS / OTHER COMMENTS

None.

Chairman Nagle called an Executive Session to discuss potential litigation at 2:26 p.m. The Executive Session ended at 2:31 p.m.

On a motion by Norma Cusick, seconded by Linda Rosenfeld, the Board approved Resolution 9-2016-1 authorizing Management approval of certain claims and litigation settlements (8-0).

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 2:32 p.m.

Norma A. Cusick
Assistant Secretary



1053 SPRUCE ROAD * P.O. BOX 3348 * ALLENTOWN, PA 18106-0348
610-398-2503 * FAX 610-398-8413 * www.lehighcountyauthority.org
email: service@lehighcountyauthority.org

MEMORANDUM

TO: LCA Board of Directors
FROM: Liesel Gross, CEO & Edward Klein, CFO
DATE: October 4, 2016
RE: 2017 Budget Process

As discussed at our September 26, 2016 meeting, the 2017 Budget is currently under development and a draft will be available for review at our October 10, 2016 meeting. This memo outlines the recommended format and approval process the LCA Board of Directors will be participating in.

2017 Budget Format

LCA's annual budget includes detailed schedules of revenue and expenses for several segregated operating units. These operating units roll up into three primary "funds" that show in our regular monthly and annual financial statements (Suburban Water, Suburban Wastewater & Allentown Division). However, the operating units are budgeted separately to allow for greater refinement of the detailed revenues and expenses that are required. In certain cases, these budgets drive the calculation of rates for specific customers, such as the municipal sewer signatory rates for various service areas.

The operating units that are detailed within the budget include:

City Division – water & wastewater systems

- Water Filtration Plant
- Water Distribution System
- Wastewater Treatment Plant
- Wastewater Collector System

Support Services – expenses allocated to the primary operating units based on utilization of services

- Laboratory

Suburban Water – all water systems in the Suburban Division are consolidated into a single budget

Suburban Wastewater – due to required separation of expenses / revenues for systems serving the municipal signatories, the Suburban Wastewater budget is further segregated into the following units:

- Western Lehigh Interceptor
- Little Lehigh Relief Interceptor, Phase 1
- Little Lehigh Relief Interceptor, Phase 2
- Common Rate Collector Wastewater Systems
- Western Weisenberg Wastewater System (Arcadia)
- Lynn Township Wastewater System
- Washington Township Wastewater System
- Wastewater Pretreatment Plant

Internal Services – overhead categories & general expenses

- Consolidated Internal Services – expenses that apply to the entire organization
- Allentown Division Internal Services – expenses that apply to Allentown Division exclusively
- Suburban Division Internal Services – expenses that apply to the Suburban Division exclusively

The detailed budget schedules for each of these operating units, along with summaries, will be compiled into a packet that will be distributed at the October 10, 2016 Board meeting, and reviewed in summary at that meeting.

Budget Approval Process

At the two Board meetings held in September 2016, staff reviewed budget assumptions that were used to develop the preliminary budget, along with an analysis of the expected financial results of incorporating these assumptions into the 2017 Budget.

Moving forward, the remaining budget process is expected to flow as follows:

Board Meeting Date	Planned Agenda Item
9/12/2016	Review of budget assumptions by category
9/26/2016	Preliminary review of budget assumptions & expected financial results
10/10/2016	Draft Budget presentation & public comment
10/24/2016	Final Budget presentation & approval
10/31/2016	Final Budget approval*
12/31/2016	Final Budget document prepared & published

**If additional time is required to address Board or public concerns about the budget, a Special Meeting will be held on 10/31/2016.*

Due to the required timeline of Budget adoption prior to November 1, 2016, the Board will be asked to consider approval of the budget schedules and summary statements as described above. The publication of the official budget document, with detailed written descriptions and explanations, is expected to occur by year-end and is not subject to Board approval, so long as the budget schedules it contains are those which the Board has adopted.



LEHIGH COUNTY AUTHORITY

1053 SPRUCE STREET * P.O. BOX 3348 * ALLENTOWN, PA 18106-0348
610-398-2503 * FAX 610-398-8413 * www.lehighcountyauthority.org
email: service@lehighcountyauthority.org

MEMORANDUM

Date: September 28, 2016
To: Lehigh County Authority Board of Directors
From: Edward Klein, Chief Financial Officer
Subject: 2017 Minimum Municipal Obligation (MMO) for the Lehigh County Authority Pension Plan (39-448-6N)

Act 205 of 1984, as amended, governs the funding requirements for all municipal pension plans. The law requires the Chief Administrative Officer of each pension plan to inform the governing board of the municipality of the plan's expected financial obligation for the coming year. This must be done by the last business day in September.

The calculation of the 2017 MMO required an estimate of the 2016 W-2 wages of the employees covered by the plan. I have indicated on the attached worksheet my best estimate of the same. Questions on the pension cost calculation may be addressed to either myself or the Pennsylvania Municipal Retirement System at (800) 622-7968.

The MMO is the municipality's 2017 bill for this pension plan and must be paid by December 31, 2017. The obligation must be met with general fund monies or with any General State Aid to Municipal Pensions to which we may be entitled to under Act 205.

Edward Klein
Chief Financial Officer
edwardklein@lehighcountyauthority.org
(610) 398-2503, extension 160

Attachment: 2017 MMO Worksheet

The Minimum Municipal Obligation Worksheet (MMO)
For The
Lehigh County Authority Pension Plan (39-448-6 N)
For Plan Year 2017

CHARGES

Estimated 2016 W-2 Payroll For Covered Plan Members:	(A)	\$8,728,588.19			
PMRS Determined Normal Cost Expressed as a Decimal:	(B)	.1219			
RESULT: (A) * (B) =	(C)			\$1,064,015	
Administrative Charge (PMRS Determined) # of Plan Members times \$20:	(D)		3,720		
Amortization of Unfunded Liability (PMRS Determined)	(E)		130,146		
TOTAL CHARGES: (C) + (D) + (E) =	(F)			\$1,197,881	

CREDITS

Repeat Estimated 2016 W-2 Payroll For Covered Plan Members:	(A)	\$8,728,588.19			
Employee Contribution Rate Expressed as a Decimal:	(G)	.01			
RESULT: (A) * (G) =	(H)		\$87,286		
Amortization of the Actuarial Surplus (PMRS Determined)	(I)		0		
TOTAL CREDITS: (H) + (I) =	(J)		\$87,286		

MINIMUM MUNICIPAL OBLIGATION

(Based on 01/01/2015 Actuarial Valuation)

(MMO) \$1,110,595

Equals TOTAL CHARGES Minus

TOTAL CREDITS (F) - (J) = (Please round numbers to dollars)

Prepared By: Edward Klein (Name) *Edward Klein* (Signature)
Chief Financial Officer (Title) () 610-398-2503 (Telephone #)

Please complete the above worksheet with your best estimates and return a copy to the Pennsylvania Municipal Retirement System by October 14. The official copy must be shared with the plan's governing board by the last business day in September.

RESOLUTION No. 10-2016-1

(Duly adopted 10 October 2016)

A RESOLUTION AUTHORIZING MANAGEMENT ESTABLISHMENT OF CERTAIN EMPLOYEE PROCEDURES, POLICIES AND PRACTICES.

WHEREAS, Lehigh County Authority (hereinafter the "Authority") Board of Directors (the "Board") periodically takes action assigning certain Board duties to particular management employee positions to facilitate the smooth operation of the Authority and to not detract Board attention on large issues by consideration of matters that could be handled administratively; and

WHEREAS, the Board wishes to differentiate when management is authorized to establish employee procedures, policies and practices without Board approval and when such employee procedures, policies and practices shall be presented to the Board for approval;

NOW THEREFORE, it shall be resolved that:

1. The Board assigns the authority to the Chief Executive Officer, through the management staff, to establish and institute employee procedures, policies and practices in all cases except when such procedures, policies and practices have a Discretionary Financial Impact; or when such procedures, policies and practices include elements impacted by the Authority's *Conflict of Interest Policy*. Such procedures, policies and practices would be drafted by the Human Resources Manager, and reviewed for financial impact by the Chief Financial Officer, and the Board notified of any issues/impacts of significance at the next available Board meeting through normal reporting procedures.

2. For purposes of this Resolution, the term "Discretionary Financial Impact" is defined as a financial impact to the Authority where the employee procedure, policy or practice is not required or specified by any legislative, regulatory or other statutory requirement. Examples of employee policies that have a Discretionary Financial Impact, requiring Board approval, include vacation entitlements, employee contributions to health benefits, and pension benefits. Other policies that are instituted to conform to specific statutory or regulatory requirements, even if they have a financial impact to the Authority, are not considered to have Discretionary Financial Impact and therefore would not require Board approval.

3. For purposes of this Resolution, an employee procedure, policy or practice that includes elements impacted by the Authority's *Conflict of Interest Policy* would include any procedure, policy or practice that, by its adoption, creates a real or perceived potential for Conflict of Interest for any employee or manager. An example of an employee policy that may be impacted by the Authority's Conflict of Interest Policy, requiring Board approval, is the Authority's anti-nepotism policy.

4. This Resolution does not apply to any Collective Bargaining Agreements (CBAs). All CBAs shall be negotiated in good faith by management staff under the direction of the Chief Executive Officer, and subject to Board review and approval.

5. This resolution ratifies all prior such actions by the Authority staff with the same effect as if these documents had been approved at that time by the Authority Board.

On motion of _____, seconded by _____,
this resolution was adopted the 10th day of October 2016.

FINANCE & ADMINISTRATION

ACTION ITEMS

1. 2017 Budget – October 10, 24 & 31, 2016

Draft budget to be presented at the October 10, 2016 meeting, with adoption requested on October 24, 2016. If needed to accommodate changes requested by the Board, an additional meeting on October 31, 2016 has been scheduled.

DISCUSSION ITEMS

1. 2017 Western Lehigh Rates – October 10, 2016

The WLI User Rates will be presented to the Board for review and comment. The Rates will be approved as part of the 2017 budget.

INFORMATION ITEMS

1. Recently Purchased Investments – Certificates of Deposit (CDs)

CERTIFICATES OF DEPOSIT						
27-Jul-16						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
Cons Wtr (2)	Bank Rhode Island	Providence, RI	245,000.00	6/27/16	6/27/18	1.00
Cons Wtr (2)	Parkway Bank and Trust Co	Harwood Heights, IL	245,000.00	6/28/16	12/28/17	0.90
Cons Wtr (2)	GNB Bank	Grundy Center, IA	245,000.00	6/30/16	12/29/17	0.90
LLRI CR	PSDLAF Collateralized CD		400,000.00	6/21/16	12/13/16	0.30
Cons Wtr (2)	PSDLAF Collateralized CD		155,000.00	6/21/16	12/13/16	0.30
Cons LL2 (314)	PSDLAF Collateralized CD		245,000.00	6/21/16	12/13/16	0.30
WW Capac	PSDLAF Collateralized CD		600,000.00	6/21/16	12/13/16	0.30
2010 Wtr Cons A	PSDLAF Flex Pool		2,000,000.00	6/21/16	12/13/16	0.30
Wtr R&R	PSDLAF Collateralized CD		1,000,000.00	6/21/16	12/13/16	0.30

Fund Descriptions for Investments:

Cons Wtr (2)	Consolidated Water (2)
LLRI CR	Little Lehigh Relief Interceptor Capital Reserves
Cons LL2 (314)	Consolidated Little Lehigh Relief Interceptor 2
WW Capac	Wastewater Capacity
2010 Wtr Cons A	2010 Water Construction, Series A Bond
Wtr R&R	Renewal and Replacement

WATER

ACTION ITEMS

DISCUSSION ITEMS

INFORMATION ITEMS

1. **Suburban Division – CLD Auxiliary Pump Station Project**

The project will feature the installation of a new booster station and water main extension to pump water from the Lower System to the Upper System. The project will also involve installation of a SCADA system. We are reviewing the revised Public Water Supply (PWS) permit application. **(No change)**

2. **Suburban Division – Crestwood Alternate Water Supply**

The project consists of abandonment of existing wells and storage tank currently serving higher elevation customers and a connection of the pumping station to the main North Whitehall Division System. The project will also involve installation of a SCADA system. The design phase is underway. The DEP Water Supply Permit has been obtained. We are reviewing the 100% design plans and specifications. A grant application for the construction costs is being submitted to the Commonwealth Finance Authority (CFA).

3. **Suburban Division – Route 309 Crossing at Sand Spring Road**

A 12" water line will cross Route 309 through a previously installed 24" casing. Completion of this line will bring public water to the property line of Lehigh Carbon Community College. The design phase is under way. PennDOT Highway Occupancy Permits have been obtained. An easement agreement was sent to LCCC for their signatures.

4. **Allentown Division – Prelease Valve Replacements**

The project is the replacement of approximately 55 inoperable valves in multiple locations throughout the City that existed prior to the lease settlement. Design is currently under way. This project is identified as Un-Completed Work and will be funded by the City. **(No Change)**

5. **Suburban Division - Water Main Replacement Program Cycles 1 & 2**

The project consists of the replacement of 2.85 miles of aged and/or failing Cast Iron water main. The Construction phase was approved at the 4/11/16 Board meeting. Anrich Inc., our contractor is progressing according to schedule. **(No Change)**

6. **Allentown Division – Water Main Replacement Program- Cycle 3**

The project is the replacement of 4.39 miles of aged and/or failing Cast Iron water main in multiple locations throughout the City. The Construction phase was approved at the 4/11/16 Board meeting. JOAO & Bradley, Inc. our contractor is progressing according to schedule. This Project is identified as Schedule-7 Work and will be funded by LCA Allentown Division. **(No Change)**

7. **Allentown Division – Water Filtration Plant: Filter Room Ceiling Improvements**

This project will involve the installation of a new ceiling system at the Water Filtration Plant's filter room. This system was already installed above the filters themselves approximately 10 years ago. The project is needed for both a combination of aesthetic (highly visible location to guests) and operational issues (to eliminate the possibility of chipped paint to enter the filters). Bids were received on 4/26/16 and Board approval for the construction phase was granted at

5/23/16 Board Meeting. Construction began in the middle of July and was completed in late September.

8. Allentown Division - Miscellaneous Water Filtration Plant / Water Distribution

- WFP Stormwater Pump/Control - Upgrades to the existing stormwater pump/control for the WFP and D&C parking lot is needed due to equipment age. Design is currently underway with a likely March 2017 construction start date.

All of these capital projects are funded by the LCA Allentown Division.

9. Allentown Division – Water System Master Plan

This project involves the creation of a Master Plan for the Allentown Water Plant, water storage tanks, water storage reservoirs, pressure booster stations, raw water springs, and surface water intakes. The Master Plan will involve several key sections including, but not limited to: full-scale condition assessments, treatment process optimization, and development of short term/long term capital plans. The Master Plan is a requirement included within the City of Allentown lease, and it also needs to be updated every 5 years throughout the life of the lease. The project kick-off meeting with Arcadis was held on May 4, 2016. Multiple workshops have also been held. Condition Assessments and process control audits/optimizations are in-progress. The project is scheduled to be finished early in 2017. The project will be funded by the LCA Allentown Division.

10. Developments

Water system construction is occurring in the following developments:

- Fields at Indian Creek, Phase 1, 43 private, age-restricted/senior residential units (sfd), with a community clubhouse, UMiIT & LMT, water & sewer
- Grandview, 6 commercial units and 204 apartment units, LMT
- Hidden Meadows, Phase 1B, 72 residential lots (sfa), UMT
- West Hills Business Center, 2 industrial lots, WeisT, water & sewer

Water system plans are being reviewed for the following developments:

- 67 Werley Road, 112 apartments & clubhouse, UMT
- Ciocca Subaru, 1 additional commercial building at existing business, LMT
- Diocesan Pastoral Center, 2 commercial lots, 3 additional lots and residual lot for existing cemetery, LMT
- Farr Tract, 17 residential lots (sfd), LMT
- Grant Street Townes, 18 residential lots (sfa), WashT
- 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, Lot 5, Phase 1, 273 apartments & clubhouse, UMT
- Mary Ann's Plaza, 1 lot with 12 commercial units, NWT
- Morgan Hills, 40 residential lots (sfd), WeisT, water and sewer
- North Whitehall Commercial Center (Walmart), 5 commercial lots, NWT, water & sewer
- Shepherd's Corner, 1 commercial lot, LMT
- Stone Hill Meadows, 24 residential lots (sfd), LMT
- Trexler Business Center, 1 Commercial Lot with 6 commercial buildings, LMT
- Weilers Road Twins, 82 residential lots (sfa), UMT
- Woodmere Estates, 60 residential units (sfd), UMT

WASTEWATER

ACTION ITEMS

1. **Engineering Study of Pretreatment Plant Expansion – October 10, 2016**

Industrial growth projections require additional study of the capacity of the industrial pretreatment plant to accommodate increased flows and loads over the next five to ten years. Proposals are being sought from two qualified firms, with results to be presented at the October 10, 2016 Board meeting.

2. **Park Pump Station Upgrade Project – October 24, 2016**

The Park Pump Station is an integral component of the sewerage network in the region, serving ten municipalities. Its operation also significantly impacts the operation of the Allentown Division wastewater treatment plant. The station as originally built to serve as a relief facility during high flow periods in the Western Lehigh Interceptor, and has seen a dramatic increase in operation since its inception, and is now operated continuously, which creates significant wear and tear on facility components. This project is part of the work necessary to comply with the EPA Administrative Order. Necessary improvements include replacement of the existing pumps, pump speed controllers, motor control center panel, and SCADA system. The Board is requested to approve the design phase of this project, as outlined in greater detail in the attached memo and authorization forms. Design proposals are being solicited.

DISCUSSION ITEMS

INFORMATION ITEMS

1. **Wastewater Treatment Capacity**

The PaDEP has suggested that a 537 Plan for the additional 4 MGD of capacity be submitted to them at the time when the 4 MGD is needed or after the SCARP improvements are made. They anticipate that if the 537 Plan is submitted in the near term, the Department will require a revised Plan prior to any capital improvements. The 537 planning process has currently been side-lined until such time as the wastewater capacity is limited or a 537 plan update is needed for an Administrative Order project must be submitted. A 537 Planning summary report is being drafted by our consultant and will be distributed to the Board. **(No change)**

2. **Suburban Division - Lynn Township – WWTP Improvements, Phases 1 & 2**

The project will upgrade the WWTP head works. Comments on the specifications were returned to the consultant. The project is being funded by the Lynn Township Suburban Division. **(No change)**

3. **Allentown Division – Sanitary Sewer Manhole Lining: Cycle 3**

This annual project will install a lining system (to eliminate infiltration) in approximately 111 aged brick manholes identified by LCA staff. The City approved the Conceptual Design Report and the project was advertised on May 17, 2016. Board approval of the construction phase was granted at the 6/27/16 Board Meeting. The project is identified as Administrative Order Work and will be funded by the City. Construction began in mid-July and is expected to be complete in early October.

4. Allentown Division – Manhole Collars with Water Tight Frame and Covers: Cycle 3

This project will permanently secure the frame and cover of approximately 57 aged brick manholes identified by current LCA staff. This work will eliminate inflow from entering these manholes and eliminate the potential for sanitary sewer overflows (SSO's) from these manholes. The City approved the Conceptual Design Report and the project was advertised on May 17, 2016. Board approval of the construction phase was granted at the 6/27/16 Board Meeting. The project is identified as Administrative Order and will be funded by the City. Construction began in early August and is expected to be complete in late September.

5. Allentown Division – WWTP: Replacement of Motor Control Centers

This Project replaced five aged motor control centers that provide power on a 24/7 basis to various parts of the WWTP. The project was approved by the City as a Major Capital Improvement (MCI). The project was 100% completed in late September. This Project is identified in the Lease as Schedule 7 (required) project and was funded by the LCA Allentown Division.

6. Allentown Division – Wastewater Treatment Plant: Miscellaneous Improvements

- Main Pump Station Suction Piping – This project involves the replacement of the suction piping for Pump #1 at the Main Pumping Station. Holes have developed in the suction piping and without this repair, the ability to operate this pump properly may be compromised in the future. The piping will be replaced in early October.
- Condition Assessment of Trickling Filters and Clarifiers – An onsite inspection will investigate the need to repair the exterior and interior components of the trickling filters and clarifiers. This inspection occurred in late September.

All of these capital projects are funded by the LCA Allentown Division.

7. Allentown Division – Wastewater Treatment Plant: Digester Cover Replacements

This project involves the cover replacement of both the Primary Digester No. 1 and the Secondary Digester (the cover for Primary Digester No. 2 was previously replaced in 2010). A Major Capital Improvement (MCI) Conceptual Design has been approved by the City. Board approval of the construction phase was received at the 2/8/16 Board Meeting. The new Secondary Digester cover is expected to be installed by October 2016 and the new Primary No. 1 Digester is expected to be installed by October 2017. This Project is identified in the Lease as a Schedule 7 (required) project and will be funded by the LCA Allentown Division. **(No change)**

8. Consolidated Systems - SharePoint

GHD conducted training on June 9, 2016 for the Board/Staff notes workflow. Access to Team Sites has been given to all employees. Security setting will be refined as users begin to use the sites. Additional training and process refinement was conducted by GHD for the Board/Staff notes workflow on September 8, 2016.

9. Suburban Division – Spring Creek Pump Station

This project involves the following upgrades to the existing pumping station: Evaluate the feasibility of installing a comminutor to reduce buildup of debris on the bar screens, replace the manually operated weir gates with new motorized weir gates, and upgrades to the SCADA system. The project has been identified as a Major Capital Improvement (MCI). Design of the project was awarded to JMT. Design phase is underway. **(No Change)**

10. Suburban Division – Western Weisenberg Wastewater Treatment Plant Improvements

This project includes the improvements necessary to rectify the cold weather nitrification issue at the WWTP. The Board approved the construction phase of the project at the May 9, 2016 meeting. Notices to Proceed have been issued to both the general and electrical contractors. A pre-construction meeting was held on June 24, 2016. Given the long-lead time equipment construction is expected to start in by mid- October 2016. This project will be funded by the LCA Suburban Western Weisenberg Division.

11. Suburban Division - Heidelberg Heights Sanitary Sewer Lateral Rehabilitation

Project involves the installation of an internal cured in place liner on four (4) sewer laterals and approximately 320 feet of sewer main line. The lateral lining requires construction of permanent cleanout on each lateral. The project targets previously identified pipe damage areas and is part of continuing effort to reduce groundwater infiltration into the sewer system. The project was completed late Summer 2016.

12. Suburban Division – Test & Seal Project, Western Lehigh Interceptor Service Area

Project consists of sanitary sewer cleaning, inspections via CCTV, cured-in-place point repairs, pressure testing and chemical grout sealing of joints, and post construction inspection for sanitary sewer lines located in western and central Lehigh County previously identified as areas subject to leakage. This project is part of the SCARP program. Construction began in August 2016 and is expected to finish by Spring 2017.

13. Suburban Division – Test & Seal Project, Wynnewood Terrace

Project consists of sanitary sewer cleaning, inspections via CCTV, cured-in-place point repairs, pressure testing and chemical grout sealing of joints, and post construction inspection for sanitary sewer lines located in the Wynnewood Terrace development in North Whitehall Township, previously identified as areas subject to leakage. This project is part of the single contract Test & Seal project. Construction began in August 2016 and is expected to finish by the end of 2016.

14. Suburban Division – SCARP

Monthly meetings with the LCA Suburban Division Signatories began in January to negotiate a Memo of Cooperation for completion of the SCARP Capital Improvements Plan. Cash flow plans prepared by the Program Consultant have been presented to the Signatories so they can begin analyzing their borrowing needs and schedule. A communications plan has been developed to help the Signatories with discussions with their Boards and the public. The LCA AO Program Consultant will be making a presentation at both LMT and Macungie Borough at their request.

A meeting was held with EPA and DEP for the Partners and the City to present the draft Capital Improvements Plan, Basis of Design, a tentative schedule and an update on the work and being performed. The objective of the meeting was to get a general approval of the LCA/City approach. A submission of information was requested by EPA before they can provide an answer to us.

A follow-up meeting was held at the EPA Office in the City of Philadelphia. Representatives from DEP, the City of Allentown and LCA were present as well as the consultants from Allentown and LCA. The objective for LCA and the City was to receive a response from the regulators on the City and LCA plan presented in June. The regulators provided us with positive feedback on both the City and LCA plans, the phasing of the plans and the timing of the phases. EPA and PADEP will be coordinate a letter reflecting the consensus of the meeting.

LEHIGH COUNTY AUTHORITY

2017 REPORT ON WASTEWATER USER CHARGES

October 6, 2016

LEHIGH COUNTY AUTHORITY
2017 REPORT ON WASTEWATER USER CHARGES

INDEX

	<u>Page No.</u>
Executive Summary	3
I. Introduction	5
II. Billing Basis Determination	7
III. Capital Recovery Fees	8
IV. Western Lehigh Interceptor User Charge Development	9
Tables: Allentown Estimated Costs	13
Operation & Maintenance Costs	14
O&M Costs Shared by Signatories and Emmaus	15
Total System Costs	16
Cost Allocation Summary	17
Billing Basis O&M	18
Unit Cost Summary	19
V. Relief Interceptor User Charge Development	20
Tables: Phase 1 - Operation & Maintenance Costs	22
Phase 2 - Operation & Maintenance Costs	23
Billing Basis	24
Phase 1 - Cost Allocation	25
Phase 2 - Cost Allocation	26
Appendix A User Charge Sampling and Analysis Procedures	27
Appendix B Estimated Quarterly Bill Procedures	31

EXECUTIVE SUMMARY

This summary provides an overview of the various assumptions included in the Lehigh County Authority (LCA) “2017 Report on Wastewater User Charges.” Further detailed information can be found in the report.

1. Waste Strength

The assumed concentration for all Non-Exceptional Strength users will be 250 ppm for BOD, 275 ppm for TSS, and 35 ppm for TKN. Exceptional Strength Limits will be 300 ppm for BOD, 360 ppm for TSS, and 85 ppm for TKN.

The assumed concentration for discharge to the Kline’s Island Wastewater Treatment Plant is 141.2 ppm for BOD, 159.8 ppm for TSS, and 32.0 ppm for TKN which are net values without Emmaus discharges. These strengths are based on the continuation of the LCA Wastewater Treatment Plant (WTP) in Fogelsville reducing all waste strength that passes through it and with brewing operations at Boston Beer.

2. Payments to the Wastewater Treatment Plant (WTP)

Credits will be given to the WTP, at City unit rates, for pounds of BOD and TSS removed by the operation of the WTP in excess of the required removal of certain industrial strengths. These credits are as mentioned in the 4/17/91 Amendment to the 4/1/83 Agreement between LCA, the LCA Signatories, and the County.

3. User Rates

The following rates are proposed for 2017 as shown in comparison to the budgeted 2016 rates and represent an increase of .3% from the 2016 rates for a typical residential customer.

	<u>2016</u>	<u>2017 Proposed</u>
<u>LCA SIGNATORIES</u>		
Western Lehigh Interceptor		
FLOW (per 1,000 gals)	\$1.28	1.13
BOD (per pound)	0.23	0.26
TSS (per pound)	0.21	0.24
TKN (per pound)	0.31	0.40
ALLOCATION (per 1,000 gals per day)	0.22	0.20
Little Lehigh Relief Interceptor		
PHASE 1 (per 1,000 gals)	0.12	0.15
PHASE 2 (per 1,000 gals)	0.03	0.02
<u>EMMAUS</u>		
Western Lehigh Interceptor		
FLOW (per 1,000 gals)	0.73	.33
<u>OTHER USERS</u> – L. Macungie, Salisbury, & S. Whitehall		
Little Lehigh Relief Interceptor – Phase 1		
FLOW (per 1,000 gals)	0.09	0.11

3. User Rates (continued)

NOTES:

Western Lehigh Interceptor: LCA has elected to use a combination of operating funds and Western Lehigh Interceptor fees collected from new connections to pay certain capital costs such as the Signatory I&I flow monitoring, hydraulic modeling and large equipment purchases. Sixty percent of the costs will be recovered through user charges over a 10-20 year period while the capital recovery fees will cover 40% of the costs. Existing operating revenues will only be used to fund unanticipated shortfalls between the budgets.

For 2017, we have estimated the City Division's unit charges using a 2017 estimate for total hydraulic and organic loadings based on actual 1st and 2nd quarter 2016 signatory flows and loads and a projection of total hydraulic flow into the Kline Island Wastewater Treatment Plant (see page 10). The City rates show a 13% increase for a typical residential user. The increase is due to operating expense increases to allow for required maintenance and associated staffing.

Little Lehigh Relief Interceptor – PHASE 1: The rate for 2017 will increase by 22% from the 2016 rate for non-LCA signatory users and 25% for LCA signatory users. The increase reflects the inclusion of a \$50,000 reserve fund allocation earmarked for future projects due to compliance with the EPA Administrative Order.

Little Lehigh Relief Interceptor – PHASE 2: The rate for 2017 has decreased by 33% from the 2016 rate to reflect adequate coverage of 2017 estimated expenses.

4. User Payments

Quarterly Estimated Payments: To improve the WLI operating fund cash flow, Signatories will receive an estimated quarterly bill. Estimating the quarterly bills will provide consistent Signatory payments and will result in having payments arriving prior to LCA's payment to the City (City Division) for treatment and transportation costs. Submission of the Signatory data is still required but the timing of the submission is no longer as critical. The estimated quarterly bill for each Signatory for the year 2017 is attached to this report, "Estimated Quarterly Bill Procedures" as Appendix B.

I. INTRODUCTION

This report is intended to demonstrate how the user rates for 2017 were developed. It also reports comparative historical data. The Lehigh County Authority (LCA) Wastewater facilities – the Western Lehigh Interceptor (WLI), and the Little Lehigh Relief Interceptor, Phases 1 and 2 (LLRI-P1 and LLRI-P2) are legally and financially independent of each other.

Background – WLI

In 1971, LCA constructed the WLI to serve four municipalities – Upper and Lower Macungie Townships and the Boroughs of Alburtis and Macungie. Since then, Upper Milford, Lowhill and Weisenberg Townships have been added. Collectively, the municipalities are referred to as the “Signatories” (or “Signatory.”) LCA also provides service to a portion of the Borough of Emmaus (“Emmaus”).

LCA, serving as agent for the Signatories, contracts with the City of Allentown (City) for the transportation, treatment and disposal of wastewater from the Signatory area (see “City of Allentown – Concession Lease” on page 6). Discharges to the City are based on constant flow measurements and periodic sampling and analyses to determine discharge strength.

The WLI consists of 20.6 miles of gravity sewer line and several parallel relief lines, including the Western Lehigh Relief Facilities (WLRF – a pump station and 3 miles of force main) that were completed during 1998 and the Spring Creek Force Main Extension (5 miles of force main) completed in 2005. In 2010, the 3 million gallon Flow Equalization Basin was constructed at the WTP to be utilized in storing wet weather flows to reduce the risk of sanitary sewer overflows within the WLI system.

Background – LLRI

Under the provisions of agreements with the City, all municipalities are required to construct relief facilities whenever jointly-used City-owned sewer lines become overloaded. In 1973, the City notified the Signatories, Salisbury Township (Salisbury) and South Whitehall Township (South Whitehall) that the City-owned Little Lehigh Interceptor required relief.

Under an agreement dated February 10, 1981, LCA was authorized to plan and construct the required facilities. The agreement contemplated two financially independent sets of facilities. The first, known as Phase 1, relieves the City’s Little Lehigh Interceptor and serves the Signatories, Salisbury and South Whitehall. It consists of the Park Pump Station and a large diameter force main, extending from the Park Pump Station to the Allentown Interceptor, just upstream of the City treatment plant. The second, known as Phase 2, relieves the City’s Emmaus Interceptor from Keck’s Bridge to the Park Pump Station and serves the Signatories.

Existing Billing Practices – WLI

Costs attributable to the WLI and the use of the City facilities are allocated through user rates among the Signatories based on three criteria: (1) flow, (2) strength, and (3) treatment allocation. Costs attributable to the operation of the WLI (excluding Exceptional Strength Analyses costs), the City interceptors, and a portion of the City treatment plant operational costs are allocated based on flow. The balance of the City treatment plant operational and the Exceptional Strength Analyses costs are allocated based on strength of waste measured as BOD, TSS, and TKN. Allocation of the City costs are based on the City’s user charge system, developed in 1979. All City and LCA debt service costs are allocated based on wastewater treatment allocations to the Signatories.

Emmaus, because it deals directly with the City for its treatment and transportation needs and because it has made a capital contribution in lieu of paying future debt service, pays user charges based only on WLI operating costs.

Billing practices used herein were established in the April 1, 1983 Service Agreement. Billable flows and strengths to each Signatory are based on a summation of the individual customer discharges within each Signatory service area. Inflow and infiltration (I/I) attributable to the WLI service area is shared proportionately by all Signatories.

Existing Billing Practices – LLRI

Costs attributable to LLRI-P1 are allocated among the Signatories, Salisbury and South Whitehall in proportion to metered wastewater flows tributary to the City's Little Lehigh Interceptor, except that South Whitehall flows are reduced by 500,000 gallons per day (gpd.) based on a City commitment to transmit that wastewater on South Whitehall's behalf.

Costs attributable to LLRI-P2 are allocated among only the Signatories based on billable wastewater flow. The Authority has established a rate per 1,000 gallons to cover expected expenses. Therefore, a rate of \$0.02 will be applied to the Signatory billing.

City of Allentown – Concession Lease

In August 2013, LCA assumed responsibility for the operation of the City of Allentown water and wastewater systems (City System), now referred to as the LCA Allentown Division. As part of this 50-year lease, LCA is now responsible for calculating annual City wastewater rates and billing City Signatories for wastewater usage. The 2017 rates have been calculated according to Municipal Service Agreements. Signatories will remain responsible for their share of the previously existing City Debt Service plus additional amounts for ongoing capital improvements. The City System is legally and financially independent of the of the LCA systems.

II. BILLING BASIS DETERMINATION

Discharge from each residential, commercial or industrial user is estimated and summed within each Signatory service area.

Flow Determination

Flows are determined based on one of the following methods. Where a sewer meter is available, periodic readings are used. If a sewer meter is not available, periodic readings of the water meter are used for commercial and industrial customers. For residential users receiving water service as of 1 January, the first quarter's metered water usage is used. For residential users connecting after 1 January, or for users not having a water meter, 220 gpd is used.

Strength Determination

Assumed Average Strength and Exceptional Strength Limits proposed for 2017 are:

Discharge Type	Parameter	
	Assumed Average Strength	Exceptional Strength
BOD	250 ppm	300 ppm
TSS	275 ppm	360 ppm
TKN	35 ppm	85 ppm

As in previous years, all industrial and certain commercial users with greater than 25,000 gallons per billing period will be sampled and tested at least once per year in order to determine the strength of their discharge. Any user with BOD, TSS or TKN discharge in excess of the Exceptional Strength Limit will be billed based on those test results. All users with discharge below the Exceptional Strength Limit will be billed at the Average Strength level.

Sampling and testing frequency, duration and other related guidelines are described in the "User Charge Sampling & Analysis Procedures and Billing Computations," attached to this report as Appendix A.

The WTP is required to treat certain industrial discharges to 210 ppm for BOD and 230 ppm for TSS. Through the operation of the WTP, those industrial discharges, together with other customer discharges located upstream of the WTP, will be significantly reduced below those required levels. An agreement between the Signatories, LCA and the County (prior WTP owner) identifies how billings, and credits for those additional removals, will be calculated. Those terms have been used in calculating total system billables and the County credit for this report.

Emmaus Billing Basis

The Emmaus Service Agreement (7/1/86) provides that Emmaus will participate in WLI operating and maintenance costs, including administrative costs, while excluding debt service. Administrative costs are allocated based on the ratio of salaries applicable to WLI operation and maintenance to total WLI salaries. The minimum and maximum limits for allocation of Administrative costs are 32% and 52% respectively.

III. CAPITAL RECOVERY FEES

Background

Since 1985, capital recovery fees have been charged to the Signatories to recover the purchase cost of treatment capacity from the City (Allocation Fee) and the construction cost of the WLI (Interceptor Fee). Since 1986, a Relief Interceptor Fee has been charged to all new connections. The Interceptor Fee is recovering costs of the original interceptor, the various relief facility projects and the flow equalization basin.

A review of all fees is conducted annually with proposed changes made effective in July. All fees are determined in accordance with Pennsylvania Law (Act 57 of 2003.)

Use of Capital Recovery Fees

The Interceptor fees collected through June 1993 were placed in a bond redemption and improvement account. However, those fees, together with other funds, were used to retire the WLI debt on 1 July 1993. A separate reserve account has since been established for deposit of interceptor fees collected after 30 June 1993 to retire additional WLI debt, fund capital projects or pay for unexpected expenses.

Since the bonds that financed the Relief Interceptor were retired, collected fees have been placed in an account and will be funding a portion of the WLI system capital costs.

Concerning treatment capacity, as the service area continues to grow and the need for treatment capacity grows, the fees collected are placed in a reserve fund to either purchase additional capacity or to fund additional capacity options.

IV. WLI USER CHARGE DEVELOPMENT

This section describes the methods used to calculate WLI User Charges. Four general steps are followed:

1. Year 2017 costs have been estimated based on prior years' cost, flow and loading trends.
2. Costs have been allocated to five billing parameters - FLOW, BOD, TSS, TKN, and ALLOCATION.
3. A billing basis has been estimated for each billing parameter.
4. Unit costs were determined for each parameter by dividing the total costs by the billing basis.

Two types of costs are incurred - City and LCA. City charges include three types of costs - debt service, interceptor use, and operation and maintenance. LCA charges include two types of costs - debt service and operation and maintenance.

Assumptions

For estimating City costs, the following assumptions have been made for LCA total discharge to the City:

	<u>2016</u>	<u>2017</u>
LCA Total Allocation in City Plant	10.78 MGD	10.78 MGD
Average Daily FLOW	8.21 MGD	8.53 MGD
Average BOD Concentration	135.3 ppm	141.2 ppm
Average TSS Concentration	150.4 ppm	159.8 ppm
Average TKN Concentration	28.2 ppm	32.0 ppm

City Debt Service

LCA is required to pay a portion of the debt service on the bonds that were purchased to finance the City Plant based on the LCA share of treatment capacity. LCA's estimated share of these total debt service costs is \$337,475 for 2017. This amount includes additional debt service amounts for the replacement of the motor control center at the Kline Island Wastewater Treatment Plant and roof replacements at both the Kline Island Wastewater Treatment Plant and the Distribution and Collections Building.

City Interceptor Use

In lieu of debt service, LCA pays a fixed rate of \$0.01 per 1,000 gallons for the use of the City interceptors. For 2017, the estimated cost is \$31,143.

City Operation and Maintenance

LCA pays the City for all flow and pounds discharged. In setting rates, annual operation and maintenance costs and loadings for the City Plant are estimated, thus allowing unit rates to be estimated. The following City unit rates, shown in comparison to the previous year's rates, were estimated by LCA:

	2016 Budgeted <u>Rates</u>	2017 Estimated <u>Rates</u>
FLOW (per 1,000 gals)	\$0.186	\$0.201
BOD (per pound)	0.226	0.255
TSS (per pound)	0.192	0.220
TKN (per pound)	0.336	0.375

The components of the City costs are summarized in the Table - "Allentown Estimated Costs" (page 13). Operating expense increases included in the 2017 rates resulted in a 13% rate increase over the 2016 rates.

LCA Debt Service

The 2017 Debt Service is estimated at \$432,543. The Debt Service is based on PennVest loans approved to fund the Flow Equalization Basin project and additional financing for the Trexlertown Area Interceptor upgrade required for compliance with the EPA Administrative Order.

LCA Operation and Maintenance

Operation and maintenance costs are shown in the Table - "Operation & Maintenance Costs" (page 14). As earlier mentioned, since Emmaus does not participate in all operation and maintenance costs, separate costs that Emmaus and the Signatories share in are shown in the Table - "O&M Costs Shared by Signatories and Emmaus" (page 15).

As in previous User Rate Reports, the costs of Exceptional Strength Analyses are equally divided between BOD, TSS and TKN. These costs are net of any Signatory reimbursements.

Billing Basis

To estimate the 2017 billable discharges, the second half of 2015 and the first half of 2016 billings were reviewed. Projected growth for each Signatory was added. A summary of this information may be found in the Table - "Billing Basis O&M" (page18).

Rate Design

Although rate calculation options are almost limitless, several legal requirements eliminate many of the options. First, federal law and regulations provide that "each recipient of the waste treatment services within the applicant's service area will pay its proportionate share of the cost of operation (including replacement...) of all waste treatment service provided by the applicant..."

Second, Pennsylvania's Municipality Authorities Act requires that rates be "uniform and reasonable."

Finally, the Service Agreements require that a rate methodology substantially identical to that adopted by the City be used and that debt service costs attributable to the City facilities and to the WLI be allocated in proportion to the hydraulic allocation.

Based on the aggregate of these restrictions, unit costs for FLOW, BOD, TSS, TKN, and ALLOCATION are based on the total billables divided into the total cost for each parameter. City debt service and other costs are only allocated to the Signatories and not Emmaus. LCA operation and maintenance costs related to the WLI are allocated to both the Signatories and Emmaus.

User Rate Adequacy

Referring to the Table - "Billing Basis O&M" (page 18), those pounds of BOD and TSS that are removed by the LCA WTP that are credited to LCA at the LCA unit costs are shown as being removed from the billing base. This is done in order to determine the LCA unit cost. To determine total revenues and total expenses for the system, these removals must be added back because, although they are offsetting, they are both billed (a system revenue) to Upper Macungie and credited (a system expense) to the LCA. Because all of the pounds of BOD and TSS that are removed by the LCA WTP at the LCA unit rate are attributable to Kraft, which currently has a projected closing date of October 31, 2016, those pounds have been eliminated from the 2017 billing basis.

Using the proposed unit rates, multiplied by the various customer billing bases, a total expected revenue of \$7,700,647 is estimated. Comparing this revenue to the expense of \$7,700,647 shown on the Table - "Cost Allocation Summary" (page 17) indicates an overall coverage of 0%.

WESTERN LEHIGH INTERCEPTOR

TABLES

ALLENTOWN ESTIMATED COSTS

	<u>2016 Est Budget</u>	<u>2017 Estimate</u>
DEBT SERVICE:		
Summary	\$ 281,369	\$ 337,475
Other Interceptor	<u>29,981</u>	<u>31,143</u>
DEBT SERVICE SUBTOTAL	\$ 311,350	\$ 368,618
 OPERATION AND MAINTENANCE:		
Flow	\$ 557,638	\$ 625,971
BOD	764,625	935,022
TSS	722,226	913,334
TKN	<u>237,152</u>	<u>311,221</u>
OPERATION AND MAINTENANCE SUBTOTAL	\$ 2,281,641	\$ 2,785,548
TOTAL ALLENTOWN COSTS	<u>\$ 2,592,991</u>	<u>\$ 3,154,166</u>

OPERATION & MAINTENANCE COSTS

ITEM	2016 BUDGETED LCA COSTS	2017 ESTIMATED LCA COSTS
DEBT SERVICE:		
Financing and Bond Issues	\$ 569,040	\$ 432,543
OPERATING & MAINTENANCE CHARGES:		
Personnel		
Personnel Subtotal	\$ 92,574	\$ 86,576
Purchase of Services		
General Services	81,091	77,805
Employee Benefits	33,472	33,079
Utilities	39,400	42,920
Engineering	85,000	85,000
Exc. Str. Analyses (External)	36,400	37,115
General Analyses (External)	2,860	2,720
Maintenance	138,465	381,120
Misc. Purchase of Services	2,715	45,300
I/I Rehabilitation Program	20,000	20,000
Rental Charges	20,025	18,414
Purchase of Services Subtotal	\$ 459,428	\$ 743,473
Materials and Supplies		
Fuel	11,000	\$ 11,000
Misc. Materials & Supplies	25,500	30,550
Materials & Supplies Subtotal	\$ 36,500	\$ 41,550
Equipment		
Equipment	21,100	38,150
Amoritized Equipment	0	46,750
Equipment Subtotal	\$ 21,100	\$ 84,900
Capital Funding		
Capital Funding	1,500,000	-
Amoritized Planning & Flow Monitoring	70,000	154,000
Capital Funding Subtotal	\$ 1,570,000	\$ 154,000
TOTAL OPERATING & MAINTENANCE	\$ 2,179,602	\$ 1,110,499
Reserve Fund/Capital Funding	550,000	1,200,000
TOTAL LCA EXPENSES	\$ 3,298,642	\$ 2,743,042
Less: Miscellaneous Revenue	(75,000)	(100,000)
TOTAL LCA CHARGES	\$ 3,223,642	\$ 2,643,042

O&M COSTS SHARED BY SIGNATORIES AND EMMAUS

<u>ITEM</u>	<u>2017 ESTIMATED LCA COSTS</u>	<u>PERCENT ALLOCABLE TO EMMAUS</u>	<u>PORTION SHARED BY SIGNATORIES AND EMMAUS</u>
DEBT SERVICE:			
1996 Financing & Bond Issue	\$ 432,543	0.0%	\$ -
OPERATING & MAINTENANCE CHARGES:			
Personnel			
Personnel Subtotal	\$ 86,576	52.0%	\$ 45,020
Purchase of Services			
General Services	\$ 77,805	52.0%	\$ 40,459
Employee Benefits	33,079	52.0%	17,201
Utilities	42,920	100.0%	42,920
Engineering	85,000	100.0%	85,000
Exc. Str. Analyses (External)	37,115	0.0%	-
General Analyses (External)	2,720	100.0%	2,720
Maintenance	381,120	100.0%	381,120
Misc. Purchase of Services	45,300	100.0%	45,300
I/I Rehabilitation Program	20,000	100.0%	20,000
Rental Charges	18,414	52.0%	9,575
Purchase of Services Subtotal	\$ 743,473		\$ 644,295
Materials and Supplies			
Fuel	\$ 11,000	100.0%	\$ 11,000
Misc. Materials & Supplies	30,550	100.0%	30,550
Materials & Supplies Subtotal	\$ 41,550		\$ 41,550
Equipment			
Equipment Subtotal	\$ 84,900	100.0%	\$ 84,900
Capital Funding			
Capital Funding Subtotal	\$ 154,000	100.0%	\$ 154,000
TOTAL OPERATING & MAINTENANCE	\$ 1,110,499		\$ 969,765
Reserve Fund Allocation	1,200,000	0.0%	-
TOTAL LCA EXPENSES	\$ 2,743,042		\$ 969,765
Less: Miscellaneous Revenue	(100,000)		(100,000)
TOTAL LCA CHARGES	\$ 2,643,042		\$ 869,765

TOTAL SYSTEM COSTS

	<u>2016 Budget</u>	<u>2017 Estimate</u>
DEBT SERVICE:		
Allentown	\$ 311,350	\$ 368,618
LCA	<u>569,040</u>	<u>432,543</u>
DEBT SERVICE SUBTOTAL	<u>\$ 880,390</u>	<u>\$ 801,161</u>
 OPERATION AND MAINTENANCE:		
Allentown	\$ 2,281,641	\$ 2,785,548
LCA	<u>2,654,602</u>	<u>2,210,499</u>
OPERATION AND MAINTENANCE SUBTOTAL	<u>\$ 4,936,243</u>	<u>\$ 4,996,047</u>
 COUNTY CREDITS		
BOD	\$ 1,292,042	\$ 1,251,287
TSS	<u>544,760</u>	<u>652,152</u>
TOTAL COUNTY CREDITS SUBTOTAL	<u>\$ 1,836,802</u>	<u>\$ 1,903,439</u>
 TOTAL SYSTEM COST	 <u><u>\$ 7,653,435</u></u>	 <u><u>\$ 7,700,647</u></u>

COST ALLOCATION SUMMARY

	Total Cost	ALLOCATION PARAMETER				
		Flow	Allocation	BOD	TSS	TKN
O&M						
Allentown O&M	\$ 2,785,548	\$ 625,971	\$ -	\$ 935,022	\$ 913,334	\$ 311,221
LCA O&M	2,210,499	2,173,384		12,372	12,372	12,372
Total O&M	\$ 4,996,047	\$ 2,799,355	\$ -	\$ 947,394	\$ 925,706	\$ 323,593
LCA WTP CREDITS *	\$ 1,903,439	\$ -	\$ -	\$ 1,251,287	\$ 652,152	\$ -
DEBT SERVICE						
Allentown Interceptor	\$ 31,143	\$ 31,143	\$ -	\$ -	\$ -	\$ -
Summary of Allentown Debt	337,475	-	337,475	-	-	-
LCA	432,543	-	432,543	-	-	-
Total Debt Service	\$ 801,161	\$ 31,143	\$ 770,018	\$ -	\$ -	\$ -
TOTAL COSTS	\$ 7,700,647	\$ 2,830,498	\$ 770,018	\$ 2,198,681	\$ 1,577,858	\$ 323,593

* Credits to the LCA WTP are paid at City unit rates for non-required removals

BILLING BASIS O&M

	<u>Flow gpd</u>	<u>BOD lb/day</u>	<u>TSS lb/day</u>	<u>TKN lb/day</u>
<u>Signatory Area</u>				
Alburtis	170,492	337	344	55
Macungie	191,248	427	466	57
Lower Macungie	1,426,318	3,223	3,389	441
Upper Macungie *	4,580,987	18,302	12,848	1,558
Less: County Removals @ LCA Unit Rate		0	0	
Weisenberg	33,363	70	77	10
Upper Milford	125,434	637	507	52
Lowhill	7,167	15	16	2
Pretreatment Plant & Haulers	<u>185,058</u>	<u>386</u>	<u>424</u>	<u>54</u>
LCA SYSTEM SUBTOTAL	6,720,067	23,397	18,071	2,229
Emmaus	<u>568,238</u>			
TOTAL	<u>7,288,305</u>	<u>23,397</u>	<u>18,071</u>	<u>2,229</u>

* Includes Boston Beer

Billing Basis for Debt Service

10.780 Million Gallons Per Day

UNIT COST SUMMARY

Item	Annual Cost	Billing Basis (gpd or lb/day)	Unit Cost (\$/1000 gal or \$/lb)
FLOW - Allentown Costs	\$ 657,114	6,720,067	\$0.2679
- Interceptor Costs/ Signatories	\$ 1,303,619.70	6,720,067	\$0.5315
- Interceptor Costs/ Signatories & Emmaus	\$ 869,765	7,288,305	\$0.3270 1.126328556
BOD (lb)	\$ 2,198,681	23,397	\$0.2575
TSS (lb)	\$ 1,577,858	18,071	\$0.2392
TKN (lb)	\$ 323,593	2,229	\$0.3977
ALLOCATION	\$ 770,018	10,780,000	\$0.1957

NOTE:

FLOW Unit Cost = Annual Cost/[(Billing Basis/1000) x No. of Days in Year]

Lb Unit Cost = Annual Cost/(Billing Basis x No. of Days in Year)

V. RELIEF INTERCEPTOR USER CHARGE DEVELOPMENT

This section describes the methods used to calculate user rates for the Little Lehigh Relief Interceptor System.

For both Phases, the total costs are divided by the billable flow. Billable flows differ between Phase 1 and Phase 2. Phase 1 provides service to the Signatories, Salisbury, South Whitehall, and Lower Macungie Township - Phase II and the Brookside Diversion. Phase 2 provides service only to the Signatories.

Costs for both Phases are shown in the Tables - "Phase 1-Operation & Maintenance Costs" (page 22) and "Phase 2-Operation & Maintenance Costs" (page 23).

Debt Service - Phase 1

In January 1993, the bonds issued for construction of Phase 1 were retired. No additional projects that required bond issues are ongoing and no debt service is included in the rate tables for this year.

User Rate Adequacy

For Phase 1, using the rate proposed, multiplied by the billing units derived in Table - "Billing Basis (For Phase 1) (page 24)," total revenue of \$474,417 is estimated. Comparing this revenue to the total expense of \$474,417 as shown on Table - "Phase 1-Operations & Maintenance Costs" (page 22), indicates an overall coverage of 0%.

For Phase 2, the debt associated with these facilities was retired in late-2001. In 2017, a unit charge of \$0.02 will be billed to system users.

LITTLE LEHIGH RELIEF INTERCEPTOR

PHASES 1 AND 2

TABLES

PHASE 1 - OPERATION & MAINTENANCE COSTS

<u>ITEM</u>	<u>2016 BUDGETED LCA COSTS</u>	<u>2017 ESTIMATED LCA COSTS</u>
DEBT SERVICE & FINANCING EXPENSES:	<u>\$ -</u>	<u>\$ -</u>
OPERATING AND MAINTENANCE CHARGES:		
Personnel		
Personnel Subtotal	<u>\$ 29,756</u>	<u>\$ 26,536</u>
Purchase of Services		
General Services	\$ 26,066	\$ 23,848
Employee Benefits	\$ 10,759	10,139
Utilities	\$ 123,350	123,400
Maintenance Services	\$ 88,800	173,500
Miscellaneous Services	\$ 300	3,500
Engineering	\$ 5,000	5,000
Rental Charges	\$ 6,437	5,644
Purchases of Services Subtotal	<u>\$ 260,712</u>	<u>\$ 345,031</u>
Materials and Supplies		
Fuel	8,000	\$ 3,000
Misc. Materials & Supplies	8,000	11,200
Misc. Equipment	19,100	39,650
Materials and Supplies Subtotal	<u>\$ 35,100</u>	<u>\$ 53,850</u>
TOTAL OPERATING & MAINTENANCE COSTS	<u>\$ 325,568</u>	<u>\$ 425,417</u>
Reserve Fund/Capital Funding	<u>-</u>	<u>50,000</u>
TOTAL LCA EXPENSES	<u>\$ 325,568</u>	<u>\$ 475,417</u>
Less: Miscellaneous Revenue	<u>(2,000)</u>	<u>(1,000)</u>
TOTAL LCA CHARGES	\$ 323,568	<u>\$ 474,417</u>

PHASE 2 - OPERATION & MAINTENANCE COSTS

<u>ITEM</u>	<u>2016 BUDGETED LCA COSTS</u>	<u>2017 ESTIMATED LCA COSTS</u>
DEBT SERVICE & FINANCING EXPENSES:	<u>\$ -</u>	<u>\$ -</u>
OPERATING AND MAINTENANCE CHARGES:		
Personnel		
Personnel Subtotal	<u>\$ 3,454</u>	<u>\$ 18,464</u>
Purchase of Services		
General Services	\$ 3,026	\$ 16,594
Employee Benefits	\$ 1,249	\$ 7,055
Maintenance Services	\$ 28,000	\$ 2,000.00
Utilities	\$ 100	\$ 120.00
Rental Charges	\$ 747	<u>\$ 3,927.26</u>
Purchases of Services Subtotal	<u>\$ 33,122</u>	<u>\$ 29,696</u>
Materials and Supplies		
Fuel	\$ 300	\$ 300
Misc. Materials & Supplies	1,000	1,500
Equipment	<u>10,000</u>	<u>10,000</u>
Materials and Supplies Subtotal	<u>\$ 11,300</u>	<u>\$ 11,800</u>
TOTAL OPERATING & MAINTENANCE COSTS	<u>\$ 47,876</u>	<u>\$ 59,960</u>
TOTAL LCA EXPENSES	\$ 47,876	\$ 59,960
Less: Miscellaneous Revenue	<u>(2,000)</u>	<u>(1,000)</u>
TOTAL LCA CHARGES	<u><u>\$ 45,876</u></u>	<u><u>\$ 58,960</u></u>

BILLING BASIS (For Phase 1)

<u>Municipality</u>	<u>Flow(gpd)</u>	<u>% Share</u>
Salisbury	393,322	3.39
South Whitehall	2,421,626	20.86
Lower Macungie-Phase II & Brookside	259,593	2.24
LCA Signatories	8,532,282	73.51
Total	<u>11,606,822</u>	100.00

**LCA SIGNATORY BREAKDOWN
BILLING BASIS
(For Phase 1 and Phase 2)**

<u>Signatory</u>	<u>Billable Flow (gpd)</u>	<u>% Share</u>
Alburtis	170,492	2.61
Lower Macungie	1,426,318	21.83
Macungie	191,248	2.93
Upper Macungie	4,580,987	70.10
Upper Milford	125,434	1.92
Weisenberg	33,363	0.51
Lowhill	7,167	0.11
Subtotal	6,535,010	100.00
Infiltration/Inflow	<u>1,997,272</u>	
Total	<u>8,532,282</u>	

**PHASE 1 - COST ALLOCATION
AMONG ALL USERS**

Municipality	Flow % Share	Costs
Salisbury	3.39	\$ 16,077
South Whitehall	20.86	98,981
Lower Macungie - Phase II & Brookside	2.24	10,611
LCA Signatories	<u>73.51</u>	<u>348,748</u>
Total	100.00	\$ 474,417
	Billing Basis	Unit Costs
<u>Annual Cost</u>	<u>(gpd)</u>	<u>\$/1000 gals.</u>
\$474,417	11,606,822	\$0.1120

AMONG LCA SIGNATORIES

Signatory	Flow % Share	Costs
Alburtis	2.61	\$ 9,099
Lower Macungie	21.83	76,117
Macungie	2.93	10,206
Upper Macungie	70.10	244,469
Upper Milford	1.92	6,694
Weisenberg	0.51	1,780
Lowhill	<u>0.11</u>	<u>382</u>
Total	100.00	\$ 348,748
	Billing Basis	Unit Costs
<u>Annual Cost</u>	<u>(gpd)</u>	<u>\$/1000 gals.</u>
\$ 348,748.03	6,535,010	\$ 0.1462

Note: To determine unit cost divide annual cost by billing basis times number of days in year divided by 1,000.

PHASE 2 - COST ALLOCATION

Signatory	Flow % Share	Costs
Alburtis	2.61	\$ 1,538
Lower Macungie	21.83	12,868
Macungie	2.93	1,725
Upper Macungie	70.10	41,330
Upper Milford	1.92	1,132
Weisenberg	0.51	301
Lowhill	0.11	65
Total	100.00	\$ 58,960

Annual Cost	Billing Basis (gpd)	Unit Costs \$/1000 gals.
\$58,960	6,535,010	\$ 0.02

Note: To determine unit cost, divide annual cost by billing basis times number of days divided by 1,000.

APPENDIX A
(Revised 9/30/16)
USER CHARGE SAMPLING & ANALYSIS PROCEDURES
AND BILLING COMPUTATIONS

Each municipality using the Western Lehigh Interceptor (WLI), in cooperation with Lehigh County Authority (LCA), will annually prepare a list of non-residential users tributary to the WLI who will be sampled, and a list of those who will not be sampled. Two types of sampled users will be listed:

Sampled

These users will be sampled and after analysis will be determined to be discharging either greater than or less than the Exceptional Strength Limit (ESL), as defined in Section II of this Report.

Restaurant

These users will include all facilities that have food processing within them and have a direct service connection to the municipal system. It will not include areas where food is only served, such as where the food is processed at a central facility and brought in, such as some school cafeterias.

LCA is responsible for sampling and analysis of all designated users as the agent of the requesting municipality. Any difficulties encountered with location of an appropriate sampling site, customer service or inquiries, etc., will be directed to the municipality who will work with LCA in answering the concerns.

Initial Designation

The initial designation of a Sampled user will be based on the probability of high strength discharge, as determined from technical literature, spot tests, and experience of other wastewater utilities. If the site is considered to have the potential for being greater than the ESL, it shall be placed on the Sampled list and shall then be sampled and determined to be either greater than or less than the ESL.

Types of businesses to sample:

Restaurants

Manufacturing

Water bottlers

Food Processing

Soft drink/Juice processing/bottling

Grocery stores that do in-house meat processing or other food preparation

The municipality shall notify LCA of any new Sampled, Restaurant or non-sampled user and add them to the listing on the quarterly billing report. In addition, LCA may contact the municipality to discuss and arrange initial monitoring of facilities either not listed on the quarterly report or listed as non-sampled who appear to have the potential for producing extra strength waste.

During the municipal review process for a new Sampled or new Restaurant site, a sampling location will be required to be shown on the drawings and approved by the municipality. The municipal review process will also determine if a grease interceptor/grease trap is required. For an existing building, LCA will review the proposed sampling location and determine if the installation of a sampling manhole and/or a grease interceptor is necessary.

The municipality shall furnish LCA with the following information for all Sampled and Restaurant users of the interceptor, prior to the selection of the sample site for that user:

1. User Designation – Sampled (S) or Restaurant (R)
2. Billing Name
3. Property Address
4. Municipal Building Identification (if applicable)
5. Contact Individual & Telephone Number
6. Normal Working Days or Schedule
7. Description of Operations
8. Sampling Location

Annual Designation

Annually, the municipality shall furnish LCA with a calculation of each user's annual average flow. The average shall be calculated from the 4th quarter flows of the previous year and the 1st, 2nd, and 3rd quarter flows from the present year. The annual listing by each municipality shall be submitted to LCA by 15 December of each year to facilitate scheduling of sampling and analysis for the following year.

Note: Sampled and Restaurant users with annual average flows less than 25,000 gallons will not be sampled.

General Information

1. All samples will be 24-hour, time-proportioned, composite samples.
2. Laboratory procedures for analyses will be in accordance with the latest DEP approved edition of Standard Methods.
3. The municipality will require each user to provide all necessary facilities to allow sampling under circumstances satisfactory to LCA.
4. Exceptional Strength Limit and Average Strength Limit (ASL) will be as defined in the most recent LCA "Report of Wastewater User Charges".

Sampling Frequency - Sampled

The discharge from each Sampled user will be analyzed at least once each year. Each sample will be analyzed for pH, BOD, TSS, and TKN. Fats-Oils-Grease (FOG) concentration will be analyzed if food products are produced at the facility or at the request of the municipality.

LCA may sample the non-residential location at any time during the calendar year, but will try to sample the same quarter each year. For sample frequency, refer to the following table:

<u>Annual Average Flow per Billing Cycle</u>	<u>Sample Frequency</u>
<25,000 gals	Not sampled
25,000 to 99,999 gals	One day per year
100,000 to 999,999 gals	Work week per year
> 999,999 gals	Work week per billing period

Note: Any new Sampled user will initially be sampled for a work week regardless of flow.

Sampling Frequency - Restaurant

The discharge from each Restaurant user will be analyzed at least 3-consecutive days annually, either Wednesday-Thursday-Friday or Thursday-Friday-Saturday. Each daily sample will be analyzed, at a minimum, for pH, BOD, TSS, and TKN. FOG concentration will be analyzed at least one day during the sampling period.

Requested Additional Sampling and Analysis

A municipality may request additional or extra sampling and analysis of any Sampled or Restaurant user. Test costs and sample collection costs will be billed to the municipality with results reports.

The results of the analysis will be used for billing purposes for that billing period and all successive billing periods until the next sampling and analysis is completed.

Non-Sampled User Sampling and Analysis

A municipality may request sampling and analysis of any non-residential user not included in the Sampled or Restaurant user definition. Test costs and sample collection costs will be billed to the municipality with results reports.

While the municipality may use the results of the sampling and analysis for billing, LCA will not use the results for purposes of billing the municipality.

The sampling results may indicate that the user should be added to the Sampled list for that municipality.

Billing Computation

Wastewater Strength:

With the exception of pH, results for each parameter will be averaged and used billing purposes.

pH values will be listed on the final report to the municipality. The acceptable pH range is 6.5-10.5 pH units upstream of the LCA Wastewater Pretreatment Plant, or 5.0 to 12.0 pH

units. The municipality will be notified if any result is out of range. The municipality may then notify the customer to determine the cause and to initiate corrective action.

Parameter	Average Strength Limit/ppm	Extra Strength Limit/ppm
BOD (Biochemical oxygen demand)	250	300
TSS (Total suspended solids)	275	360
TKN (Total Keldahl nitrogen)	35	85
FOG (Fats, oils & grease)	N/A	50

The billing for wastewater strength by LCA to each municipality for each user will be calculated as follows:

ASL will be used for billing calculations if all average results are less than the ESL. If any final result is greater than the ESL, that final result will be used for that parameter and ASL will be used for any parameter result less than the ESL.

Sampling and Analysis Charges:

If a user in the Sampled or Restaurant category is sampled and found to discharge flow with strength below the extra strength limits, sampling and analysis charges will be waived.

If a user is found to discharge greater than the ESL (a result greater than any one of the billing parameters not including FOG), sampling and analysis charges will be billed to the municipality for the annual sampling, or any repeated sampling during the year where the ESL is exceeded.

For FOG (fats, oils, or greases of animal or vegetable origin) analyses, if the result is greater than 50 mg/L, the cost of the analysis will be billed to the municipality. Additional samples, if only FOG is tested, the municipality will be billed for the cost of the analyses and the cost of the sample collection.

Special TPH (Total Petroleum Hydrocarbons) analysis may be done upon request or per LCA suggestion based on sample characteristics. In such cases, the level of TPH in the sample shall not exceed 50 mg/L. If results are >50 mg/L, the Authority will notify the municipality and the City. Municipality will be billed for sample collection and analysis.

APPENDIX B
(10/22/15)
ESTIMATED QUATERLY BILL PROCEDURES

Estimated Quarterly Bills

- Four quarterly bills will be estimated.
- The estimated quarterly bill amount will be calculated in October for the following year.
- The estimated quarterly bill will be based on a 4 quarter average and the following year's User Charge Report.
- Signatories will be notified of the following year's quarterly estimated bill amount in September or October of each year.
- Quarterly estimated bills will be issued on or about the first of the following months: April, July, November, and January.
- Quarterly estimated bills will be due 30 days after the billing date.
- LCA will enforce the 5% penalty for late payment. The penalty shall be 5% of the payment due if not paid within 30 days from the billing date and an additional 5% of the payment due if not paid within 60 days, and thereafter an additional 1% per month or fraction thereof.
- Signatories must provide actual quarterly data in a timely manner.
- Actual bills will be calculated during the year but no later than May of the following year.
- Adjustments for reconciliation of the prior year's quarterly estimated bills and reconciliation of the City bill will be issued no later than July of each year.