



LEHIGH COUNTY AUTHORITY

October 26, 2015

BOARD MEETING AGENDA

1. Call to Order
2. Review of Agenda
 - *Public Participation Sign-In Request*
3. Executive Sessions
4. Approval of Minutes
 - August 31, 2015 Board Meeting Minutes (will be mailed out under separate cover)
 - September 14, 2015 Workshop Meeting Minutes
 - September 28, 2015 Board Meeting Minutes
5. Public Comments
6. Action / Discussion Items

FINANCE AND ADMINISTRATION

- **2016 Budget** (will be mailed out under separate cover)

WATER

- **Allentown Division – Miscellaneous Water Filtration Plant / Water Distribution Approval**

WASTEWATER

- **Allentown Division – Miscellaneous Projects at the Wastewater Treatment Plant Approval**

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

NOVEMBER MEETINGS

Workshop Meeting
Board Meeting

November 9 – 12:00 p.m.
November 23 – 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.

WORKSHOP MEETING MINUTES

September 14, 2015

The Workshop Meeting of the Lehigh County Authority was called to order at 12:22 p.m., on Monday, September 14, 2015, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Emrich Stellar, Tom Muller, Richard Bohner, Norma Cusick, Scott Bieber and Deana Zosky. Authority Staff present were Aurel Arndt, Liesel Adam, Pat Mandes, Frank Leist, John Parsons, Bob Kerchusky, Chuck Volk and Lisa Miller.

REVIEW OF AGENDA

Aurel Arndt stated that there will be an Executive Session regarding personnel.

EXECUTIVE SESSION

The Chairman called an Executive Session at 12:24 p.m. to discuss a personnel matter.

The session ended at 12:49 p.m.

Public Comment

None.

ACTION AND DISCUSSION ITEMS

2016-2015 Capital Plans

Frank Leist gave an overview of the 2016-2025 Suburban and Allentown Division Capital plans. Another plan has been added this year, the Administrative Plan, which consists of shared projects between the Suburban and Allentown Divisions. Copies of the Plans were distributed at the meeting along with a presentation. Aurel Arndt presented the financial justification noting the funding sources and costs. Mr. Arndt said the Plans will be sent to the Lehigh Valley Planning Commission and a number of other organizations, including municipalities, for comments. Some discussion followed.

The Chairman called an Executive Session at 1:50 p.m. to discuss a personnel matter.

The session ended at 2:00 p.m.

Allentown Division – Wastewater Treatment Plant – Odor Control Tower Replacements/Repairs

John Parsons explained this project. He recommended rejecting the only bid received and rebidding the project. The bid received from Blooming Glen Contractors was higher than anticipated.

On a motion by Emrich Stellar, seconded by Tom Muller, the Board unanimously rejected the bid from Blooming Glen Contractors and approved rebidding the project (7-0).

The Chairman called an Executive Session at 2:15 p.m. to discuss a personnel matter.

The session ended at 3:15 p.m.

Chairman Nagle appointed Deana Zosky and Emrich Stellar to the Finance Committee. He appointed Emrich Stellar, Ted Lyons, and himself to the CEO Transition Committee.

INFORMATION ITEMS

None.

SYSTEM OPERATIONS OVERVIEW

None.

STAFF COMMENTS

None.

SOLICITOR'S COMMENTS

None.

OTHER COMMENTS

None.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 3:15 p.m.

Richard H. Bohner, Secretary

REGULAR MEETING MINUTES

September 28, 2015

The Regular Meeting of the Lehigh County Authority was called to order at 12:18 p.m., on Monday, September 28, 2015, Chairman Brian Nagle presiding. Other Members present at the commencement of the meeting were: Linda Rosenfeld, Emrich Stellar, Tom Muller, Richard Bohner, Norma Cusick, Scott Bieber and Deana Zosky. Authority Staff present were Aurel Arndt, Liesel Adam, Ed Klein, Frank Leist, Brad Landon, John Parsons, Chuck Volk, Bob Kerchusky and Lisa Miller.

PUBLIC COMMENTS

None.

REVIEW OF AGENDA

Aurel Arndt stated there would be an Executive Session following the regular meeting regarding a personnel issue.

APPROVAL OF MINUTES

None.

ACTION AND DISCUSSION ITEMS

Pension Plan Minimum Municipal Obligation (MMO) for 2016

Liesel Adam presented the 2016 Minimum Municipal Obligation (MMO) for the Lehigh County Authority Pension Plan to the Board as required by Act 205. The 2016 estimate is lower than last year because of employee departures. An Actuarial study, done every two years, will be performed next year. That study will include Allentown Division employees. Some discussion followed.

Well WL-20 and Reservoir-3 – Coordinated Capital and Operational Changes

Frank Leist gave a history and an overview of the project which will result in the installation of a Variable Frequency Drive (VFD) at WL#20, a 16" motor operated valve at Reservoir #3, and include updated SCADA control. He is asking for approval of the Capital Project Authorization in the amount of \$89,546 for the design phase of the project and approval of the Professional Services Authorization in the amount of \$34,300 to ARRO Consulting, Inc. to provide bidding and design services and approval of the Professional Services Authorization in the amount of \$42,046 to Aptus Control Systems, Inc. to provide equipment, installation and programming for the modification of SCADA systems. Some discussion followed.

On a motion by Emrich Stellar, seconded by Norma Cusick, the Board unanimously approved the Capital Project Authorization in the amount of \$88,846 for the design phase of the project and approval of the Professional Services Authorization in the amount of \$34,300 to ARRO Consulting, Inc. to provide bidding and design services and approval of the Professional Services Authorization in the amount of \$42,046 to Aptus Control Systems, Inc. to provide equipment, installation and programming for the modification of SCADA systems (9-0).

The September Board Notes were reviewed. Liesel Adam was asked to explain the Microsoft SharePoint 2013 program that was installed on our server. The program is an employee knowledge and document sharing program.

Brad Landon stated that settlement on the Lowhill Township Sewer System Acquisition will not take place on October 1st because of incomplete items between Lowhill Township and Upper Macungie Township.

SYSTEM OPERATIONS OVERVIEW

Bob Kerchusky presented a PowerPoint presentation to the Board regarding flow and operations at the Wastewater Treatment Plant and Water Filtration Plant, with an emphasis on the work being done with No. 6 Filter at the water plant. The No. 6 Filter is one of eight filters that needs work and was repaired as an

experiment to see what may be involved with repairing the remaining filters. These repairs will be part of the plant Master Plan.

STAFF COMMENTS

None.

SOLICITOR'S COMMENTS

None.

OTHER COMMENTS

None.

EXECUTIVE SESSION

The Chairman called an Executive Session at 12:55 p.m. to discuss a personnel matter.

ADJOURNMENT

There being no further business, the Chairman adjourned the meeting at 1:55 p.m.

Richard H. Bohner
Secretary

FINANCE & ADMINISTRATION

ACTION ITEMS

1. 2016 Budget

The 2016 Budget for LCA was presented on a preliminary basis to the Board at the October Workshop meeting. The Budget is going through final review and amendment with final budget packs being prepared to present to the Board in advance of the Board meeting. Approval of the budget will be requested at the October Board Meeting (*color*).

DISCUSSION ITEMS

INFORMATION ITEMS

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

CERTIFICATES OF DEPOSIT						
Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
WW Capac	Yadkin Bank	Elkin, NC	249,000.00	10/6/15	7/6/16	0.4
WW Capac	Capital One, National Assoc	McLean, VA	248,000.00	10/7/15	4/7/17	0.85
WW Capac	American Express Centurion	Salt Lake City, Ut	248,000.00	10/7/15	4/7/17	0.9
WW Capac	Transportation Alliance Bank	Ogden, UT	249,000.00	10/7/15	1/9/17	0.6
WW Capac	Mizuho Bank	New York, NY	248,000.00	10/7/15	7/7/16	0.5
Cons Wtr (2)	The Needham Bank	Needham, MA	248,000.00	10/7/15	10/10/17	1.05
Cons Wtr (2)	Capital One Bank (USA) Nat'l Assn.	Glen Allen, VA	249,000.00	10/7/15	4/7/17	0.85
Cons Wtr (2)	TCF National Bank	Sioux Falls, SD	248,000.00	10/7/15	10/7/16	0.55
Cons Wtr (2)	BMO Harris Bank National Assoc	Chicago, IL	248,000.00	10/7/15	10/7/16	0.6
Cons Wtr (2)	Apple Bank for Savings	Manhasset, NY	248,000.00	10/7/15	10/7/16	0.5
Cons Wtr (2)	Bank of India	New York, NY	200,000.00	10/8/15	4/6/16	0.45
Cons Wtr (2)	Ally Bank	Midvale, Ut	200,000.00	10/8/15	7/8/16	0.45
Cons Wtr (2)	Merrick Bank	South Jordan, UT	249,000.00	10/9/15	7/8/16	0.5
Cons Wtr (2)	M.Y. Safra Bank	New York, NY	249,000.00	10/9/15	11/9/16	0.55
Cons Wtr (2)	MB Financial Bank	Chicago, IL	249,000.00	10/9/15	1/9/17	0.65
Cons Wtr (2)	Standard Bank and Trust Co	Hickory Hills, IL	249,000.00	10/9/15	1/9/17	0.6
Cons Wtr (2)	First Niagara Bank	Buffalo, NY	248,000.00	10/9/15	10/10/17	1.15
WW Capac	Bank of Baroda	New York, NY	200,000.00	10/13/15	4/13/16	0.45
Cons Wtr (2)	Comenity Capital Bank	Salt Lake City, Ut	249,000.00	10/13/15	10/13/17	1.1
WW Capac	Commerce Union Bank	Springfield, TN	249,000.00	10/14/15	1/17/17	0.55
WW Capac	New Republic Savings Bank	Roanoke Rapids, NC	249,000.00	10/14/15	10/14/16	0.5
WW Capac	Marlin Business Bank	Salt Lake City, Ut	249,000.00	10/14/15	10/14/16	0.55
WW Capac	Community State Bank	Royal Center, IN	249,000.00	10/14/15	1/17/17	0.6
WW Capac	Beal Bank	Las Vegas, NV	200,000.00	10/14/15	4/13/16	0.35
Cons Wtr (2)	Homestreet Bank	Seattle, WA	200,000.00	10/14/15	4/14/16	0.3
Cons Wtr (2)	Keybank National Assoc	Cleveland, OH	248,000.00	10/14/15	10/16/17	1.05
Cons Wtr (2)	Carolina Premier Bank	Charlotte, NC	249,000.00	10/14/15	1/16/18	1.05
WW Capac	Safra National Bank of New York	New York, NY	248,000.00	10/15/15	10/14/16	0.6

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

1. **Allentown Division - Miscellaneous Water Filtration Plant / Water Distribution**

This project consists of the painting of water plant piping (specifically the high lift gallery finished water piping) to comply with a PA DEP inspection report. The painting project will be an operational expense with the work starting in mid-November and finishing before 2016. This project will be funded by the LCA Allentown Division. Construction approval is requested at the October Board Meeting **(blue)**.

DISCUSSION ITEMS

INFORMATION ITEMS

1. **Suburban Division - Water Main Replacement Program Cycle 1**

The project consists of the replacement of 1.73 miles of aged and/or failing Cast Iron water main. Design is currently under way.

2. **Suburban Division - Water Main Replacement Program Cycle 2**

The project consists of the replacement of 1.5 miles of aged and/or failing Cast Iron water main. Design is currently under way.

3. **Suburban Division – Pumping Station Projects**

This project will involve upgrades at two existing small system booster stations and the installation of one new major booster station in the Central Lehigh Division (CLD). The Pine Lakes Project will feature the conversion of the existing hydro-pneumatic station to a variable frequency drive controlled double pumping system (along with other miscellaneous improvements). The Crestwood Project consists of abandonment of existing wells and storage tank currently serving higher elevation customers and a connection of the pumping station to the existing North Whitehall Division System. The CLD Auxiliary Pump Station Project will feature the installation of a new booster station and main extension to pump water from the Lower to the Upper System. The design for all three of these projects commenced in June. PADEP Public Water Supply Permit applications are being prepared for the Pine Lakes and Crestwood Projects.

4. **Suburban Division – Capece Tract, WL#20 and Res #3 Improvements**

Professional Services contracts have been awarded to begin design, permitting and bidding of system improvements. WL#20 will be switched over to a variable frequency drive motor, to better control power usage and maintain steady output. Reservoir #3 will receive a motor activated butterfly valve, to maintain filling capabilities and chlorine contact levels. Both facilities will receive an upgrade to their SCADA systems.

5. **Suburban Division – Rt. 309 Crossing @ Sand Spring Road**

Professional Services contracts have been awarded to complete design and begin permitting and bidding of a 12" carrier pipe across Rt. 309. Previously, a 24" casing was

installed at this location. Completion of this line will bring public water to the property line of Lehigh Carbon Community College.

6. **Allentown Division- Schantz Spring Chlorination Issue**

The project is to design and construct a facility or improvements that assure continuous chlorination of the Schantz Spring water supply. PADEP permit applications have been prepared and all materials have been ordered so installations may begin. Chlorine injection point has been moved back to the bypass line, and the new chlorine analyzer is on-line. Peristaltic chemical pumps have been installed. Correlation of chlorine levels between the spring and the water plant have begun in order to determine if a static mixer is required. Preliminary correlation data indicates that a static mixer is not required. Follow-up reports will be issued. A full-scale test of the emergency power system has been executed and everything functioned properly and according to design. This Project is identified as Un-Completed Work and will be funded by the City.

7. **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.

8. **Allentown Division – Water Main Replacement Program- Cycle 2**

The project is the replacement of 2-miles of aged and/or failing Cast Iron water main in multiple locations throughout the City. Construction is currently under way. This Project is identified as Schedule-7 Work and will be funded by LCA Allentown Division.

9. **Allentown Division – Transmission Main – Leak Detection Survey**

The Project includes the use of a non-invasive leak detection methodology to find any leaks that may exist in approximately 33,000 linear-feet of large transmission mains ranging from 16 thru 36 inches in diameter. Both steel and cast iron pipes will be evaluated, with a majority of these mains over 65 years old. Effective non-invasive leak detection on mains of these sizes is a specialized service which requires sophisticated equipment and a high level of expertise. To facilitate the transmission main leak detection survey for this year and to be utilized for future surveys, this project includes the installation by hydro-excavation (*to minimize road damage and restoration costs*) of 21 permanent roadway monitoring points. The Lease Operating Standards requires 110 miles of water mains be surveyed annually. Excepting for the large transmission mains, this work is executed by the Allentown Division Distribution & Collection Department. The leak detection survey footage from this project will count towards the 110 mile annual requirement. Work on the survey is scheduled to begin in mid-September 2015. The project will be funded by the LCA Allentown Division.

10. **Allentown Division - Miscellaneous Water Filtration Plant / Water Distribution**

This project consists of upgrading the existing stormwater pump/control at Water Distribution. Design is currently underway with a likely spring construction start date. This will be a capital project funded by the LCA Allentown Division.

11. **Developments**

Water system construction is occurring in the following developments:

Hamilton Crossings, 2 commercial lots with 20 buildings having retail, financial, convenience and restaurant uses, LMT

Highgate, Phase 3 (Dunbar Tract), 63 residential lots (sfa), UMT

Liberty at Mill Creek, 2 industrial lots, UMT

Spring Creek Settlement Properties, 14 commercial/industrial lots, LMT
Valley West Estates, Phases 4, 5 & 6, 46 residential lots (sfd), UMT (currently on hold)
Woodmont at Upper Macungie, 13 apartment buildings (312 units) and one community center, UMT

Water system plans are being reviewed for the following developments:

Bortz Tract, 14 commercial units, UMT/SWT
Diocesan Pastoral Center, 2 commercial lots, 3 additional lots and residual lot for existing cemetery, LMT
Fields at Indian Creek, 218 residential lots (sfd) & community center, LMT/UMilT/Emmaus, water and sewer
Grandview, 6 commercial units and 204 apartment units, 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, UMilT, water and sewer
Lehigh Hills, 247 residential lots (sfa/sfd), UMT
Morgan Hills, 40 residential lots (sfd), WeisT, water and sewer
North Whitehall Commercial Center (Walmart), 5 commercial lots, NWT, water and sewer
Shepherd's Corner, 1 commercial lot, LMT
Trexler Business Center, Lot 1, 1 commercial building, LMT
Weilers Road Twins, 82 residential lots (sfa), UMT
Woodmere Estates, 60 residential units (sfd), UMT

WASTEWATER

ACTION ITEMS

1. **Allentown Division - Miscellaneous Projects at the Wastewater Treatment Plant:**

This project consists of the installation of an emergency (permanent) generator for the WWTP Chlorine Building. Bids have been received and the construction phase approval is requested at the October Board Meeting. Construction is expected to start over the fall and will be complete by the spring. This project will be funded by the LCA Allentown Division (*tan*).

DISCUSSION ITEMS

INFORMATION ITEMS

1. **Wastewater Treatment Capacity**

The 537 consultant completed a study to determine if the levels of TDS can be reduced at the PTP by source control. The conclusion is that the TDS at Boston Beer cannot be reduced. Therefore a source reduction program to reach a level of TDS in the PTP effluent to make land application or a direct discharge to the Jordan creek is not possible.

A meeting is scheduled with DEP to provide a status report and some final clarification. The 537 team will be meeting with the staff in November to provide the final investigation results and make a recommendation.

2. **Suburban Division -Wynnewood Terrace Pump Station and Force Main Replacement**

Work started on April 13, 2015, and is expected to be complete by end October. The final switch-over was completed October 7, 2015. A new PPL service is scheduled for the week of October 19.

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

The project will upgrade the WWTP head works. Design specifications are being finalized for our review.

4. **Allentown Division – Sanitary Sewer Manhole Lining, Cycle 2**

This annual project will install a lining system (to eliminate infiltration) in approximately 85 aged brick manholes identified by LCA staff. The design phase has been administratively approved. Board approval of the construction phase was granted at the July Workshop Meeting and construction commenced in early August. The project is identified as Administrative Order Work and will be funded by the City.

5. **Allentown Division – Manhole Collars with Water Tight Frame and Covers, Cycle 2**

This three year project will permanently secure the frame and cover of approximately 87 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. Construction began in late July. The project is identified as Administrative Order and will be funded by the City.

6. **Allentown Division - WWTP-Replacement of Motor Control Centers**

This Project will replace five aged motor control centers that provide power on a 24/7 basis to various parts of the WWTP. The project has been approved by the City as a Major Capital Improvement (MCI). The project completion is still expected by the end of February 2016. This Project is identified in the Lease as Schedule 7 (required) project and will be funded the LCA Allentown Division.

7. **Allentown Division – Roof Rehabilitation and Replacements**

The Project consists of replacing 26 facility roofs that were identified as in need of immediate replacement in the Roof Evaluation report performed by D'Huy Engineering. The design of these replacements are proceeding. The project was presented to the City for review/approval as a Major Capital Improvement (MCI), but the city rejected it as such. Construction began in October and should be complete before 2016. The project will be funded by the LCA Allentown Division.

8. **Allentown Division- SCADA System Installation –Wastewater Treatment Plant:**

Radio startup and testing for all 10 sites was completed on September 3, 2015. All sites passed. The Contractor will prepare and submit a report. Start of the UPS for MPH was completed on Oct. 13.

9. **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 submitted to the City for review and approval. A request for Board approval of the construction phase is anticipated in January 2016. This Project is identified in the Lease as Schedule 7 (required) project and will be funded by the LCA Allentown Division.

10. **Allentown Division- Wastewater Treatment Plant – Odor Control Tower Replacements/Repairs**

The wastewater treatment plant has four odor control units (OCU) that service the four plastic media trickling filters (PMTF). The current OCUs were built in 1983. This project incorporates removal and replacement of two OCUs, each being 41' tall and 12' diameter and #2 and #4 upper towers that have exceeded their normal life expectancy. Also included in the project is fiberglass repairs to OCU Upper Towers #1 and #3, 36" fiberglass ducting repairs, installation of a new OCU fan and duct modifications for #1 tower, and complete painting of the entire system. Only one bid was received and it was well beyond the expected budget. During the September Board Workshop, approval was granted to reject the bid. The project has been re-bid with a modified work scope. This project will be funded by LCA Allentown Division.

11. **Allentown Division - Miscellaneous Projects at the Wastewater Treatment Plant:**

The design is currently underway for the renovation of the WWTP Locker Rooms. Project has been advertised with construction to start in late fall. This project will be funded by the LCA Allentown Division.

12. **Consolidated Systems- SharePoint:**

SharePoint workshops were held Sept. 9 – 11, 2015. Workshop topics will be Team sites – Plant services, customer service; Workflow – Board/Staff notes, New employee orientation; KPI/Dashboard – Employee safety, Bond coverage. Microsoft SQL server was

installed on the server. GHD will install and configure Microsoft SharePoint 2013 Server along with development of SharePoint applications.

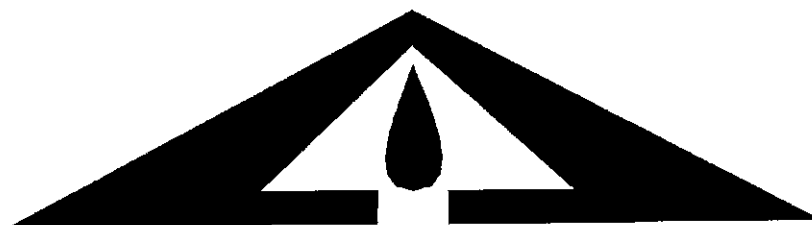
13. Suburban Division – SCARP

The alternatives analysis (modeling) has been completed by the program consultant. This includes various solutions to reduce the wet weather flows and the estimated cost associated with each. The City Engineer and the LCA Engineering team have been working together to coordinate the modeling efforts being performed. The Western Lehigh Sewerage Partners Engineering Team and Partners met to review the results of the alternatives analysis to determine which alternatives should be further studied.

EPA has responded to our request for an extension to the Administrative Order. They have offered to grant an interim extension of time as an “Order Extension on Consent” until December 3, 2017. The staff is currently discussing with the City team and legal council.

14. Lowhill Township – Sewer System Acquisition

The Board approved this acquisition earlier in the year, but there are a number of items that need to be completed before settlement can take place, which originally was scheduled for October 1st. It does not appear at this point as though that date will be met, particularly since there is an agreement with Upper Macungie Township Authority that needs to be revised or assigned.



LEHIGH COUNTY AUTHORITY

2016 BUDGET

Proposed: October 26, 2015

2016 BUDGET

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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

October 26, 2015

Chairman and Board Members
Lehigh County Authority
1053 Spruce Street
Allentown, PA 18106

Dear Board Members:

For several years LCA has been developing plans for the anticipated wave of retirements that will face our organization and ways to capture and transfer critical knowledge to new and younger employees. 2016 will start with an entirely new leadership team including a new CEO, CFO and COO, with the first and last filled via promotions of current employees (for a profile of the new leadership, see the summary at the end of this letter). We believe LCA is well poised to continue its solid performance as well as move on to new and better ways of operating, continue efforts to deal with aging infrastructure and address projected needs for new infrastructure. Clearly these initiatives will bring challenges but the combination of long term and new employees, many of whom bring years of experience from other organizations, will be able to handle, and more importantly find ways to avoid these hurdles.

We are continuing to identify and implement ways to better operate both our City and Suburban Systems as well as find ways to maximize the value of our Capital investments in those Systems to achieve economies and efficiencies. For example the 2016 Budget includes the restructuring of some City Division management and supervisory positions to improve effectiveness. That effort, among others, allows us to meet our 2016 financial obligations, however we will need to continue this focus and identify new efforts to meet our obligations in coming years. In addition, we will see some unprecedented capital projects, particularly in our wastewater systems to eliminate and reduce leakage in both the City and the suburbs.

Operating Budget

The operating budget reflects the Authority's activities as it relates to anticipated revenues and proposed day-to-day operational and maintenance costs. The following summarizes the proposed operating budget for 2016:

	City	Suburban	Total
Operating and Other Revenue	\$ 32,262,019	\$ 25,079,544	\$ 57,341,563
Operating Expenses (net of depr'n)	16,098,322	18,398,295	34,496,617
Revenues Available for Debt Service	16,163,697	6,681,249	22,844,946
Debt Service	12,372,722	3,734,244	16,106,966
Debt Service Coverage	1.31	1.79	

Revenues:

The composition of Lehigh County Authority's Revenue (\$57.3 million) for 2016 is as follows:

- **Water Revenues** (\$26.2 million) – This amount is comprised of City Division Revenues (\$17.4 million) and the Suburban Division Revenues (\$8.8 million). Revenues will increase as a result of a 2.5% increase in the City Division Water rates, the first increase since the Concession began, plus growth in wholesale water sales due to an additional 1 mgd purchase by the LCA Suburban Division under the City Water Supply Contract.

The Suburban Division Water Revenues are based on an industrial commercial growth rate of 0.2% and residential growth of 1.4% (overall 0.7%). No water rate increase is anticipated for the Suburban Division.

- **Wastewater Revenues** (\$ 30.4 million) - The City Division Wastewater Revenues (\$14.4 million) will see a \$1.8 million increase from 2015 levels which is primarily derived from residential and commercial customers (\$0.6 million), and charges to suburban communities discharging wastewater to Kline's Island Treatment Plant which will see 25% growth over 2015.

The Suburban Division Wastewater Revenues (\$16.0 million) are primarily generated from the Western Lehigh Interceptor (\$4.8million) and the Pretreatment Facility (\$9.0 million).

- **Interest Income** (\$0.7million) – With returns on cash investments and certificates of deposit at historic lows, interest income will continue to be modest. Available funds are invested at yields between .010 and .070%.

Due to Lehigh County Authority's operational efficiencies in managing the KITP the average residential customer in the Western Lehigh Interceptor (WLI) service area will continue to see treatment and transportation cost reductions from pre-Concession levels, however those savings will be offset by increased costs related to funding ongoing and future infiltration and inflow reduction efforts (SCARP). Overall rates will increase by 1.5%.

The common rate collection systems (Heidelberg Heights, Sand Spring, Upper Milford, Weisenberg and Wynnewood Terrace) will see no change to rates in 2016

The Western Weisenberg System will see no change to rates in 2016 as well.

Expenses:

Lehigh County Authority's Operating Expense Budget (\$34.5 million) for 2016 has been developed to provide safe drinking water at the most affordable cost and to manage the sewer network in an efficient and safe manner. 80% of these costs fall within the following 6 categories:

- **Payroll and Benefits** (\$11.0 million) – Payroll and employee benefits continues to be Lehigh County Authority's largest single operating cost. The operating personnel costs of the City Division (\$7.3 million) are split between the Water Operations (\$3.1million), the Wastewater Operations (\$3.7 million) and the Laboratory (\$0.5 million).

The operating personnel costs of the Suburban Division (\$1.7 million) are spread between Water Operations (\$1.2 million) and the Wastewater Operations (\$0.5 million).

The personnel costs of Internal Services (management, administration and support staff) represent \$2.0 million.

Capable, dedicated and motivated employees continue to be the key to meeting customer needs and system demands in an effective and efficient way. In addition to accomplishing day-to-day tasks, the 2016 Budget continues work to prepare for the retirement of senior employees. Continuing education and training, and maintaining a supportive work environment and developing transition plans and tools are important components of this Budget.

The 2016 Budget proposes eliminating seven positions in the City division, largely to achieve a restructuring of management and supervision positions.

LCA anticipates increases for its Suburban collective bargaining unit based on the fulfillment of criteria under the CareerPath program and accordingly proposes a 2.5% pool. The City collective bargaining unit will receive a 1.5% increase effective January 1, 2015, in accordance with its CBA, as well as required step increases.

In accordance with general market conditions, the Budget proposes a merit pay pool of 3.0% for non-collective bargaining unit employees.

It should be noted that the health insurance premiums covering the non-collective bargaining unit employees and the Suburban Division's collective bargaining unit employees increased 16.9%. While the employee share of the overall cost for pre-2008 employees at 12.2 % and 15% for post-2008 employees will remain the same, total employee contributions will increase by 33% over 2015 levels.

- **Suburban Division Treatment and Transportation costs** (\$3.4 million) – The Suburban Division and its Signatories incur the costs of conveying wastewater to the KITP, which cost will stay flat to last year.
- **Pretreatment contract with OMI** (\$5.8 million) – The Operations, Maintenance and Management Services Agreement for the Industrial Pre-Treatment Plant includes a base fee, an electric charge, variable charges and a repair and replacement reimbursement. These costs also include the solids removal at the Pretreatment Facility. The Authority has extended this contract through 2018.
- **Utilities** (\$1.9 million) – This category is comprised primarily of electric power costs, the Authority entered into a contract with an electric supplier to lock-in fixed rates through 2017 which resulted in \$100,000 reduction in 2015 and annually thereafter through 2017.
- **Maintenance Services** (\$1.4 million) – This cost includes repair and maintenance on the major functional components of the Authority's water and wastewater system, including water mains, hydrants, meters, wells and tanks, pumps and general maintenance of the buildings and structures.

- **Purification Supplies** (\$2.8 million) – This primarily includes the chemicals used at the City Division's Water Filtration Plant (\$0.7 million) and the KITP (\$2.1 million).

Debt Service:

Lehigh County Authority has separate bond structures related to the City Division debt and the Suburban Division debt.

- In the City Division, as is required under the Bond Indenture for the Concession Debt (2013 Bonds), revenues after the payment of operating expenses are available for the payment of debt service. This debt funded the payment of the upfront Concession payment to the City of Allentown and five (5) years of anticipated Capital Expenditures and the multiple reserves to secure bondholder's interests. Standard and Poors Rating Services currently carries an A rating on these bonds. Debt Service of \$12.3 million is budgeted for 2016 which is higher than 2015 owing to only ½ year of capitalized interest. The Budget projects Debt Service coverage of 1.31 which compare favorably to 1.2 times requirement in the Bond documents.
- As required under the Lehigh County Authority's Water System Bond Indenture, revenues after the payment of operating expenses are available for the payment of debt service. This debt has funded Suburban Division's Water System Capital expenditures since 1984. Fitch currently carries an AA rating on these bonds. Debt Service of \$2.5 million is budgeted for 2016. Although down from projected 2015 levels, the Budget projects Debt Service Coverage of 1.56 versus 1.1 time requirement in the Bond documents.
- Within the Suburban Division's Wastewater System, as is required under the Lehigh County Authority's Bond Indentures for Wastewater System Debt, revenues after payment of operating expenses are available for payment of debt service. This debt has funded the Suburban Division's Wastewater Capital Plan. These bonds are not rated with any rating agency. Debt Service of \$1.2 million is budgeted for 2016.

Capital Budget

The 2016 Capital Budget is based largely on the 2016-2025 Capital Plan and includes all the LCA systems. We believe all of the proposed projects are necessary to meet contractual obligations, the needs of future development, ensure regulatory compliance, maintain reliable, high quality service, and achieve operational economies.

Water and wastewater capital projects will be funded by a variety of sources: capital recovery fees (CRFs); reserves from prior years derived from both CRFs and operating revenues; customer contributions, borrowed funds and current operating revenues. Although the Authority does not anticipate any grants, we will actively pursue them if they become available. The Budget reflects CRFs adopted in 2015. As we have done historically, we will review water and wastewater CRFs (tapping fees, connection charges, meter fees, among others) during 2016 to determine the need for fee changes.

No additional borrowing for water and wastewater projects in 2016. As we do routinely, we will monitor bond market conditions for opportunities to refinance current debt.

The following components are part of the \$28.7 million 2016 capital budget:

- **City-Funded Projects** (\$3.2 million) – The Authority will work on a series of “Uncompleted Work” City Projects that were intended to be complete by the time of settlement on the Concession. The projects include SCADA upgrades (\$0.6 million), an interim blending pumping system (\$1.3million), valve replacements (\$0.9 million) and a variety projects, less than \$ 1 million in cost per project.
- **Required Capital Improvements Projects in the City Division** (\$7.2 million) – Under the Concession, the Authority agreed to fund and execute several projects to improve the water and wastewater system. In 2016, the Authority will spend \$5.1 million on the Water Main Replacement Project, \$0.7 million on the Replacement of the Motor Control Center and the remainder on the Belt Filter Press Rebuild and Replacement (\$1.3 million) and some smaller projects.
- **Remaining City Division Projects** (\$6.3 million) – The largest of the remaining City Division projects is the Facility Roof Replacements (\$0.9 million). \$5.4 million of CapEx is left for mobile equipment, general improvements and engineering on hydraulic models and other projects (with no individual project more than \$ 1 million).
- **Suburban Division Projects** (\$11.3 million) – The Authority proposes to spend \$5.3 million on the wastewater system, with the largest of that CapEx going to the Western Lehigh Interceptor (\$2.5 million). \$6.0 million will be dedicated to the Suburban Water System, with \$2.4 million budgeted for Water Main Replacements.
- **Internal Services Projects** (\$0.7 million) – The Authority proposes to spend the majority of this CapEX on SCADA Programming & Information Technology Master Plan Implementation (\$0.3 million).

We believe the proposed 2016 Budget allows us to continue our approach of maintaining the high quality of LCA services, meeting the needs of our customer base, preparing for the challenges before us and continuing our leadership in water and wastewater service in the Lehigh Valley. We thank our customers and the communities we serve for their cooperation and guidance in our ongoing quest to provide high quality, reliable, and affordable water and wastewater service.

We also want to acknowledge our employees for their dedication and hard work; without them none of these goals would be attainable. Finally, the support and guidance provided by the LCA Board has been invaluable in assuring high quality service to our customers, and is greatly appreciated.

Sincerely,

A handwritten signature in dark ink, reading "Edward C. Klein". The script is cursive and fluid.

Edward C. Klein
Chief Financial Officer

A handwritten signature in dark ink, reading "Aurel M. Arndt". The script is cursive and fluid.

Aurel M. Arndt
Chief Executive Officer

LEHIGH COUNTY AUTHORITY 2016 EXECUTIVE STAFF PROFILE*

**New executive profiles only. Additional executive profiles may be found in the Authority's Comprehensive Annual Financial Report (CAFR).*

Liesel M. Adam, Chief Executive Officer

Ms. Adam holds a Master's in Public Administration Degree from Kutztown University and has been employed by the Authority since 1998. She began her service to the Authority in a public relations role and became the Authority's Customer Care & Communications Manager in 2006. In 2013, following the lease of the Allentown water and sewer systems, she assumed the responsibilities of Chief Administrative Officer. Her responsibilities include management of all human resources, information technology and customer care activities including metering, billing and collections activities. She is also responsible for communications activities of the Authority, including media relations, crisis communications, customer communications, and community outreach. She also plays a leadership role in a variety of cross-organizational programs and teams including emergency response planning, contract negotiations and knowledge management.

In her new role as Chief Executive Officer, Ms. Adam will focus attention on providing broad organizational leadership both internally and externally, with a focus on developing collaboration and synergies among operational groups and engaging employees and the public in future decision-making of the Authority.

In 2016, she will also begin a term on the Board of Directors of the American Water Works Association (AWWA). She has served as Chair of the American Water Works Association, Pennsylvania Section, Trustee of the Northeast District AWWA, and has served on numerous committees of the association. She is a current member of the Board of Directors for the East Penn Chamber of Commerce. She also serves as the Secretary for the Lehigh Valley Water Suppliers, Inc., and on various committees of the Pennsylvania Municipal Authorities Association.

Edward C. Klein, Chief Financial Officer

Prior to joining the Authority in 2015, Mr. Klein worked for almost fifteen years with Weir Hazleton, Inc. as Vice President of Finance. His primary area of responsibility was for all financial activities of the business and had responsibility for Human Resources, Information Technology, Safety, and Administration. He also served in the operations area of the business for a short period of time as interim Vice President of Operations.

Mr. Klein has a Master's Degree in Business Administration from Pennsylvania State University and a Bachelor's Degree in Accounting from Kings' College. He has provided financial leadership which had a positive impact on the performance of the businesses he has served by implementing solid financial structure, being a business partner to the executive team through analysis and advice, eliminating waste, managing risks of the business, and being a champion of change.

In his new role as Chief Financial Officer, Mr. Klein will focus on the financial infrastructure and controls to support the strategic objectives of LCA and will provide the financial leadership to allow the firm to improve its overall performance in a highly dynamic economic environment.

John W. Parsons, Chief Operating Officer

Prior to joining the Authority in 2013, Mr. Parsons worked for the City of Allentown for 18 years in roles of increasing leadership in the water resources arena. He holds Master's Degree in Engineering from Penn State University, and a Bachelor's Degree in Chemistry from Lebanon Valley College. He also holds water and wastewater treatment certifications through the Pennsylvania Department of Environmental Protection and is a certified sewage enforcement officer. During his tenure with the City of Allentown, Mr. Parsons managed many different aspects of the City's water and wastewater systems including serving as Laboratories Manager and Program Manager for all plant maintenance, capital upgrades and more. Since joining the Authority after the lease of the City systems, he has served as Capital Works Manager for the Authority's City Division, managing major capital improvement projects and collaborating broadly with the City's Compliance Department to develop financial and project reporting protocols. As he moves into the role of Chief Operating Officer, Mr. Parsons will draw on his knowledge of the existing system operations and strong management skills to develop plans and programs for increased cost-effectiveness, collaboration and system sustainability, driving the Authority's asset management culture into the future.

**2016 BUDGET
CITY DIVISION
SUMMARY OF REVENUES AND RESERVE FUNDS**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING FUNDING				
<u>OPERATING REVENUES:</u>				
Water System	\$ 16,507,523	\$ 16,696,347	\$ 16,195,400	\$ 17,454,229
Wastewater System	14,771,776	14,308,588	12,563,500	14,377,790
Total	31,279,299	31,004,934	28,758,900	31,832,019
<u>OPERATING EXPENSES (NET OF DEPRECIATION):</u>				
Water System	7,007,850	7,581,396	7,072,011	6,869,519
Wastewater System	7,638,389	8,541,588	7,741,016	8,728,803
Other Expenses	-	-	-	-
Total	14,646,239	16,122,984	14,813,027	15,598,323
SURPLUS (DEFICIT) - OPERATING RESERVE	16,633,060	14,881,951	13,945,873	16,233,697
<u>DEBT SERVICE & RESERVES:</u>				
Interest Expense	13,047,722	13,047,722	13,047,722	13,047,722
Interest Income	(113,361)	(462,500)	(462,500)	(430,000)
Bond Discount Amortization	316,622	316,622	316,622	316,622
Capitalized Interest	(1,350,000)	(1,350,000)	(1,350,000)	(675,000)
Total	11,900,983	11,551,844	11,551,844	12,259,344
LEASE CONCESSION PAYMENT				500,000
SURPLUS (DEFICIT) AFTER USE OF RESERVES	\$ 4,732,077	\$ 3,330,107	\$ 2,394,029	\$ 3,474,353
Debt Service Coverage	1.35	1.31	1.23	1.31
CAPITAL FUNDING				
<u>NON-OPERATING REVENUES:</u>				
Water System	\$ 164,078	\$ 298,630	\$ 196,900	\$ 197,000
Wastewater System	26,429	-	130,500	80,000
Total	190,507	298,630	327,400	277,000
<u>CAPITAL CONTRIBUTIONS:</u>				
Water System	80,624	1,903,500	1,903,500	1,096,000
Wastewater System	703,657	3,730,000	3,730,000	2,110,000
Total	784,281	5,633,500	5,633,500	3,206,000
<u>BORROWED FUNDS & RESERVES:</u>				
Water System	693,798	6,965,870	1,953,407	8,726,100
Wastewater System	120,914	5,329,995	5,199,495	4,488,000
Total	814,712	12,295,865	7,152,902	13,214,100
CAPITAL EXPENDITURES	1,789,500	18,227,995	13,113,802	16,697,100
SURPLUS (DEFICIT) - CAPITAL RESERVE FUND	\$ -	\$ -	\$ -	\$ -

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

OPERATING BUDGET OVERVIEW

The Authority operates the Water System for the City of Allentown under a long term lease/concession agreement. The system consists of a 30 mgd water treatment plant, water intake structure, various storage tanks, reservoirs and numerous pump stations. There are two Water Fund divisions – Treatment Plant Division and Distribution Division. Separate budgets are presented for each division to track and maintain expenses.

Responsibilities for services include monitoring water quality; operating and maintaining the supply sources for the treatment facility, reservoirs, tanks, transmission and distribution pipe networks; customer metering, billing and response to customer service needs.

Each division is affected by Federal and Pennsylvania Safe Drinking Water Regulations. Depending on the source, differing analyses are required for water quality monitoring. State and Local regulations also have an impact on water quality, performance monitoring and reporting.

The consumer base is located throughout the City of Allentown. Water is also provided to surrounding areas through the use of system interconnects. Sources of supply include two groundwater springs – Schantz and Crystal. In addition, two surface water sources include the Little Lehigh Creek and the Lehigh River. Average daily demand through mid-October 2015 was 20.43 mgd.

Customer growth in the Allentown Division is expected to be minimal, although we expect increased consumption mainly through the interconnection with the Suburban Division. The Suburban Division is expected to increase from an average of 5 mgd to 7 mgd by 2017.

Major budget activities place an emphasis on providing consumers with outstanding quality water and service. A Preventive Maintenance Program continues to prolong the useful life of existing facilities and equipment. Programs for valve exercising, leak detection, fire hydrant repair/replacement will continue. Maintenance programs for the treatment plant processes such as filter evaluations, plant equipment repair/replacement will continue to meet the stringent regulations mandated by EPA and DEP. Continued membership with the Partnership for Safe Water Program for the Treatment Plant and Distribution System will provide a means and method for improvement to the overall performance of the system and water quality. Significant activities include:

- Cost effective use of all 4 water sources
- Optimization of the Treatment Process through the Partnership for Safe Water
- Preventative/Predictive maintenance programs, utilizing the CMMS
- Aggressive Leak Detection Program
- Use/Upgrade of the SCADA System to allow for more cost effective operations
- Long term service contract for Reservoir/Tank maintenance program
- Enhanced CMMS to maintain cost
- Fleet management to control/maintain vehicle expenses
- Upgrade/replace aging/ineffective equipment that is beyond it's useful life

**ALLENTOWN DIVISION
SUMMARY OF WATER EXPENSES**

OPERATING EXPENSES:	PROPOSED FUNDING
PERSONNEL:	\$3,114,973
PURCHASE OF SERVICES:	\$3,014,172
MATERIALS AND SUPPLIES:	\$740,374
TOTAL OPERATING EXPENSES	\$6,869,519

**2016 BUDGET
CITY DIVISION
SUMMARY OF REVENUES AND RESERVE FUNDS
WATER SYSTEM**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING FUNDING				
<u>OPERATING REVENUES:</u>				
Residential/Industrial/Commercial	\$ 13,062,375	\$ 13,297,940	\$ 12,878,000	\$ 13,841,772
Penalties	289,676	300,000	256,400	268,218
Fire Service	58,363	60,000	57,000	59,843
Reserves		-	-	
Other Water Sales	2,728,903	3,038,406	2,789,000	3,050,097
Other Income	368,206		215,000	234,300
Total	\$ 16,507,523	\$ 16,696,347	\$ 16,195,400	\$ 17,454,229
OPERATING EXPENSES	7,007,850	7,581,396	7,072,011	6,869,519
SURPLUS (DEFICIT) - OPERATING RESERVE	\$ 9,499,673	\$ 9,114,951	\$ 9,123,389	\$ 10,584,710
CAPITAL FUNDING				
<u>NONOPERATING REVENUES:</u>				
Supply/Special Tapping Fees	\$ 39,649	\$ -	\$ 110,000	\$ 110,000
Meter Sales & Installations	10,795	25,908	17,000	17,000
Distribution Tapping Fees	26,147	62,753	14,000	14,000
Inspection & Review Fees	50,087	120,209	21,900	22,000
Other Income	37,400	89,760	34,000	34,000
Total Nonoperating Revenues	164,078	298,630	196,900	197,000
<u>CAPITAL CONTRIBUTIONS:</u>				
Grants	-	-	-	-
Reimbursement from Other Entities	80,624	1,903,500	1,903,500	1,096,000
Total Capital Contributions	80,624	1,903,500	1,903,500	1,096,000
BORROWED FUNDS & RESERVES	693,798	6,965,870	1,953,407	8,726,100
TOTAL CAPITAL FUNDING	938,500	9,168,000	4,053,807	10,019,100
CAPITAL EXPENDITURES	938,500	9,168,000	4,053,807	10,019,100
SURPLUS TO CAPITAL RESERVE FUND	\$ -	\$ -	\$ -	\$ -

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

OPERATING AND NONOPERATING REVENUES

Residential/Industrial	Revenues will be increased due to a 2.5% rate increase. LCA projects 4.9% growth in volumes.
Penalties	Assume penalties to stay in line with 2015 performance (\$268,218).
Public Fire Service	Assume fire hydrants to stay in line with 2015 performance (\$59,843).
Interest Income	Assume investment of approximately \$40 million of reserves and other cash in Treasury Bills and Treasury Notes at 6 month to 5 year maturities (\$430,000). This is reflected on the City Division Summary of Revenues and Reserves Funds page.
Other Water Sales	Includes miscellaneous revenues received for LCA water supply contract, as well as Salisbury and South Whitehall Township (\$3,050,097).

CAPITAL REVENUES

Supply Tapping Fees	No new charges are assumed.
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**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
WATER SYSTEM TOTAL**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 2,195,059	\$ 2,113,645	\$ 2,022,264	\$ 1,882,806
Overtime	376,365	326,415	316,812	353,283
Employee Benefits	826,690	903,622	902,783	878,884
Total	3,398,114	3,343,681	3,241,859	3,114,973
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	1,379,471	1,700,390	1,463,328	1,261,674
Internal Services - Lab Costs				264,398
Utilities	795,654	688,325	858,899	936,500
Engineering	585	10,500	-	3,000
Contract Operating Svcs	19,194	61,900	35,635	2,500
Residuals	16,040	30,000	17,701	25,000
Maintenance Services	293,518	640,800	556,445	347,300
Fleet Management Services	40,757	50,000	43,000	45,000
Extraordinary Expenditures	60,160	20,000	65,000	35,000
Industrial Meter Testing & Repair	-	10,500	315	10,500
Miscellaneous Services	107,749	107,100	79,626	83,300
Total	2,713,128	3,319,515	3,119,949	3,014,172
MATERIALS AND SUPPLIES:				
Pump Supplies	29,890	31,000	30,969	30,500
Purification Supplies	306,876	311,000	315,937	363,200
Distribution & Transmission Supplies	302,778	326,500	186,573	97,000
Fleet Management Supplies	271	5,500	2,800	7,550
Misc. Materials & Supplies	160,450	126,700	90,661	95,700
Fuel & Mileage	44,666	78,000	44,400	52,000
Total	844,931	878,700	671,340	645,950
Equipment	51,677	39,500	38,863	94,424
TOTAL OPERATING EXPENSES	\$ 7,007,850	\$ 7,581,396	\$ 7,072,011	\$ 6,869,519

**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
WATER FILTRATION PLANT**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 1,029,995	\$ 998,508	\$ 998,500	\$ 993,760
Overtime	210,073	186,838	151,356	157,514
Employee Benefits	399,394	438,967	438,950	452,503
Total	1,639,462	1,624,312	1,588,806	1,603,777
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	647,985	970,265	734,843	649,586
Internal Services - Lab Costs				264,398
Utilities	781,893	655,600	834,819	909,600
Engineering	585	10,500	-	3,000
Contract Operating Svcs	-	-	-	-
Residuals	16,040	30,000	17,701	25,000
Maintenance Services	129,738	440,800	417,692	203,150
Fleet Management Services	9,016	20,000	15,000	15,000
Extraordinary Expenditures	-	-	-	-
Industrial Meter Testing & Repair	-	500	315	500
Miscellaneous Services	60,474	64,600	53,376	57,300
Total	1,645,731	2,192,265	2,073,746	2,127,534
MATERIALS AND SUPPLIES:				
Pump Supplies	29,890	31,000	30,969	30,500
Purification Supplies	306,876	311,000	315,937	363,200
Fleet Management Supplies	271	1,000	300	3,050
Misc. Materials & Supplies	77,229	81,200	68,201	66,100
Fuel & Mileage	7,406	11,000	4,400	7,000
Total	421,672	435,200	419,807	469,850
Equipment	31,201	18,300	18,293	73,924
TOTAL OPERATING EXPENSES	\$ 3,738,066	\$ 4,270,077	\$ 4,100,652	\$ 4,275,085

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WATER FILTRATION PLANT DIVISION**

PERSONNEL

Permanent/Overtime	Represents salaries and off-time of employees' direct time at Water Filtration Plant.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Lab	Overhead costs (\$649,586), which are not directly allocable to certain funds, divisions or departments are allocated based on salaries within a fund, division or department as a percentage to total salaries. City Laboratory costs are allocated (\$264,398) based on the percentage of use (33%).
Utilities	Power costs of (\$850,000), gas service (\$51,000), phone service (\$7,100) and garbage service (\$1,500).
Engineering	This budget includes consulting services that may be required throughout the year (\$3,000), such as minor permitting for the facility and engineering work.
Residuals	Disposal of treatment residuals to the Wastewater treatment facility (\$25,000).
Maintenance Services	This budget includes contracted maintenance service expenses for maintenance and repair of plant equipment (\$35,000), office cleaning (\$21,000), as well as SCADA service (\$24,200), site and building maintenance (\$95,950), and steel tank maintenance and other misc. services (\$27,000).
Fleet Management Services	This budget includes vehicle and mobile equipment maintenance (\$15,000).
Indust. Mtr. Test & Repair	Industrial meter testing, calibration, and service (\$500).
Miscellaneous Services	This budget line item includes expenses for DEP storage tank registration fees (\$1,000), USGS service fee (\$36,000), employee uniforms (\$6,000), and other fees & services (\$14,300).

MATERIALS & SUPPLIES

Pump Supplies	This line item includes expenses to purchase oil, lubricants, pipe, fittings and parts for pump & valve maintenance repairs throughout the treatment process and reservoir/tank locations. (\$30,500).
Purification Supplies	This budget includes chemicals used throughout the treatment process including sodium hypochlorite, sodium hydroxide, alum, pac, fluoride and other chemicals utilized in the treatment process and laboratory (\$363,200).
Fleet Management Supplies	This budget includes supplies for mobile equipment and vehicles (\$3,050).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WATER FILTRATION PLANT DIVISION continued**

Miscellaneous Materials & Supplies	This budget includes an estimate for miscellaneous materials and supplies, safety equipment and building supplies (\$66,100).
Fuel	This item includes the allocation of a share of the total fuel expense for the service vehicles (\$7,000).
Equipment	Funding to replace/update process metering and various equipment used at the treatment plant, reservoirs and booster pump stations (\$73,924).

**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
WATER DISTRIBUTION SYSTEM**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 1,165,064	\$ 1,115,137	\$ 1,023,764	\$ 889,046
Overtime	166,292	139,577	165,456	195,769
Employee Benefits	427,296	464,655	463,833	426,381
Total	1,758,652	1,719,369	1,653,053	1,511,196
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	731,486	730,125	728,485	612,088
Utilities	13,761	32,725	24,080	26,900
Engineering	-	-	-	-
Contract Operating Svcs	19,194	61,900	35,635	2,500
Maintenance Services	163,780	200,000	138,753	144,150
Fleet Management Services	31,741	30,000	28,000	30,000
Extraordinary Expenditures	60,160	20,000	65,000	35,000
Industrial Meter Testing & Repair	-	10,000	-	10,000
Miscellaneous Services	47,275	42,500	26,250	26,000
Total	1,067,397	1,127,250	1,046,203	886,638
MATERIALS AND SUPPLIES:				
Pump Supplies	-	-	-	-
Purification Supplies	-	-	-	-
Distribution & Transmission Supplies	302,778	326,500	186,573	97,000
Fleet Management Supplies		4,500	2,500	4,500
Misc. Materials & Supplies	83,221	45,500	22,460	29,600
Fuel & Mileage	37,260	67,000	40,000	45,000
Total	423,259	443,500	251,533	176,100
Equipment	20,476	21,200	20,570	20,500
TOTAL OPERATING EXPENSES	\$ 3,269,784	\$ 3,311,319	\$ 2,971,359	\$ 2,594,434

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WATER DISTRIBUTION SYSTEM DIVISION**

PERSONNEL

Permanent/Overtime	Represents salaries and off-time of employees' direct time in Water Distribution.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead	Overhead costs (\$612,088), which are not directly allocable to certain funds, divisions or departments, are allocated based on salaries within a fund, division or department as a percentage to total salaries.
Utilities	Power costs of (\$12,500), gas service (\$9,000), phone service (\$4,500) and garbage service (\$900).
Contract Operating Services	Funding for Farland dump site (\$2,500).
Maintenance Services	This budget includes expenses required for site and building maintenance (\$4,650), Transmission and Distribution maintenance services, (\$117,500), equipment maintenance and rental (\$5,000), janitorial services (\$7,000), and other misc. maintenance services (\$10,000).
Extraordinary Service & Equip. Expenditures	This budget line maintains the same level of insurance against an extraordinary leak repair and restoration (\$35,000).
Miscellaneous Services & Industrial Meter Testing	This budget includes uniforms (\$4,500); other uniforms not covered by Unifirst (\$1,000), large map laminating services (\$500), timeclock maintenance (\$200), radio repairs and communications center fees (\$7,100), Pennsylvania One Call system (\$9,000), Boiler maintenance (\$1,200), Industrial Meter testing (\$10,000), UPS fees & meter bench cert testing (\$2,000), and Parts washer (\$500).

MATERIALS & SUPPLIES

Distribution and Transmission Supplies	This item includes include repair clamps, fittings and pipes (\$35,000), "No-Lead" brass and copper (\$20,000), hydrant supplies (\$9,000), crushed stone and blacktop (\$25,000), valve and curb boxes (\$6,500) and miscellaneous supplies (\$1,500).
Fleet Management Supplies	This budget includes supplies for mobile equipment and vehicles (\$4,500).
Miscellaneous Materials & Supplies	Funding to purchase office supplies (\$7,000), meter supplies (\$13,500) and miscellaneous supplies (\$9,100).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WATER DISTRIBUTION SYSTEM DIVISION continued**

Fuel	This item includes the allocation of a share of the total fuel expense for the service vehicles (\$45,000).
Equipment	Funding to replace/update equipment used to maintain the distribution system. Major items include handheld radio replacements (\$5,000), Pipe Saw (\$2,500), metal detector (\$2,500), sump pump, (\$1,000), Hachs chlorine meter (\$1,000), curb/valve keys (\$1,500), cell phone replacements (\$650), Replacement battery for tools (\$850) and miscellaneous tools and minor equipment (\$5,500).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

CAPITAL BUDGET OVERVIEW

Water projects in the 2016 Budget focus on regulatory compliance, immediate and future needs at the Water Filtration Plant (WFP) and addressing the Lease operating standards. Projects at the WFP include a Master Plan that will identify capital improvements to address future regulatory requirements and/or operational needs. An upgrade of the WFP SCADA system will provide operating/data synergies with the Wastewater Treatment Plant. Funding is also provided to replace a leaking segment of the Schantz Spring main located on Martin Luther King Blvd; the annual replacement of 2-miles of aged and/or failing spun and pit cast water main as required by the Lease; and other infrastructure replacement as needed. To assist in future planning needs, an “all pipe” the completion of a City water system hydraulic model is included.

The projects identified in the water Budget fall into two primary categories, those funded by LCA Allentown Division (LCA-AD) and those funded by the City, with the latter pertaining to Uncompleted Work (UW).

- Uncompleted Work Projects (UW): Are projects that were the City’s responsibility to fund and complete prior to the closing of the Concession Lease, however the majority of the projects were not started and none have been completed. The City has requested that LCA execute these projects. Funding will be provided by the City.

Project	Funding	2016 Budget	2016 Project Stage
Schantz Spring Main Replacement	LCA-AD	\$ 150,000	Design/Construction
Water Main Replacement Program-Cycles 3 & 4	LCA-AD	5,060,000	Design/ Construction
WFP SCADA Upgrades	LCA-AD	560,000	Design/ Construction
Pre-Lease Valve Replacements	City	896,000	Construction
Water System Hydraulic Model	LCA- AD	211,300	Completion of Model Development

**2016 BUDGET
CITY DIVISION
CAPITAL EXPENDITURES
WATER**

Project	Priority	Estimated Project Cost	Estimated Costs Through 2015	2016 Budget	Beyond 2016
<u>LCA Funded Projects</u>					
Capital Management	High	Annual		75,000	
Distribution Mains & Service Connections	High	Annual		50,000	
Distribution Mains - Upsizing *	Low	Annual		25,000	
Distribution System Improvements (3rd Party)	Medium	Annual		10,000	
New & Replacement Meter Installations (non-project)	High	Annual		260,000	
Mobile Equipment	High	Annual		86,800	
Other Equipment	High	Annual		350,000	
Capital Works Miscellaneous Expense	Medium	Annual		5,000	
WFP General Improvements	High	Annual		675,000	
Reservoir Rehabilitation / Maintenance	High	Annual		225,000	
Water Main Replacement Program ⁽²⁾	Mandated	47,850,000	5,350,000	5,060,000	37,440,000
WFP SCADA Upgrades	High	560,000	-	560,000	-
Various Water System Related Studies	High	1,425,000	125,000	350,000	950,000
General Water System Replacements/Improvements	Medium	4,260,000	40,000	620,000	3,600,000
Fix Base Meter Reading System	Medium	1,715,000	-	10,000	1,705,000
Emergency Power - Water & Wastewater Facilities	High	800,000	100,000	200,000	500,000
Schantz Spring Main Replacement & Leak Rehabilitation ⁽²⁾	Mandated	1,555,000	-	150,000	1,405,000
Water System Hydraulic Model	Medium	381,300	170,000	211,300	-
Sub-total Allentown Division Water Capital Funded by LCA			5,785,000	8,923,100	45,600,000
<u>City Funded Projects</u>					
Schantz Spring Chlorine Booster Station ⁽³⁾	High	250,000	90,000	160,000	-
AMR Meter Project ^{(3), (4)}	High	290,000	40,000	40,000	210,000
Pre-Lease Valve Replacements ⁽³⁾	High	1,110,000	214,000	896,000	-
Sub-total Allentown Division Water Capital Funded by the City			344,000	1,096,000	210,000
Total Allentown Division Water Capital Expenditures:			\$ 6,129,000	\$ 10,019,100	\$ 45,810,000

Note: Projects in bold type will not proceed beyond the planning phase, or beyond current authorized phase without specific authorization from the LCA Board subsequent to the adoption of this budget.

* Individual upsizing contributions less than \$100,000 will not require additional authorization beyond adoption of this budget.

(2) Required Capital Improvement Projects as shown on Schedule 7 of the Agreement and will be funded by the LCA Allentown Division.

(3) "Uncompleted Work" City Projects that were supposed to be complete by the time of settlement or executed by City personnel after settlement.

The City will fund these projects but has requested that LCA execute them.

(4) Costs reflected from 2014 forward. Previous City costs in excess of \$8 Million not shown

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

CAPITAL EXPENDITURES

Capital Management	Costs of providing general management and administrative services for the water capital programs (2016 Cap Ex \$75,000).
Capital Works Supplies, Software & Other Work	Includes general drafting and consultant services ; the Allentown Divisions Divisions share of updating Water and Wastewater General Design & Construction Specifications. (2016 Cap Ex \$5,000).
Distribution Mains, Service Connections	Capital Works services required for water distribution system extensions and connections; to include developer plan review, construction inspection and associated administrative tasks. All costs are reimbursable. (2016 Cap Ex \$50,000).
Distribution Mains Upsizing	Economically provides proper pipe capacities and extensions to meet future service needs by increasing pipe sizes in proposed developer-installed systems to provide sizes as desired by LCA or if applicable may fund the portion of an off-site water main extension to serve a development (2016 Cap Ex \$25,000).
Distribution System - Improvements (<i>3rd Party</i>)	Costs of additional valves or piping to improve the operation of the existing system. Where it is economical, improvements are made under a third party's contract (2016 Cap Ex \$10,000).
New & Replacement Meter Installations (<i>non-project</i>)	Material and labor costs for meters, radio read receivers and if applicable backflow prevention devices installed for new customers and defective or customer damaged meters. The costs of installations for the new customers and damaged meters are reimbursed through collection of meter installation fees (2016 Cap Ex \$260,000).
Mobile Equipment	Purchase of 2 utility trucks and 2 SUVs (2016 Cap Ex \$86,800).
Other Equipment	Contains individual equipment over \$5,000. Replacement and new equipment is required from time to time to maintain and improve service integrity and reliability. Items include electric and electronic equipment, pumping equipment, leak detection equipment and other equipment as needed (2016 Cap Ex \$350,000).
WFP General Improvements	Funding to cover the on-going replacement of equipment that is nearing the end of its useful life and to address unforeseen equipment failures. Equipment will be constantly evaluated and repaired or replaced as needed. (2016 Cap Ex \$675,000).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

CAPITAL EXPENDITURES - continued

Reservoir Rehabilitation / Maintenance	In the Allentown Division, there are ten water storage facilities consisting of three welded steel tanks and seven concrete tanks. The storage facilities range in capacity from 0.118 MG to 30 MG. Rehabilitation / maintenance for the three welded steel tanks are covered under a long-term contract with Utility Services Corporation. The needs of the remaining aboveground and buried concrete tanks will be addressed when applicable on an individual basis or group basis with separate contracts. (2016 Cap Ex \$225,000).
WFP SCADA Upgrades	Upgrade of the current Dynac plant wide SCADA system hardware and software to the latest version of Dynac ES. This will standardize the SCADA systems at both WWTP and WFP. (2016 Cap Ex \$560,000).
Water Main Replacement Program	Over 50% of the Allentown Divisions water system is pit cast iron or spun cast iron mains. Some of the pit cast mains date back to the turn of the century, however the spun cast mains have a higher failure. LCA is required by the Lease to replace a minimum of two-miles of main annually. (2016 Cap Ex \$5,060,000).
Various Water System Related Studies	To include (1) Water Filtration Plant Coagulant Change which is currently underway – is a study to assure that the change in the type of coagulant to a more reliable and robust chemical will not impact the quality of the finished water. (2) Water System Master Plan - (a) conduct a full-scale condition assessment of the water plant and all remote stations, reservoirs, and storage tanks. (b) conduct an operational audit to optimize plant operations, chemical usage, power consumption, etc. (c) prepare short-term, medium-term and long term Capital Plans based on condition assessment and operational audit results. Master Plan will evaluate among other items: both surface water intakes, filter upgrades, preparation to fully-treat Schantz Spring water. (3) West End Pressure Booster Station Feasibility Study - conduct a study to assess the location, cost, etc. for a pump station/storage tank on the city's west end where typical pressures have historically been only slightly higher than the regulatory limit of 20 psi. (2016 Cap Ex \$350,000).
General Water System Replacements/Improvements	Provides funding on an as-needed basis for distribution system valve, service line, fire hydrant, sample station and other replacements. Also includes other various improvements and issues as they are identified. (2016 Cap Ex \$620,000).
Fixed Base Meter Reading System	A fixed base system provides instantaneous readings of any water meter via a radio signal directly to the customer care center via a series of transmitters and repeaters installed throughout the water system service area. This is a multi-year project where the 2016 work will be investigatory. (2016 Cap Ex \$10,000).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WATER FUND**

CAPITAL EXPENDITURES - continued

Emergency Power Water & Wastewater Facilities	This multi-year project will address back-up power needs for various Allentown Division facilities. There have been several instances over the past few years when the water plant and/or the high level distribution systems were without power. All four (4) high level distribution systems presently have manual transfer switches. A single portable generator for these stations will be purchased in 2015. The wastewater plant needs a permanent generator and manual transfer switch for the chlorination building which will be completed in 2015. 2016 will include design of back-up power needs for the Crystal Spring and Schantz Spring pumps in the water plant. Having the Schantz and Crystal pumps operational during a power failure will allow for approximately 10-12 MGD of potable water to be pumped into the distribution system until the power failure is over and the water plant can be re-started. (2016 Cap Ex \$200,000).
Schantz Spring Main Replacement & Leak Rehabilitation	This multi-year Project, includes the replacement of approximately 2,000 lf, 1903 vintage, 30-inch diameter main in Martin Luther King, Jr. Boulevard from Schribers Bridge to the Water Filtration plant. The project also includes addressing other leaks that were identified during the Smart Ball leak detection work. (2016 Cap Ex \$150,000).
Water System Hydraulic Model	There is no model of the City water system, as such there is no dynamic way to evaluate the capabilities of the water system, identify areas where pipe sizes or network configuration impacts fire flow capability. A model will be required to evaluate sections of aged mains that have not structurally failed to determine if replacement is warranted. The project which started in 2015 will be completed in 2016 (2016 Cap Ex \$211,300).
Schantz Spring Chlorine Booster Station	Schantz Spring facility has historically been subjected to local power failures, leading to operational problems such as interrupted chlorine feed. In order to address this in 2015, a UPS backup supply was installed to power the new upgraded chemical feed pumps along with automatic data recorders. A static mixer may be added to the transmission line ahead of the chlorine analyzer if fluctuating chlorine levels are seen. This will be addressed in 2016 if warranted. (2016 Cap Ex \$160,000). <i>Uncompleted Work- City Funded</i>
AMR Meter Project	This multi-year project completes the remaining work of the City's AMR project and includes the purchase and implementation of Water Analytics software package to a repository to store data gathered from the meters in the division for use in identifying customer metering issues; and the installation of 747 meters were not completed because the sites were either vacant or not accessible. (2016 Cap Ex \$40,000). <i>Uncompleted Work- City Funded</i>
Pre-Lease Valve Replacements	The Project includes the replacement of 52 valves that were identified as inoperable prior to the Lease settlement. 2016 will complete the project started in 2015 (2016 Cap Ex \$896,000). <i>Uncompleted Work- City Funded</i>

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

OPERATING BUDGET OVERVIEW

LCA's operation and maintenance responsibilities include the operation of the Kline's Island Wastewater Treatment Plant and the portion of the collection system that resides in the geographic boundaries of the City of Allentown.

The 2016 budget was developed to provide, accordance with applicable regulatory requirements and utilizing recognized operational, maintenance and industrial pretreatment procedures to effectively convey and process the wastewater generated in the service area of treatment facility. Compliance with the Standards of Practice agreed upon as part of the lease will be an essential focus for the wastewater staff of the city division, as well as compliance with the 2007 and 2009 administrative orders. In addition, the plant's staff will be working closely with the LCA Capital Works group in completion of the numerous plant improvement projects that are planned for the coming year.

OPERATING EXPENSES:	PROPOSED FUNDING
PERSONNEL:	\$3,779,356
PURCHASE OF SERVICES	\$4,054,058
MATERIALS AND SUPPLIES	\$895,388
TOTAL OPERATING EXPENSES	\$8,728,802

**2016 BUDGET
CITY DIVISION
SUMMARY OF REVENUES AND RESERVE FUNDS
WASTEWATER SYSTEM**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING FUNDING				
<u>OPERATING REVENUES:</u>				
User Charges - Municipal	\$ 6,207,016	\$ 5,412,370	\$ 4,250,000	\$ 5,314,039
User Charges - Residential and Commercial	7,928,912	8,146,218	7,800,000	8,409,251
Industrial Pretreatment Program Revenues	118,097		108,000	172,000
Leachate Program Revenues	249,546		195,000	180,000
Other Income	268,205	750,000	210,500	302,500
Total	14,771,776	14,308,588	12,563,500	14,377,790
OPERATING EXPENSES	7,638,389	8,541,588	7,741,016	8,728,803
SURPLUS (DEFICIT) - OPERATING RESERVE	\$ 7,133,387	\$ 5,767,000	\$ 4,822,484	\$ 5,648,986
CAPITAL FUNDING				
<u>NON-OPERATING REVENUES:</u>				
Allocation Fees	\$ 18,629		\$ 125,000	\$ 75,000
Inspection & Review Fees	7,800		5,500	5,000
Other Income	-			
Total	\$ 26,429	\$ -	\$ 130,500	\$ 80,000
<u>CAPITAL CONTRIBUTIONS:</u>				
Grants				
Reimbursement from other entities	703,657	3,730,000	3,730,000	2,110,000
Total	703,657	3,730,000	3,730,000	2,110,000
<u>BORROWED FUNDS & RESERVES:</u>	120,914	5,329,995	5,199,495	4,488,000
TOTAL CAPITAL FUNDING	851,000	9,059,995	9,059,995	6,678,000
CAPITAL EXPENDITURES	\$ 851,000	\$ 9,059,995	\$ 9,059,995	\$ 6,678,000
SURPLUS (DEFICIT) - CAPITAL RESERVE FUND	\$ -	\$ -	\$ -	\$ -

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

OPERATING AND NONOPERATING REVENUES

User Charges-Municipal	The City is party to Municipal Sewer Service Agreements under which the Sewer Utility System provides sewer services to seven municipalities or municipal authorities: the Borough of Emmaus, Hanover Township, Salisbury Township, South Whitehall Township, the Coplay-Whitehall Authority, the Existing LCA System and Lower Macungie Township. Pursuant to these agreements, LCA will act as the agent of the City and will perform all of the contractual obligations of the City under each Municipal Agreement Charges, including the billing and collection of the revenues (\$5,314,039).
User Charges-Residential/ Commercial	LCA projects a baseline of 33,096 residential and commercial customers being billed based on service charges included in the Concession Agreement, escalated by 2.5% as allowed under the Agreement (\$8,409,251).
Industrial Pretreatment Program	LCA expects to generate \$172,000 in revenues on this program
Leachate Program	LCA expects to generate \$180,000 in revenues during 2016 from this program
Other Income	Includes penalties and interest leachate treatment, septic disposal fees, industrial waste charges and other miscellaneous income totaling \$302,500.

CAPITAL REVENUES

Special Sewer Charges	No new charges are assumed.
Connection Fees	No new charges are assumed.

**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
WASTEWATER SYSTEM TOTAL**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 2,124,263	\$ 2,288,450	\$ 2,132,344	\$ 2,321,743
Overtime	354,490	347,075	292,492	391,275
Employee Benefits	794,883	976,008	931,547	1,066,339
Total	3,273,636	3,611,533	3,356,383	3,779,356
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	1,334,509	1,533,627	1,526,703	1,530,773
Internal Services - Lab Costs				536,808
Utilities	1,074,122	1,005,427	1,002,078	1,035,800
Engineering	34,173	45,000	15,632	20,000
Contract Operating Services	177,247	200,400	185,642	104,500
General Analyses	9,874	20,000	14,407	20,000
Maintenance Services	354,009	392,716	299,385	261,710
Fleet Management Services	122,110	110,250	92,672	92,000
Residuals Services	303,298	346,000	274,825	337,000
Miscellaneous Services	82,909	228,983	191,778	115,468
System Planning/Capital Management	-	-	-	-
I/I Rehabilitation Program	-	-	-	-
Total	3,492,251	3,882,403	3,603,122	4,054,059
MATERIALS AND SUPPLIES:				
Fuel	91,338	95,800	79,340	90,000
Purification Chemicals	302,909	367,100	306,412	367,088
Collection System Supplies	151,095	171,020	170,951	120,500
Fleet Management Supplies	3,794	10,282	6,403	10,300
Miscellaneous Supplies	297,134	338,800	181,772	271,400
Equipment	26,232	64,650	36,633	36,100
Amortized Equipment	-	-	-	-
Total	872,502	1,047,652	781,512	895,388
AMORTIZED PLANNING	-	-	-	-
RESERVE FUND ALLOCATION	-	-	-	-
DEPRECIATION & AMORTIZATION	-	-	-	-
TOTAL OPERATING EXPENSES	\$ 7,638,389	\$ 8,541,588	\$ 7,741,016	\$ 8,728,803

**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
KLINE ISLAND WASTEWATER TREATMENT PLANT**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 1,673,292	\$ 1,698,371	\$ 1,663,563	\$ 1,655,108
Overtime	273,101	230,926	230,212	285,789
Employee Benefits	624,133	714,472	711,130	762,861
Total	2,570,526	2,643,769	2,604,905	2,703,758
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	1,021,384	1,122,669	1,196,235	1,095,118
Internal Services - Lab Costs				536,808
Utilities	1,060,008	969,802	980,253	1,013,400
Engineering	34,173	45,000	15,632	20,000
Contract Operating Svcs	367	1,900	1,948	-
General Analyses	9,874	20,000	14,407	20,000
Maintenance Services	151,809	206,616	163,816	124,410
Fleet Management Services	51,164	60,000	43,172	45,000
Residuals Services	303,298	346,000	274,825	337,000
Miscellaneous Services	64,387	185,783	171,778	33,073
System Planning/Capital Management	-	-	-	-
Total	2,696,464	2,957,770	2,862,066	3,224,809
MATERIALS AND SUPPLIES:				
Fuel	53,945	55,000	48,440	55,000
Purification Chemicals	302,909	367,100	306,412	367,088
Fleet Management Supplies	-	5,082	3,403	5,100
Miscellaneous Supplies	250,536	281,400	151,642	234,900
Equipment	26,096	49,000	33,812	24,400
Amortized Equipment	-	-	-	-
Total	633,486	757,582	543,710	686,488
AMORTIZED PLANNING				
RESERVE FUND ALLOCATION				
DEPRECIATION & AMORTIZATION				
TOTAL OPERATING EXPENSES	\$ 5,900,476	\$ 6,359,121	\$ 6,010,680	\$ 6,615,055

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WASTEWATER TREATMENT PLANT DIVISION**

PERSONNEL

Permanent/Overtime	Represent salaries and off-time of employees' direct time at the Kline's Island Wastewater Treatment Plant and the Industrial Pretreatment Program.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Lab costs	Overhead costs (\$1,095,118) which are not chargeable to certain funds are allocated based on salaries within a fund as a percentage to total salaries. City Laboratory costs are allocated (\$536,808) based on the percentage of use (67%).
Utilities	This account includes the power costs of (\$944,000) to operate the Kline's Island WWTP, natural gas service (\$60,000), telephone (\$7,000) and garbage hauling (\$2,400).
Engineering	This budget line item is for miscellaneous consultant assistance with the: EPA Administrative Order reporting and plant operations consultation (\$20,000).
Contract Operating Services	Contract services.
Analysis (External)	This account provides for external laboratory analysis of samples to support the biosolids disposal program and the landfill disposal requirements (\$20,000).
Maintenance Services	This budget includes: annual maintenance contracts for: office cleaning (\$32,369); site and building maintenance (\$450), equipment rental (\$5,000); pump maintenance services (\$20,000); other maintenance services (\$5,450); treatment plant maintenance (\$61,141).
Fleet Management Services	This budget includes maintenance services for vehicles and mobile equipment (\$45,000).
Residuals Services	This budget includes residuals disposal costs (\$337,000).
Miscellaneous Services	Miscellaneous expenses include employee costs such as uniforms and safety shoes; PADEP fees for licenses, permits and registrations (\$28,573); and flow monitoring (\$4,500).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WASTEWATER TREATMENT PLANT DIVISION continued**

MATERIALS & SUPPLIES

Fuel	This item includes the allocation of a share of the total fuel expense for the service vehicles (\$55,000).
Purification Chemicals	The treatment plant chemical budget includes: LOX (\$26,000); sodium hypochlorite (\$100,000); chlorine (\$55,000); polymer (\$119,040); larvicide (\$26,500); potassium permanganate (\$17,000); and other chemicals (\$23,548).
Fleet Management Supplies	This budget includes supplies for mobile equipment and vehicle repairs (\$5,100).
Miscellaneous Materials and Supplies	This budget item provides for the supplies required to maintain the wastewater treatment plant: mechanical (\$120,000); electrical (\$25,000); plumbing (\$25,000); belt filter press supplies (\$25,000); instrumentation supplies (\$10,000); and lubricants (\$500). In addition, the pumping supplies category includes: small pump parts (\$15,000); and valves/fittings (\$5,000). Office supplies (\$4,000), lab reagents (\$5,000) and miscellaneous supplies (\$400) are also included.
Equipment	This budget includes equipment expenses associated with the biosolids dewatering operation and preventive maintenance of the odor control units (\$24,400).

**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
WASTEWATER COLLECTION SYSTEM**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 450,971	\$ 590,079	\$ 468,781	\$ 666,634
Overtime	81,389	116,149	62,280	105,486
Employee Benefits	170,750	261,536	220,417	303,478
Total	703,110	967,765	751,478	1,075,598
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	313,125	410,958	330,468	435,655
Utilities	14,114	35,625	21,825	22,400
Engineering	-	-	-	-
Contract Operating Services	176,880	198,500	183,694	104,500
General Analyses	-	-	-	-
Maintenance Services	202,200	186,100	135,569	137,300
Fleet Management Services	70,946	50,250	49,500	47,000
Miscellaneous Services	18,522	43,200	20,000	82,395
System Planning/Capital Management	-	-	-	-
I/I Rehabilitation Program	-	-	-	-
Total	795,787	924,633	741,056	829,250
MATERIALS AND SUPPLIES:				
Fuel	37,393	40,800	30,900	35,000
Collection System Supplies	151,095	171,020	170,951	120,500
Fleet Management Supplies	3,794	5,200	3,000	5,200
Misc. Materials & Supplies	46,598	57,400	30,130	36,500
Equipment	136	15,650	2,821	11,700
Amortized Equipment	-	-	-	-
Total	239,016	290,070	237,802	208,900
AMORTIZED PLANNING				
RESERVE FUND ALLOCATION				
DEPRECIATION & AMORTIZATION				
TOTAL OPERATING EXPENSES	\$ 1,737,913	\$ 2,182,468	\$ 1,730,336	\$ 2,113,748

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

**OPERATING AND NONOPERATING EXPENSES
WASTEWATER COLLECTION SYSTEM DIVISION**

PERSONNEL

Permanent/Overtime	Represent salaries and off-time allocated for staff oversight.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services – Overhead	Overhead costs, which are not chargeable to certain funds, are allocated based on salaries within a fund as a percentage to total salaries (\$435,655).
Utilities	Budget is for garbage hauling (\$900); electric costs (\$10,000); telephone (\$4,500); and natural gas service (\$7,000).
Contract Operating Services	Budget includes such services as root control program (\$62,000); Farland Development Dump Site (\$2,500); and Trenchless spot repairs (\$40,000).
Maintenance Services	This budget includes: annual maintenance contracts for: office cleaning (\$7,000); site and building maintenance (\$4,250); equipment maintenance and rental (\$20,000); other maintenance services (\$6,050); extraordinary sewer repairs (\$65,000); and CCTV services (\$35,000).
Fleet Management Services	This budget includes repairs to vehicles and mobile equipment (\$47,000).
Miscellaneous Services	This budget includes, traffic control (\$4,500), uniform service (\$4,100), clothing (\$1,000), communication center (\$6,600), PA 1 system (\$7,000), radio repairs (\$1,000), Safety Kleen (\$595), TV truck Win Can (\$1,600), Railroad Easement fee (\$8,500), Street Restorations (\$40,000), and miscellaneous services (\$7,500).

MATERIALS & SUPPLIES

Fuel	This item includes the allocation of a share of the total fuel expense for the service vehicles (\$35,000).
Collection System Supplies	This budget includes degreaser (\$10,000); inspection die & deodorizer (\$1,000); concrete additive (\$1,000); PVC pipe & fittings (\$2,500); manhole frames and covers (\$15,000); risers and inserts (\$45,000); ferncos & couplings (\$5,000); concrete SDR pipe (\$5,000); hose lines (\$5,000) paving material, salt, and topsoil (\$5,000); lubricating oils & grease (\$1,000); root cutter (\$1,000) crushed stone (\$15,000); and maintenance & construction materials (\$9,000).
Fleet Management Supplies	Budget is for small vehicle repair supplies (\$5,200).
Misc. Supplies	Budget provides for work order forms (\$3,500), office supplies (\$8,000), camera parts and cctv wire (\$2,000), equipment batteries (\$2,500), miscellaneous supplies (\$5,500), and additional AO supplies (\$15,000).
Equipment	Budget includes radio unit replacements (\$7,000), Trash Pump (\$2,500), cell phone replacements / repairs (\$700), and Misc. Nozzles (\$1,500).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

CAPITAL BUDGET OVERVIEW

Wastewater projects in 2016 will focus on regulatory compliance, immediate and future needs at the Wastewater Treatment Plant (WWTP) and addressing the Lease operating standards. Projects at the WWTP include the completion of the replacement of five motor control centers, the replacement of the secondary digester cover, a condition assessment and numerous other smaller WWTP projects. Funding is also provided for the replacement and/or rehabilitation of defective sewer mains when warranted, Manhole lining and manhole water-tight frame and cover installations, the latter two Administrative Order (AO) projects. In addition funding is provided to replace the aged and failing roofing systems on many Allentown Division facilities.

The projects identified in the Budget fall into two primary categories, those funded by the LCA Allentown Division and those funded by the City, with the latter further categorized as Administrative Order (AO) projects and Uncompleted Work (UW).

- **Administrative Order Projects (AO):** Are projects necessary to bring the City's wastewater system into compliance with the US Environmental Protection Agency (USEPA) Administrative Order to eliminate Sanitary Sewer Overflows / By-passes at Outfall 003 of the wastewater treatment plant. Pursuant to the Concession Lease Agreement (Lease) the City is responsible for making all decisions related to this work; and for funding said work. LCA is responsible for the execution of the work.
- **Uncompleted Work Projects (UW):** Are projects that were the City's responsibility to fund and complete prior to the closing of the Concession Lease, however the majority of the projects were not started and none have been completed. The City has requested that LCA execute these projects. Funding will be provided by the City.

Project	Funding	2016 Budget	2016 Project Stage
Sanitary Sewer Manhole Lining- Cycles 3 & 4	City	\$ 295,000	Design/ Construction
Sanitary Sewer Manhole Collars & Water Tight Covers-Cycles 3 & 4	City	340,000	Design/ Construction
WWTP- Replacement of Motor Control Centers	LCA-AD	682,000	Completion of Construction
Facility Roof Replacements	LCA-AD	900,000	Design/ Construction
WWTP- Digester Cover Replacements- Secondary Digester.	LCA-AD	1,292,000	Construction

**2016 BUDGET
CITY DIVISION
CAPITAL EXPENDITURES
WASTEWATER**

Project	Priority	Estimated Project Cost	Estimated Costs Through 2015	2016 Budget	Beyond 2016
<u>LCA Funded Projects</u>					
Capital Management	High	Annual		70,000	
Collection System - Development & Service Connections	High	Annual		26,000	
Mobile Equipment	High	Annual		148,000	
Other Equipment	High	Annual		225,000	
WWTP General Improvements	High	Annual		750,000	
Sanitary Sewer Main Replacements and/or Rehabilitation ⁽⁴⁾	High	2,750,000	-	275,000	2,475,000
WWTP- Replacement of Motor Control Centers ⁽²⁾	High	2,482,000	1,800,000	682,000	-
WWTP- Digester Cover Replacements ⁽²⁾	Mandated	2,747,000	163,000	1,292,000	1,292,000
Facility Roof Replacements ^(Water & Wastewater Facilities)	High	1,900,000	1,000,000	900,000	-
Various Wastewater System Related Studies	High	650,000	-	200,000	450,000
Sub-total Allentown Division Wastewater Capital Funded by LCA			\$ 2,963,000	\$ 4,568,000	\$ 4,217,000
<u>City Funded Projects</u>					
WWTP Security Upgrades ⁽³⁾	Medium	225,000	-	225,000	-
Sanitary Sewer Manhole Lining ⁽⁴⁾	Mandated	3,428,000	478,000	295,000	2,655,000
Sanitary Sewer Manhole Collars & Water Tight Covers ⁽⁴⁾	Mandated	1,192,000	512,000	340,000	340,000
WWTP Interim Blending Pumping System ⁽⁴⁾	Medium	1,250,000	-	1,250,000	
Sub-total Allentown Division Wastewater Capital Funded by the City			\$ 990,000	\$ 2,110,000	\$ 2,995,000
Total Wastewater Allentown Division Capital Expenditures:			\$ 3,953,000	\$ 6,678,000	\$ 7,212,000

Note: Projects in bold type will not proceed beyond the planning phase, or beyond current authorized phase without specific authorization from the LCA Board subsequent to the adoption of this budget.

(2) Required Capital Improvement Projects as shown on Schedule 7 of the Agreement and will be funded by the LCA Allentown Division.

(3) "Uncompleted Work" City Projects that were supposed to be complete by the time of settlement or executed by City personnel after settlement. The City will fund these projects but has requested that LCA execute them.

(4) "Administrative Order" Projects as per the Agreement are to be Funded by the City and executed by LCA.

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

CAPITAL EXPENDITURES

Capital Management	Costs of providing general management and administrative services for the waste water capital programs (2016 Cap Ex \$70,000).
Sewer Mains, Connections	Capital Works services required for sanitary sewer system extensions and connections; to include developer plan review, construction inspection and associated administrative tasks. All costs are reimbursable. (2016 Cap Ex \$26,000).
Mobile Equipment	Purchase of 1- Truck tractor and 1-Used tanker trailer (2016 Cap Ex \$148,000).
Other Equipment	Generally utilized for purchase of individual equipment greater than \$5,000. Replacement equipment is required from time to time to maintain service integrity. Items include valves, sampling equipment, electric and electronic equipment, Infiltration & Inflow (I/I) equipment and other equipment as needed. (2016 Cap Ex \$225,000).
WWTP General Improvements	Funding to cover the on-going replacement of equipment that is nearing the end of its useful life and to address unforeseen equipment failures. Equipment will be constantly evaluated and repaired or replaced as needed. (2016 Cap Ex \$750,000).
Sanitary Sewer Main Replacements and/or Rehabilitation	Replacement and/or rehabilitation of sanitary sewer mains that have been found to be defective. The replacement and/or rehabilitation of "Building Sewers" or Laterals as defined in City Ordinance "Title Five- Sewers" that are connected to said sewer mains is not included because these laterals are owned and maintained by the owners of the improved properties. (2016 Cap Ex \$275,000).
WWTP-Replacement of Motor Control Centers	This Project started in 2015 will replace five aged motor control centers that provide power on a 24/7 basis to various parts of the WWTP. (2016 Cap Ex \$682,000).
WWTP-Digester Cover Replacements	Design with bid-ready plans is anticipated in 2015; with Phase 1 of the Project the replacement of the secondary digester cover taking place in 2016; and Phase-2 the replacement of the primary digester cover in 2017. (2016 Cap Ex. \$1,292,000).
Facility Roof Replacements	Many roof systems at the WFP, WWTP, distribution/collection building and water system remote stations are in various stages of disrepair. In 2014 LCA retained a consultant to perform condition assessments on 43 different roof systems, some of them the original slate roofs from as far back as 1916. The roof assessment report identified the need for immediate roof replacements and/or repairs for a significant number of buildings. Phase-1 was approved in 2015, Phase 2 will be addressed in 2016 (2016 Cap Ex. \$900,000).

**2016 BUDGET
SUPPORTING DETAIL
CITY DIVISION
WASTEWATER FUND**

CAPITAL EXPENDITURES continued

WWTP Security Upgrades	Installation of upgrades and related equipment to the existing security system at the WWTP. (2016 Cap Ex. \$225,000). <i>Uncompleted Work Project, City Funded</i>
Various Wastewater System Related Studies	As infrastructure ages and regulations become more stringent, there are periodic needs for professional services to study the feasibility of changes, upgrades, etc. The following studies are planned for 2016: (1) WWTP Condition Assessment - Some original components of the Allentown WWTP are bearing in on 90 years old. A general condition assessment of the WWTP is long overdue and would be very similar to the type of study which is being implemented at the Allentown Water Plant for the same reason. (2) WWTP Feasibility Study to use alternate disinfectant – There are many health and safety risks to using chlorine gas as the sewage plant disinfectant, and a feasibility study is needed to determine the practicality of converting from chlorine gas to sodium hypochlorite or another disinfectant. (2016 Cap Ex. \$200,000).
WWTP Interim Blending Pumping System	This project provides for the installation of 4 diesel power pumps and associated pipeline to increase the hydraulic capacity of Kline's Island WWTP (KIWWTP) during significant wet-weather events which result from the remnants of hurricane and tropical storms. Once installed, blending of wastewater that has received primary treatment with fully treated plant effluent will be made possible, reducing environmental concerns related to the current practice of discharging raw sewage to the Little Lehigh Creek during these extreme wet-weather events. Note: This Project is contingent upon PADEP approval of blending. (2016 Cap Ex. \$1,250,000). <i>Administrative Order Project, City Funded</i>
Sanitary Sewer Manhole Linings	This on-going annual project will install lining in approximately 50- aged brick manholes per/year to eliminate infiltration and provide structural reinforcement. This work is a component of the work that will be necessary to comply with the EPA Administrative Order. (2016 Cap Ex. \$295,000). <i>Administrative Order Project, City Funded</i>
Sanitary Sewer Manhole Chimneys & Water Tight Covers	This multi-year project involves securing new watertight frames and covers to approximately 400 aged brick riparian manholes. The preferred method is to install a 5' diameter/4' deep concrete collar to secure the new watertight frames and covers to the manhole, however because of access issues alternative methodologies will need to be developed and utilized. This work will eliminate the potential for inflow into and Sanitary Sewer Overflows from these manholes. The 2016 work will complete the third year of this four year project (2016 Cap Ex. \$340,000). <i>Administrative Order Project, City Funded</i>

**2016 BUDGET
CITY DIVISION
OPERATING EXPENSES
ALLOCATION UNIT: LABORATORY**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent (A)	\$ 312,783	\$ 327,864	\$ 298,388	\$ 335,023
Overtime	3,660	-	3,500	3,000
Benefits	97,932	121,417	114,135	132,858
Total	414,375	449,281	416,023	470,882
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	163,218	190,786	190,140	190,724
Engineering	-	26,000	-	500
Contract Operating Services	-	29,000	11,750	14,000
Laboratory Maintenance Services	15,345	48,950	12,917	17,100
Analyses (External)	21,075	33,000	22,400	25,200
Compliance Expense	-	-	-	-
Miscellaneous	5,260	11,000	3,353	4,800
Total	204,898	338,736	240,560	252,324
MATERIALS & SUPPLIES:				
Lab Supplies	34,206	45,000	35,000	56,000
Miscellaneous Supplies	-	5,000	5,000	7,000
	-	-	-	-
Total	34,206	50,000	40,000	63,000
EQUIPMENT:				
Total	4,745	12,000	14,745	15,000
DEPRECIATION:	-	-	-	-
TOTAL EXPENSES	\$ 658,224	\$ 850,016	\$ 711,328	\$ 801,206

OPERATING AND NONOPERATING EXPENSES

CITY - LABORATORY

PERSONNEL

Permanent/Overtime	Represent salaries and off-time of employees' direct time at the Laboratory.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Support	Overhead costs, which are not directly allocable to certain funds, divisions or departments are allocated based on salaries within a fund, division or department as a percentage to total salaries.
Lab Maintenance Services	This budget includes service and maintenance for laboratory equipment (\$17,100).
External Analysis	This budget includes analysis for effluent and waste hauler metals, and various water analyses (\$25,200).
Miscellaneous Services	This budget includes application fees for regulatory permits (\$4,800).

MATERIALS & SUPPLIES

Miscellaneous Supplies	This budget includes lab supplies, chemicals, and controls (\$63,000).
Equipment	This budget includes the replacement of a Q-Tray Sealer (\$6,000) and dishwasher (\$9,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

WATER OPERATING BUDGET OVERVIEW

The Authority currently owns and operates water systems in three areas of Lehigh County - the Western Lehigh (WLSA), the Northern Lehigh (NLSA) and the Southern Lehigh (SLSA) Service Areas. In addition, the Authority owns and operates one system in Northampton County. Within each service area, separate systems are further designated as divisions. Since the Authority is funding all expenses in the majority of the divisions through a common rate, for presentation purposes this budget does not break out expenses and revenues by service area or division. However, the accounting system tracks individual division activity. Divisions currently not part of the common rate structure are: Upper Milford Central (WLSA), Welshtown Road (WTD) and Madison Park (Lynn Township).

Responsibilities for water service include monitoring water quality, operating and maintaining the various supply sources, reservoirs, transmission and distribution pipe networks and customer metering, billing and response to other related customer service needs.

Each division is affected to varying degrees by the Federal and Pennsylvania Safe Drinking Water Acts requirements. Depending on the source (groundwater or purchased surface water), differing analyses are required for water quality monitoring.

The location, customers, source of supply and average day demand for all divisions is provided in the table attached as Exhibit A immediately following this overview.

Major Budget activities continue to place an emphasis on providing customers with outstanding service. Maintenance programs intended to prolong the usefulness of existing facilities, including preventive and predictive maintenance, leakage monitoring and repairs, exercising of system valves and fire hydrants, and station improvements and repairs, are continued from previous years.

2016 BUDGET
SUBURBAN DIVISION
SUMMARY OF REVENUES AND RESERVE FUNDS
WATER FUND - ALL SERVICE AREAS

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING REVENUES:				
Large Industrial	\$ 1,052,611	\$ 1,061,577	\$ 1,075,043	\$ 1,072,043
Other Industrial/Commercial	2,654,700	2,857,617	2,809,696	2,820,927
Residential	3,262,746	3,433,763	3,297,497	3,341,793
Penalties	54,129	60,000	47,500	50,000
Private Fire Service	667,741	619,844	699,477	717,070
Public Fire Service	348,792	344,405	348,969	358,900
Rental Income	110,396	120,000	130,520	130,520
Interest Subsidy - 2010 A Bonds	-	-	315,000	210,000
Interest Income - Revenue Fund	16,259	17,500	23,792	26,171
Interest Income - Debt Service	1,333	2,500	155	2,500
Miscellaneous Income	292,919	85,000	657,194	295,642
Total	\$ 8,461,626	\$ 8,602,206	\$ 9,404,843	\$ 9,025,566
OPERATING EXPENSES AND DEBT SERVICE LESS COVERAGE AND DEPRECIATION	6,631,860	7,475,342	6,463,261	7,631,044
TRANSFER TO RENEWAL & REPLACEMENT RESERVE FUND	274,185	298,773	298,773	298,773
SURPLUS (DEFICIT) - OPERATING RESERVE	\$ 1,555,581	\$ 828,091	\$ 2,642,809	\$ 1,095,749
OPERATING COVERAGE (A)	1.64	1.41	2.06	1.56
CAPITAL FUNDING				
NONOPERATING REVENUES:				
Meter Sales & Installations	\$ 81,781	\$ 75,000	\$ 92,196	\$ 92,000
Supply/Special Tapping Fees	339,692	251,400	241,365	168,980
Distribution Tapping Fees	12,179	20,000	20,000	25,000
Inspection & Review Fees	102,307	65,000	180,272	75,000
Reimbursement from Wastewater Funds	17,919	71,767	69,885	100,685
Other Income	27,135	24,000	33,983	4,000
Total Nonoperating Revenues	581,013	507,167	637,701	465,665
CAPITAL CONTRIBUTIONS:				
Grants	-	-	-	-
Reimbursement from Other Entities	55,220	-	-	-
Total Capital Contributions	55,220	-	-	-
BORROWED FUNDS & RESERVES	3,105,301	2,678,333	657,299	5,518,605
TOTAL CAPITAL FUNDING	3,741,534	3,185,500	1,295,000	5,984,270
CAPITAL EXPENDITURES	\$ 3,741,534	\$ 3,185,500	\$ 1,295,000	\$ 5,984,270
SURPLUS TO CAPITAL RESERVE FUND	\$ -	\$ -	\$ -	\$ -

(A) Equates to Operating Revenues less Operating Expenses, without Debt Service, divided by Interest expense and principal reduction. The trust indenture requires a minimum 1.1 factor.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

OPERATING AND NONOPERATING REVENUES

Large Industrial	For budget purposes, a small percentage of growth in revenue is assumed.
Other Industrial/ Commercial/ Institutional	For budget purposes, a small percentage of growth in revenue is assumed.
Residential	For budget purposes, a small percentage of growth in revenue is assumed.
Private Fire Service	This classification includes private fire protection for those industrial/commercial customers who have either a sprinkler system or private fire hydrants.
Public Fire Service	For budget purposes no growth in public fire hydrant revenue was assumed.
Rental Income	Includes the annual reimbursement from the various funds for a portion of the Authority Operations Center costs and expansion.
Interest Subsidy	Represents reimbursement from federal government of 35% of interest expense due on the 2010 Build America bonds.
Reimbursement from Wastewater Funds	Represents wastewater fund share of post-retiree benefits.
Interest Income - Revenue Fund	Investment return on water operating reserves.
Interest Income - Debt Service Fund	Investment return on the Debt Service Reserve and Debt Service Fund monies. Interest income earned is used to offset interest expense.
Other Income	Includes miscellaneous revenues received for such items as damage claims, site visits for collections, reimbursement of lab costs, line location, miscellaneous water sales and violations and fines, etc.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

CAPITAL REVENUES

Meter Sales & Installation	Charges to new customers for initial meter and backflow prevention device costs and installation.
Supply Tapping Fees	Charges to new customers are based on connection size. These revenues offset costs related to construction of storage and supply facilities.
Distribution Tapping Fees	Charges to new customers are based on connection size. These revenues offset costs related to construction of transmission and distribution facilities. These charges are generally not applicable to customers connecting within a developer-installed distribution system.
Inspection and Review Fees	Reimbursement from developers for LCA inspection and plan review costs.
Reimbursement from Wastewater Funds	Includes recovery of costs related to the GIS project, SCADA system upgrades, Knowledge Management project and the Information Technology Master Plan Update. Such costs are being recovered over five years.
Other Income	Miscellaneous revenues for such items as new customer initiation fees, specification sales, hydrant defender sales etc.
Grant/Special Loan	Represents grants for various water projects.
Reimbursement from Other Entities	Represents reimbursement of costs from the State for the Slatedale Bridge Widening – Main Relocation project.
Borrowed Funds and Cash Cash Reserves	Bond funds will be used to pay for system improvements, while Cash Reserves will pay for those projects or equipment purchases that have a useful life less than the length of the bond issue maturity.

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
WATER FUND - ALL SERVICE AREAS

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 685,210	\$ 701,011	\$ 684,905	\$ 849,403
Overtime	69,812	82,003	71,742	81,231
Employee Benefits	198,807	212,866	194,982	289,626
Total	953,829	995,881	951,630	1,220,260
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	590,462	706,805	671,224	764,849
Utilities	418,729	475,650	426,482	482,500
Engineering	8,094	62,500	9,122	80,500
Analyses (External)	79,475	32,600	71,376	25,335
Contract Operating Svcs	37,135	32,650	33,700	32,800
Compliance Expense	730	4,750	-	-
Maintenance Services	183,888	509,000	180,272	377,150
Fleet Management Services	25,259	30,000	40,000	35,000
Extraordinary Expenditures	58,153	60,000	20,021	62,000
Industrial Meter Testing & Repair	4,950	8,000	-	8,000
Miscellaneous Services	107,481	38,700	27,632	55,200
Water Purchases	1,013,322	1,261,000	984,580	1,509,200
Total	2,527,678	3,221,655	2,464,409	3,432,534
MATERIALS AND SUPPLIES:				
Pump Supplies	42,044	56,600	46,400	84,050
Purification Supplies	56,072	84,000	71,950	89,700
Distribution & Transmission Supplies	32,123	59,700	45,250	77,450
Fleet Management Supplies	2,679	2,500	2,500	3,000
Misc. Materials & Supplies	60,189	58,700	21,200	46,465
Fuel & Mileage	43,548	67,200	40,327	65,100
Total	236,655	328,700	227,627	365,765
EQUIPMENT:	30,234	131,500	20,476	122,500
DEPRECIATION & AMORTIZATION	2,494,362	2,950,000	2,900,004	2,950,000
TOTAL OPERATING EXPENSES	6,242,758	7,627,736	6,564,146	8,091,059
NONOPERATING EXPENSES:				
DEBT SERVICE:				
Interest Expense	1,377,962	1,267,212	1,270,089	1,489,990
Financing Fees	9,128	7,500	9,013	7,000
Debt Retirement	1,496,374	1,522,894	1,520,017	992,995
Coverage *	431,150	418,516	418,516	372,448
TOTAL NONOPERATING EXPENSES	3,314,614	3,216,122	3,217,635	2,862,433
TOTAL EXPENSES	\$ 9,557,372	\$ 10,843,858	\$ 9,781,781	\$ 10,953,491

* Coverage is calculated at 15% of interest expense and debt retirement.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

OPERATING AND NONOPERATING EXPENSES

PERSONNEL

Permanent/Overtime	Represents salaries and off-time allocated for staff oversight of all divisions.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Support	Overhead costs (\$764,849), which are not chargeable to certain funds, divisions or departments are allocated based on salaries within a fund as a percentage to total salaries. For small systems with less than 250 customers, the allocation percentage is further reduced to 20% of the salary ratio.
Utilities	Power costs reflect increased water production in the Central Lehigh System to meet the projected growth and increased commercial and industrial usage. Included in this budget is: power (\$433,200), gas service (\$11,000), share of cellular communication service (\$34,900) and phone service for alarm dialers (\$3,400).
Engineering	This budget includes engineering consulting services that may be required. (\$80,500).
Contract Operating Services	A DEP licensed contract operator will provide one of the two system checks per week at fourteen well stations outside of the CLD. LCA personnel will perform the second weekly check.
Analyses (External)	<p>External" indicates that these analyses are performed by a contracted certified laboratory. 2016 analyses required by DEP will total (\$25,335) for all of the systems. We will continue to use the term "External" because many samples will continue to be analyzed by a contract laboratory.</p> <p>Only Total Coliform/E. coli samples will be processed by our Pennsylvania accredited Allentown Water Filter Plant laboratory. All other compliance samples are processed by our accredited contract laboratory.</p>
Maintenance Services	This budget includes; wells, well stations & pumping (\$70,050), distribution/transmission mains & hydrants (\$99,100), reservoir/storage (\$65,700), SCADA / TELOG maintenance services & software support (\$30,500), lab equipment maintenance (\$1,300), site maintenance (\$55,700), emergency generator service and repairs (\$19,600) and miscellaneous repairs and services (\$35,200).
Fleet Maintenance Services	This budget includes repairs to vehicles and mobile equipment (\$35,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

OPERATING AND NONOPERATING EXPENSES continued

Extraordinary Service & Equip. Expenditures	This budget line maintains the same level of insurance against an extraordinary leak repair and restoration in all systems (\$62,000). It includes items such as well and booster pump replacements, piping re-configurations and other services utilized in systems other than the CLD.
Industrial Meter Testing	This budget includes annual testing of large industrial and commercial meters.
Miscellaneous Services	This budget includes lab software support (\$2,100), PA One-Call System fees (\$13,000), PA One-Call software support (\$1,200), miscellaneous communication services (\$1,500), bank fees (\$1,500), water hauling for leak repair (\$2,000), certification/permit fees (\$3,400), dispatch answering service (\$3,100), meter reading software (\$1,400), shipping (\$1,500) and other miscellaneous expenses (\$4,400).
Water Purchases	This budget includes the purchase of approximately 300,000 gallons of water per day from the Northampton Borough Municipal Authority for customers in the North Whitehall Division, the purchase of approximately 47,000 gallons of water per day from the Borough of Slatington for customers in the Washington Township Division, the purchase of approximately 62,000 gallons of water per day from the Borough of Emmaus for the LCA Out-of-Borough customers in Lower Macungie, Salisbury and Upper Milford Townships and the purchase of 6,000,000 gallons per day of water from the City Division for customers in the Central Lehigh Division.
<u>MATERIALS & SUPPLIES</u>	
Pump Supplies	This budget includes pump supplies (\$34,150), well supplies (\$23,800) and reservoir supplies (\$26,100).
Purification Supplies	This budget includes sodium hypochlorite (\$27,600), sodium hydroxide (\$9,800), reagent set (\$1,000), sodium thiosulfate (\$500), D-chlor tablets (\$2,000), Aquamag (\$2,100), replacement parts, injectors and repair parts (\$20,150), analyzer supplies (\$20,850) and miscellaneous parts and supplies (\$5,700).
Distribution and Transmission Supplies	This budget includes hydrant supplies (\$28,500), main and service repair supplies (\$38,150), meter supplies (\$9,500) and miscellaneous supplies (\$1,300).
Fleet Maintenance Supplies	This budget includes supplies for vehicle and mobile equipment repairs (\$3,000).
Miscellaneous Materials & Supplies	This budget includes SCADA / TELOG supplies (\$26,600), clothing (\$1,500), plumbing supplies (\$4,000), lab supplies (\$5,065) and miscellaneous supplies (\$9,300).
Fuel	This item includes the allocation of a share of the total LCA fuel expense for the service vehicles, diesel fuel and generator fuel. The allocation is based on budgeted uniformed personnel time. An increase over recent years is budgeted due to the consistent increase volatility in prices for this commodity.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

OPERATING AND NONOPERATING EXPENSES continued

EQUIPMENT

This budget includes sampling stations (\$11,600), correlator (\$12,000), replacement fire hydrants (\$7,800), line/leak locator (\$6,000), chemical pumps (\$7,600), sump pumps (\$1,200), replacement heaters (\$5,250), Prominent Cl2 analyzers (\$10,500), replacement well pumps (\$9,000), replacement booster pumps (\$7,500), turbidity meter upgrade (\$5,200), dehumidifiers (\$2,900), logger/leak detection (\$3,500), well depth probe (\$1,200), fencing (\$1,200), chlorine storage tanks (\$8,600), telog equipment (\$5,900), miscellaneous tools & other minor equipment (\$13,450) and miscellaneous lab equipment (\$2,100).

Note: Major vehicle equipment and minor equipment costing over \$5,000 are included in the Capital Budget.

**DEPRECIATION AND
AMORTIZATION**

Depreciation expense is calculated by the straight-line method using standard depreciation periods. Amortization of planning and financing costs is included.

DEBT SERVICE

Interest Expense

Includes \$22,952 of interest on Washington Township Division improvements and \$1,467,038 of interest on Central Lehigh Division debt.

Debt Retirement

Includes scheduled retirement of \$106,192 on Washington Township Division debt and \$886,803 on Central Lehigh Division debt.

Financing Fees

Includes trustee fees of \$7,000 related to Central Lehigh Division debt.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

SERVICE AREA DESCRIPTION

Service Area/Division	Municipalities Served	Customers (1)		Supply Source	2015 Avg Day Demand (gpd)
		No.	Type		
Western Lehigh Service Area					
Central Lehigh Division (2)	Upper Macungie Twp. Lower Macungie Twp. Weisenberg Twp. Lowhill Twp. Upper Milford Twp. Salisbury Twp. South Whitehall Twp.	18,368	Residential, Commercial, Institutional & Industrial	21 Wells Plus interconnection with City Division water system	8,883,000
Arcadia West Division	Weisenberg Twp.	17	Commercial	2 Wells	20,000
Emmaus Out-of-Borough Division	Upper Milford Salisbury Twp. Lower Macungie Twp.	420	Residential, Commercial & Institutional	Borough of Emmaus	62,000
Upper Milford Central Division	Upper Milford Twp.	101	Residential	2 Wells	11,000
Subtotal		18,906			8,976,000
Northern Lehigh Service Area					
North Whitehall Division	North Whitehall Twp.	1,151	Residential, Commercial & Institutional	9 Wells & Northampton Borough Municipal Authority	303,000
Washington Township Division (3)	Washington Twp.	407	Residential, Commercial & Institutional	Slatington Municipal Water Authority	51,000
Millcreek Division	Washington Twp. Heidelberg Twp.	35	Residential	2 Wells	6,000
Lynn Township Division (LTD) (4)	Lynn Twp.	176	Residential	3 Wells	14,000
Heidelberg Heights Division	Heidelberg Twp.	190	Residential	5 Wells	46,000
Subtotal		1,959			420,000
Southern Lehigh Service Area					
Beverly Hill Division	Lower Milford Twp.	45	Residential	1 Well	6,000
Northampton County Service Area					
Clearview Farms Division	Moore Twp.	67	Residential	2 Wells	10,000
TOTAL		20,977			9,412,000

(1) Residential, Commercial and Industrial estimates as of 9/22/15.

(2) Includes Mink Estates and Farview Farms Division

(3) Includes Welshtown Road Customers

(4) Includes Pine Lakes at Lynn and Madison Park Division

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

CAPITAL BUDGET OVERVIEW

The Suburban Divisions Water Capital Budget includes projects, which provide or lead to long-term improvements and reliability to the system. The following table provides information regarding significant activities:

Project	2016 Budget	2016 Project Stage
Water Main Replacement Projects- Cycles 1 2 & 3	2,400,000	Design/Construction
CLD Auxiliary Pump Station & Main Extension	555,470	Design/Construction
Non-residential Water Meter Replacements	195,000	Design /Construction
General Water System Improvements	155,000	Design/Construction

2016 BUDGET
CAPITAL EXPENDITURES
SUBURBAN DIVISION
WATER

Project	Priority	Estimated Project Cost	Estimated Costs Through 2015	2016 Budget	Beyond 2016
Water Company Acquisitions	Medium	Annual		\$ 30,000	
Capital Management	High	Annual		75,000	
Distribution Mains & Service Connections	High	Annual		180,000	
Distribution Mains Upsizing *	High	Annual		350,000	
Distribution System Improvements (3rd Party)	High	Annual		10,000	
New & Replacement Water Meter Installations (non-project)	High	Annual		135,000	
Reservoir Rehabilitation / Maintenance	High	Annual		180,000	
Mobile Equipment	High	Annual		117,500	
Other Equipment	High	Annual		100,000	
Capital Works Miscellaneous Expense	Medium	Annual		5,000	
Water Main Replacement Projects	High	12,579,000	279,000	2,400,000	9,900,000
Hydro-Pneumatic Pump Station Upgrades	Medium	1,486,300	123,000	379,000	984,300
Crestwood- New Alternate Water Supply	High	428,900	87,100	341,800	-
CLD Auxiliary Pump Station & Main Extension	High	1,219,440	108,500	555,470	555,470
Route 309 Crossing at Sand Spring Road	Low	197,000	60,000	137,000	-
Water Optimization Study	Medium	100,000	6,000	50,000	44,000
General Water System Improvements	Medium	2,180,000	15,000	155,000	2,010,000
Main Office / Operations Center Improvements	Medium	690,000	-	300,000	390,000
Water Facility Condition Assessments	Medium	675,000	-	70,000	605,000
Additional Water Supply- Small Satellite Divisions	Medium	2,799,700	-	218,500	2,581,200
Non-residential Water Meter Replacements	Medium	354,000	-	195,000	159,000
Total Suburban Divisions Water Capital Expenditures:				\$ 678,600	\$ 5,984,270
					\$ 17,228,970

Note: Projects in bold type will not proceed beyond the planning phase, or beyond current authorized phase without specific authorization from the LCA Board subsequent to the adoption of this budget.

* Individual upsizing contributions less than \$100,000 will not require additional authorization beyond adoption of this budget.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

CAPITAL EXPENDITURES

Water Company Acquisitions	Staff and consultant involvement in actively pursuing system acquisitions. (2016 Cap Ex \$30,000).
Capital Management	Cost of providing general management and administrative services for the water capital programs. (2016 Cap Ex \$75,000).
Capital Works Miscellaneous Expenses	Includes: general drafting and consultant services; the Suburban Divisions share of updating Water and Wastewater General Design & Construction Specifications. (2016 Cap Ex \$5,000).
Distribution Mains, Service Connections	Capital Works services required for water distribution system extensions and connections to include developer plan review, construction inspection and associated administrative tasks. All costs are reimbursable. (2016 Cap Ex \$180,000).
Distribution Mains Upsizing	Economically provides proper pipe capacities and extensions to meet future service needs by increasing pipe sizes in proposed developer-installed systems to provide sizes indicated in the Water System Plan or funds the off-site portion of a water main extension in accordance with a Township Water Service Agreement to serve a development. (2016 Cap Ex \$350,000).
Distribution System - Improvements (3rd Party)	Costs of additional valves or piping to improve the operation of the existing system. Where it is economical, improvements are made under a third party's contract. (2016 Cap Ex \$10,000).
New & Replacement Meter Installations (<i>non-project</i>)	Material and labor costs for meters, radio read receivers and if applicable backflow prevention devices installed for new customers and defective or customer damaged meters. The costs of installations for the new customers and damaged meters are reimbursed through collection of meter installation fees. (2016 Cap Ex \$135,000).
Reservoir Rehabilitation / Maintenance	In the Suburban Division there are seven reservoir tanks; five welded steel, one bolted steel and one concrete, with capacities of .20 MG to 5 MG. Rehabilitation / maintenance for the five welded steel tanks are covered under a long-term contract with Utility Services Corporation. The remaining two tanks needs will be addressed when applicable on an individual basis with separate contracts. (2016 Cap Ex \$180,000),
Mobile Equipment	Purchase of 2 Trucks, 1-fork lift, 1 Hurco vacuum unit. (2016 Cap Ex \$117,500).
Other Equipment	Equipment \$5,000 or over that is necessary to maintain service integrity. Items include leak detectors, line locators, electric and electronic equipment, lab equipment, hi-tech wireless leak detection sensing equipment, pumping equipment, generator, etc. (2016 Cap Ex \$100,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

CAPITAL EXPENDITURES continued

Water Main Replacement Projects	An on-going project to replace spun cast iron water mains in acquired water systems that have or may experience high failure rates. 2016 budget assumes the replacement of ~three-miles of main. (2016 Cap Ex \$2,400,000).
Hydro-Pneumatic Pump Station Upgrades	This multi-year project includes the equipment necessary to convert the hydro-pneumatic operated equipment at the two facilities in the Upper Milford Central Division and the one facility in the Pine Lakes of Lynn Division to a variable frequency drive-controlled double pumping system. The project also allocates funds for some electrical upgrades and storage tank replacements if necessary. The 2016 budget addresses the completion of the Pine Lakes of Lynn upgrade. (2016 Cap Ex \$379,000).
Water Optimization Study	This project will evaluate ways to optimize the use of the combined water capacities of both the Central Lehigh and Allentown Divisions for cost effective utilization in both divisions. (2016 Cap Ex \$50,000).
Non-residential Water Meter Replacement	This project includes replacing ~ 260 water meters >=2-inches; and 25 larger meters ranging from 3 to 10-inches that have reached the end of their useful life with new radio read capable meters. It also includes upgrading ~110 newer meters to RR capability meters. The project is expected to be bid in the second-quarter of 2016. (2016 Cap Ex \$195,000).
General Water System Improvements	This multi –year effort includes numerous general system improvement projects that include installation of motor control valve at Reservoir #3; a main extension to connect the water mains on Schantz Spring Rd. to the main on Minesite Rd., VFD's on certain wells and chlorine injection stations as needed. Also included, are full abandonment of eight unused wells in various water systems if required to do so by PADEP. (2016 Cap Ex \$155,000).
Crestwood- New Alternate Water Supply	This project consists of the design and construction of approximately 600 lf. of 6-inch diameter water main, connecting to the primary NWD system and applicable piping and control modifications within the pump station. This connection will provide an alternate supply of water to the Crestwood Pumping station and allow the existing two wells currently serving the station to be taken off line and abandoned. Construction will start in early 2016 and be completed by the end of the year. (2016 Cap Ex \$341,800).
CLD Auxiliary Pump Station & Main Extension	This multi-year project consists of the design and construction of 2 MGD water pressure booster pump station with fire flow capabilities of 2,500 GPM and approximately 1,600 linear-feet of 12-inch diameter interconnecting main extending from the intersection of Cetronia and Werley Roads. The project will provide the capability to pump water from the CLD Lower to Upper System, thereby enhancing reliability in the Upper System and allow flexibility for utilizing water purchased from the City of Allentown. Construction is expected to start in mid-2016 and carry over to mid-2017. (2016 Cap Ex \$555,470).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WATER FUND**

CAPITAL EXPENDITURES continued

Route 309 Crossing at Sand Spring Road	The project will extend water service to the west side of Route 309, leading to the future expansion of the NWD water service area in a highly populated area that will include Lehigh Carbon Community College. The project includes construction of approximately 500 LF. of 12" transmission main, that will utilize a previously installed casing that crosses under RT 309. (2016 Cap Ex \$137,000).
Main Office / Operations Center	This multi-year project includes bullet proof glass for the customer service area, the construction of a mezzanine area in the old garage for file and other storage; sealing the parking lot, replacement of failing carpeting and flooring in certain areas; parking lot lighting upgrade; HVAC unit refurbishment; other miscellaneous repairs and undefined costs. (2016 Cap Ex \$300,000).
Water Facility Condition Assessments	This multi-year project to document baseline condition of water facility buildings and prioritize and perform needed improvements. Assessment to include: 1) structures/HVAC; 2) mechanical/electrical. Industry standard asset management protocol is to be used including risk analysis in order to prioritize and implement maintenance upgrades and repairs to maintain an acceptable level of service. One facility is included in scope. 2016 work will focus on a condition assessments of structures and HVAC. (2016 Cap Ex \$70,000).
Additional Water Supply Small Satellite Divisions	This multi-year project addresses the needs of five satellite water systems, four of which: Clear View Farms; Mill Creek; Beverly Hills and Madison Park are operating on one well and have no back up. For these four systems, when applicable existing wells that are not utilized will be evaluated and if practicable rehabilitated; otherwise new wells would be constructed. This project will also upgrade the chlorine contact systems for these systems. The fifth, the Upper Milford Division has two wells but will need additional supply capacity to accommodate future growth. An interconnection with the Central Lehigh System is being considered in lieu of an additional well related infrastructure. 2016 work will focus on evaluating the potential to re-develop existing wells that are not currently utilized; and siting for new wells. (2016 Cap Ex \$218,500).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER FUND OVERVIEW**

The Authority is responsible for providing a variety of wastewater services. Current operation and maintenance responsibilities include; the Western Lehigh Interceptor (WLI), Little Lehigh Relief Interceptor (LLRI), the LCA Pre-Treatment Plant (formerly the County of Lehigh Pre-Treatment Plant), collection and treatment in Heidelberg Township, North Whitehall Township, Weisenberg Township and Lynn Township and collector systems within Upper Milford Township and Washington Township.

WESTERN LEHIGH INTERCEPTOR SYSTEM

This Budget addresses transportation and City treatment services provided to various municipalities and assumes an average daily flow of 8.00 million gallons per day (mgd), from the communities served, the Boroughs of Alburtis and Macungie, and the Townships of Lower Macungie, Upper Macungie, Upper Milford, Weisenberg, Lowhill and the LCA Pre-Treatment Plant (the "Municipalities"). The estimated flow has decreased slightly from a budgeted flow of 7.9 million gallons per day (mgd) in 2014 to 8.0 mgd in 2015. The Municipalities are billed based upon wastewater strength, flow and reserved capacity. The budget (including the LLRI) maintains current rates for the typical residential customer. In addition, the Borough of Emmaus discharges a portion of its flow through the WLI and is billed in accordance with a service agreement.

Personnel time is included for the operation and maintenance of the gravity interceptors and the Spring Creek Road Pump Station (SCRPS) and force main. The budget anticipates that the SCRPS will operate monthly in an exercise mode to minimize the potential for odors as well as in response to wet weather events according to the new Wet Weather Operating Protocol (WWOP).

As part of a comprehensive Infiltration and Inflow (I/I) program, the flow monitoring of Signatory collector system connections to the interceptor that started in late December 2007 was completed in September of 2009. The results of the flow monitoring in conjunction with other investigations will be utilized in 2014 to complete certain tasks set-forth in the Sewer Capacity Assurance and Rehabilitation Program (SCARP) including the Preliminary Objectives Evaluation and Alternatives Modeling.

Sampling and analysis for billing purposes of the LCA Pre-Treatment Plant and Municipality industrial/commercial users, and flow entering the City system and that from Emmaus are included.

LITTLE LEHIGH RELIEF INTERCEPTOR (LLRI) SYSTEM

Phase 1

This system phase, including the Park Pump Station (PPS) and Force Main, serves the Municipalities and the Townships of Salisbury and South Whitehall. The PPS, which has been in service since 1983, provides 20 mgd of relief pumping capacity to bypass a critical portion of the City interceptor system. In late 2008, the Authority and the City of Allentown developed a protocol for the operation of the station prior to major wet weather events to maximize capacity in the interceptor for use during the event. In addition, the Wet Weather Operating Logic Project completed 2012 with the assistance of Malcolm Pirnie, provides for a more effective use of other LCA facilities and the reduction of overflows during wet weather events.

Phase 2

This system phase includes the gravity relief line from Keck's Bridge to the PPS and serves the Municipalities. The 2015 Budget anticipates the continuation of increased maintenance costs for cleaning of the inverted siphons on this system. It is now anticipated that this will be an annual expense based upon the blockage experienced in the last 3 years.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER FUND OVERVIEW continued**

COMMON RATE COLLECTOR SYSTEMS

UPPER MILFORD SYSTEM

As the wastewater service agency for Upper Milford Township (UMiT), Lehigh County Authority (LCA) provides all wastewater-related services for the 758 residential and 46 commercial customers in the township as of October 31, 2013. Except for significant matters requiring inter-municipal negotiations or consultations, LCA provides general representation for UMiT on wastewater issues.

WEISENBERG SYSTEM

In 2002, LCA finalized an agreement with Weisenberg Township, which designates LCA as the provider of public wastewater service within specific areas of the township. Currently LCA provides collection system service to 146 residential and 3 commercial customers in the Pointe West subdivision, to the former Penn State campus and Glasbern Inn.

HEIDELBERG HEIGHTS SYSTEM

This system, serving approximately 145 customers in Heidelberg Township was purchased by LCA in September 1998. The system includes approximately 6,500 linear feet of collector sewers and a .060 mgd Sequencing Batch Rector (SBR) Activated Sludge Wastewater Treatment Plant, which was placed in operation in 2000. The budget includes maintenance activities related to the collection system, emphasizing identification and removal of extraneous flow into the system. The Authority will continue to operate the system with a combination of its own personnel and a contract operator.

WYNNEWOOD TERRACE SYSTEM

The budget includes the operation and maintenance of the Wynnewood Terrace wastewater system in North Whitehall Township. The Authority took over ownership and operational responsibilities in July of 2003. The system includes a 60,000 gpd extended air activated sludge package treatment plant, three pump stations and collection system currently serving 217 residential and 2 commercial customers. The budget includes maintenance activities related to the collection system, emphasizing identification and removal of extraneous flow into the system. The Authority will continue to operate the system with a combination of its own personnel and a contract operator.

SAND SPRING SYSTEM

The budget includes the operation and maintenance of the Sand Spring wastewater system in North Whitehall Township, which was acquired at the end of 2004. The system includes a 35,000 gpd extended air activated sludge package treatment plant and collection system currently serving 248 residential apartment units and 9 commercial customers. The Authority will continue to operate the system with a combination of its own personnel and a contract operator.

WESTERN WEISENBERG SYSTEM

The Authority completed construction of a new 40,000 gpd wastewater treatment plant at the Arcadia West Industrial Park (AWIP). The new plant serves the AWIP and other properties in the New Smithville area of Weisenberg Township. Currently there are 9 commercial customers and 1 institutional customer in this system.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER FUND OVERVIEW continued**

LYNN TOWNSHIP SYSTEM

The budget includes the operation and maintenance of the Lynn Township wastewater system in Lynn Township. The system includes an 80,000 gpd cast in place extended air plant and collection system currently serving approximately 345 residential customers, 80 apartment units, 20 commercial customers and the Northwestern Lehigh School District Complex. The Authority has plans to upgrade and expand the facility to a 160,000 gpd and be operational by 2018. The Authority currently operates the system with a combination of its own personnel and a contract operator.

WASHINGTON TOWNSHIP SYSTEM

LCA provides Operating Services for this system that serves approximately 632 residential and commercial customers in the Slatedale and Emerald areas of Washington Township. Approximately 130,000 gallons per day of wastewater is conveyed to and treated at the Slatington Wastewater Treatment Plant. Ownership of the system remains with Washington Township.

LCA PRE-TREATMENT PLANT (PTP)

LCA took over the operation in May 2006 and ownership in October 2009 of this 5.75 mgd facility built by the County of Lehigh in 1990. Currently the facility provides pre-treatment of high strength, predominantly food and beverage industry wastewater and commercial and domestic wastewater from Lowhill, Weisenberg and Upper Macungie Townships in areas up-stream of the wastewater treatment plant. The WTP also treats hauled waste, which is a significant revenue source for this plant. 2015 revenues are anticipated to decrease by 6%, primarily due to lower industrial charges. The plant is operated through a professional services contract with OMI, Inc. This service was publicly bid and a new 5 year contract was signed in May 2009. The new contract provides significant savings in the operational costs, which will be reinvested in plant capital that is reaching the end of its useful life. A five year contract extension was granted to OMI through 2018.

Boston Beer Company (BBC) started brewing operations at the former Pabst Brewery in April 2008. The brewery waste has become a very significant source of both waste and income for the WTP. As projected in 2009 BBC became the plant's largest customer and continues to increase production annually.

Since 2008 significant capital investment was made in the WTP to rehabilitate aging, inefficient and inoperable equipment in anticipation of the significant increase in high strength brewery wastewater flow and strength, which in turn places added demands on plant equipment. Energy conservation measures were investigated in 2012 to reduce electrical demands and improve equipment and operational efficiencies. Several projects were started in 2013 to reduce energy costs. LCA completed the projects in 2014. The projects included the addition of a truck receiving station and the completion of the digester mixer replacements, which increased biogas production and reduce electrical needs. The installation of a combined heat and power system will be started in 2016

**2016 BUDGET
SUBURBAN DIVISION
EXPENSE & REVENUE SUMMARY
WASTEWATER FUND**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
REVENUES:				
Operating and Nonoperating:				
Western Lehigh Interceptor System	\$ 7,106,230	\$ 6,489,779	\$ 4,655,154	\$ 4,812,989
Little Lehigh Relief Interceptor System Phase 1	441,987	456,256	226,330	401,366
Little Lehigh Relief Interceptor System Phase 2	56,347	42,013	56,600	48,195
Common Rate Collector System (A)	779,925	744,491	717,500	743,000
Western Weisenberg System	206,999	174,497	225,830	250,750
Wastewater Treatment Plant	8,062,786	7,796,737	8,330,429	9,008,767
Washington Township System	491,368	511,244	416,021	422,312
Lynn Township System (B)	363,271	393,347	361,630	366,600
Capital	2,177,731	5,395,750	1,354,725	9,354,000
Total Revenues	\$ 19,686,644	\$ 22,004,114	\$ 16,344,219	\$ 25,407,978
EXPENSES:				
Operating and Nonoperating:				
Western Lehigh Interceptor System	\$ 4,985,968	\$ 6,489,779	\$ 4,655,154	\$ 4,812,989
Little Lehigh Relief Interceptor System Phase 1	222,777	456,256	226,330	401,366
Little Lehigh Relief Interceptor System Phase 2	5,273	42,013	27,266	48,195
Common Rate Collector System (A)	567,841	763,921	687,322	760,669
Western Weisenberg System	252,367	298,581	250,952	320,842
Lynn Township System (B)	237,242	312,410	201,141	290,888
Wastewater Treatment Plant	7,036,095	7,074,934	6,914,729	7,561,071
Washington Township System	491,368	511,244	419,170	422,312
Capital	2,177,731	5,395,750	1,354,725	5,265,000
Total Expenses	\$ 15,976,663	\$ 21,344,889	\$ 14,736,789	\$ 19,883,331

(A) This budget includes the Heidelberg Heights, Wynnewood Terrace, Sand Spring, Weisenberg Township and Upper Milford Collector Systems.

(B) Acquired on March 1, 2012.

Note: Expenses are net of depreciation.

**2016 BUDGET
SUBURBAN DIVISION
SOURCES OF OPERATING REVENUES
WASTEWATER FUND**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
WLI REVENUES:				
User Charges	\$ 7,013,923	\$ 6,412,279	\$ 4,562,493	\$ 4,733,989
Interest Income - Revenue Fund	2,747	2,500	3,100	4,000
Other Income	89,560	75,000	89,561	75,000
Total	7,106,230	6,489,779	4,655,154	4,812,989
LLRI - PHASE 1 REVENUES:				
User Charges	441,198	454,756	225,480	400,466
Operating Reserves	-	-	-	-
Interest Income - Revenue Fund	459	750	450	500
Other Income	330	750	400	400
Total	441,987	456,256	226,330	401,366
LLRI - PHASE 2 REVENUES:				
User Charges	56,201	40,013	55,500	47,095
Operating Reserves	-	-	-	-
Interest Income - Revenue Fund	146	2,000	1,100	1,100
Total	56,347	42,013	56,600	48,195
COMMON RATE COLLECTOR SYSTEM REVENUES: (A)				
User Charges	722,725	718,991	699,500	725,000
Interest Income	1,130	500	1,500	1,500
Other Income	56,070	25,000	16,500	16,500
Total	779,925	744,491	717,500	743,000
WESTERN WEISENBERG REVENUES:				
User Charges	206,994	174,247	225,000	250,000
Use of Supplemental Revenues	-	-	-	-
Interest Income	5	250	830	750
Total	206,999	174,497	225,830	250,750
WASHINGTON TWP REVENUES:				
User Charges	430,596	429,821	425,000	430,000
Interest Income	-	75	5	5
Other Income	2,153	2,000	600	750
Use of Supplemental Revenues	58,619	79,348	(9,584)	(8,443)
Total	491,368	511,244	416,021	422,312
LYNN TOWNSHIP COLLECTOR SYSTEM: (B)				
User Charges	362,769	392,097	360,000	365,000
Interest Income	272	250	330	300
Other Income	230	1,000	1,300	1,300
Total	363,271	393,347	361,630	366,600
WASTEWATER TREATMENT PLANT				
Hauler Fees	2,157,737	2,260,000	2,010,291	2,250,000
Industrial Charges	4,043,278	3,579,500	4,256,857	4,590,592
Penalties	218,532	110,000	397,203	205,000
Excess Removal Credits	1,634,989	1,772,394	1,652,106	1,952,175
Interest Income	1,320	1,000	1,272	1,000
Other Income	6,930	73,843	12,700	10,000
Total	8,062,786	7,796,737	8,330,429	9,008,767
Total Operating Revenues	\$ 17,508,913	\$ 16,608,364	\$ 14,989,494	\$ 16,053,978

(A) Includes the following systems: Upper Milford, Weisenberg Township, Heidelberg Heights, Wynnewood Terrace, and Sand Spring.

(B) This system was acquired 2/29/12.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER OPERATING, NONOPERATING AND CAPITAL REVENUES**

WESTERN LEHIGH INTERCEPTOR SYSTEM

User Charges	Charges to municipalities to recover Allentown Wastewater Treatment and Transportation, LCA Interceptor O&M and Debt Service.
Interest Income	Investment earnings on operating reserves.
Other Income	Includes reimbursement from non-signatories for sewer line flushing and televising services, and signatory payments for additional lab testing requests.

LITTLE LEHIGH RELIEF INTERCEPTOR SYSTEM - PHASE 1

User Charges	Charges to municipalities to recover O&M and debt service costs for this system.
Operating Reserves	Use of reserves to cover costs of fuel spill remediation and tank replacement.
Interest Income – Revenue Fund	Investment earnings on operating reserves.
Other Income	Miscellaneous reimbursements.

LITTLE LEHIGH RELIEF INTERCEPTOR SYSTEM - PHASE 2

User Charges	Charges to municipalities to recover O&M and debt service costs for this system.
Interest Income - Revenue Fund	Investment earnings on reserves.

COMMON RATE COLLECTOR SYSTEMS

User Charges	Charges to customers to the Upper Milford, Weisenberg Township, Heidelberg Heights, Wynnewood Terrace and Sand Spring collector systems to cover operating and debt service costs. In 2010 the Authority implemented a common rate structure for these collector systems.
Interest Income	Interest earnings on reserves.
Other Income	Includes lien administration and new customer initiation fees and other income.

WESTERN WEISENBERG SYSTEM

User Charges	Charges to commercial users to recover systems operating costs.
Use of Supplemental Revenues	Reserves used to supplement revenues to meet budgeted expenses.
Interest Income	Investment earnings on reserves.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER OPERATING, NONOPERATING AND CAPITAL REVENUES**

WASHINGTON TOWNSHIP SYSTEM

User Charges	Charges to customers to recover system operating costs and debt service.
Interest Income	Investment earnings on reserves.
Other Income	Includes lien administration and new customer initiation fees and other income.
Use of Supplemental Revenues	Reserves used to supplement revenues to meet budgeted expenses.

WASTEWATER TREATMENT PLANT (WTP)

Hauler Fees	Includes strength and volume charges to wastewater haulers and annual permit fees.
Industrial/Commercial Charges	Includes charges to Boston Beer and Hilton Homewood Suites for their discharges to the plant.
Excess Removal Credits	Includes reimbursement for plant removals of BOD and TSS in excess of 250 parts per million (ppm) and 275 ppm, respectively. The WTP is reimbursed at City of Allentown rates.
Interest Income	Investment earnings on reserves.
Other Income	Includes charges to Upper Macungie for lab testing, surcharges to new connections (Ocean Spray and Coke expansion) and other income.

LYNN TOWNSHIP SYSTEM

User Charges	Charges to customers to recover system operating costs and debt service.
Interest Income	Investment earnings on reserves.
Other Income	Includes lien administration and new customer initiation fees and other income.

**2016 BUDGET
SUBURBAN DIVISION
SOURCES OF NONOPERATING AND CAPITAL REVENUES
WASTEWATER FUND**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
NONOPERATING REVENUES:				
Collector System Tapping Fees	\$ 10,715	\$ 7,500	\$ 3,100	\$ 5,000
Inspection & Review Fees	13,960	10,000	1,000	4,000
Treatment Capacity Fees	27,805	650,000	520,179	650,000
W. Lehigh Interceptor Fees	115,343	200,000	125,000	350,000
L. Lehigh Relief Interceptor Fees	41,838	125,000	125,000	150,000
Project Connection Fees	-	-	-	-
Operating Revenue				3,525,000
Reimbursement from Other Funds	-	-	-	
Miscellaneous Income	25,373	1,500	1,200	1,500
Total	235,034	994,000	775,479	4,685,500
CAPITAL CONTRIBUTIONS:				
Contribution in Aid to Construction	17,344	-	-	75,000
Grants	-	-	-	-
Total	17,344	-	-	75,000
BORROWED FUNDS & RESERVES	1,925,353	4,401,750	579,246	4,593,500
TOTAL CAPITAL FUNDING	2,177,731	5,395,750	1,354,725	9,354,000
CAPITAL EXPENDITURES	2,177,731	5,395,750	1,354,725	5,265,000
SURPLUS TO CAPITAL RESERVE FUNDS	\$ -	\$ -	\$ -	\$ 4,089,000

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER OPERATING, NONOPERATING AND CAPITAL REVENUES**

WASTEWATER CAPITAL

Collector System Tapping Fees	Represents charges to new customers connecting to the various collector systems.
Inspection & Review Fees	Reimbursement of costs for connection inspections and plan reviews.
Treatment Capacity Fees	Charge to new customers for purchasing treatment capacity and ongoing financed charges to existing commercial customers for purchases of additional wastewater allocation in excess of 50,000 gallons per day.
Western Lehigh Interceptor Fees	Charge to new customers for recovery of costs relating to the Western Lehigh Relief Facilities.
Little Lehigh Relief Interceptor Fees	Charge to new customers for recovery of costs related to the Little Lehigh Relief facilities.
Reimbursement from Other Funds	Reimbursement from other funds to cover general planning costs.
Contribution in Aid to Construction	Represents developer contribution towards Western Weisenberg Wastewater Treatment Plant project.
Borrowed Funds and Cash Reserves	Represents funds needed to cover capital costs in excess of capital revenues.

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - ALL FUNDS

	2014	2015	2015	2016
	Actual	Budget	Estimate	Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 307,723	\$ 374,826	\$ 378,010	\$ 306,049
Overtime	22,871	29,428	25,752	26,616
Employee Benefits	105,316	131,585	146,051	120,284
Total	435,910	535,839	549,813	452,948
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	227,805	302,857	292,000	200,838
Utilities	235,175	251,800	222,500	261,550
Engineering	80,253	123,000	18,000	138,000
Exceptional Strength Analyses	5,100	40,400	40,000	36,440
General Analyses	68,914	50,600	48,000	36,320
Maintenance Services	114,506	447,850	184,472	420,715
Fleet Management Services	19,693	15,700	14,500	20,000
Fuel Spill Remediation	3,200	2,800	800	-
Contract Operator	5,438,867	5,420,398	5,347,682	5,849,441
Compliance Expense	-	-	-	-
Treatment & Transportation	3,971,897	5,239,979	3,379,870	3,379,676
LCA WTP Treatment /Removals	1,634,989	1,403,340	1,501,000	1,952,175
Misc. Purchase of Services	93,285	136,350	56,669	119,464
Rental Charges	79,390	78,806	80,079	48,483
System Planning/Capital Management	-	-	-	4,000
I/I Rehabilitation Program	2,300	20,000	-	20,000
Total	11,975,374	13,533,880	11,185,572	12,487,102
MATERIALS AND SUPPLIES:				
Fuel	15,761	50,850	28,125	34,200
Fleet Management Supplies	2,732	2,700	1,700	2,250
Misc. Materials & Supplies	102,055	127,630	99,228	125,650
Equipment	36,402	95,250	51,300	85,050
Amortized Equipment	-	70,500	70,500	-
Total	156,950	346,930	250,853	247,150
AMORTIZED PLANNING	62,346	147,828	147,828	70,000
RESERVE FUND ALLOCATION	-	-	-	-
DEPRECIATION & AMORTIZATION	4,054,558	4,105,676	4,001,379	4,009,676
TOTAL OPERATING EXPENSES	16,685,137	18,670,154	16,135,445	17,266,876
NONOPERATING EXPENSES:				
Interest Expense	168,190	229,305	160,753	273,338
Principal Reduction	824,700	1,029,606	968,269	970,921
Coverage	113,504	125,650	118,886	116,772
TOTAL NONOPERATING EXPENSES	1,106,394	1,384,561	1,247,908	1,361,031
TOTAL EXPENSES	\$ 17,791,532	\$ 20,054,715	\$ 17,383,353	\$ 18,627,907

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - WESTERN LEHIGH INTERCEPTOR SYSTEM

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 134,624	\$ 140,505	\$ 134,523	\$ 82,681
Overtime	10,445	13,507	8,689	9,893
Employee Benefits	46,022	50,131	49,532	33,472
Total	191,091	204,143	192,744	126,046
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	133,285	157,829	135,387	82,950
Utilities	27,782	29,600	31,950	39,400
Engineering	67,695	75,000	-	85,000
Compliance Expense	-	-	-	-
Exceptional Strength Analyses	5,100	40,400	40,000	36,440
General Analyses	35,561	2,900	2,900	2,860
Maintenance Services	20,317	145,700	70,400	118,465
Fleet Management Services	19,693	15,700	14,500	20,000
Treatment & Transportation	2,068,627	3,420,375	1,750,000	1,570,223
LCA WTP Treatment /Removals	1,634,989	1,403,340	1,501,000	1,952,175
Misc. Purchase of Services	23,970	36,200	2,100	42,715
Rental Charges	48,580	41,069	38,600	20,025
System Planning/Capital Management	-	-	-	-
I/I Rehabilitation Program	2,300	20,000	-	20,000
Total	4,087,899	5,388,113	3,586,837	3,990,253
MATERIALS AND SUPPLIES:				
Fuel	7,002	11,000	5,500	11,000
Fleet Management Supplies	2,732	2,700	1,700	2,250
Misc. Materials & Supplies	28,859	33,600	21,850	23,300
Equipment	11,016	36,900	33,200	21,100
Amortized Equipment	-	70,500	70,500	-
Total	49,609	154,700	132,750	57,650
AMORTIZED PLANNING	62,346	147,828	147,828	70,000
RESERVE FUND ALLOCATION	-	-	-	
DEPRECIATION & AMORTIZATION	459,915	543,897	449,478	451,000
TOTAL OPERATING EXPENSES	4,850,860	6,438,681	4,509,637	4,694,949
NONOPERATING EXPENSES:				
Interest Expense	67,088	60,055	60,055	100,094
Principal Reduction	428,765	435,774	435,774	374,105
Coverage	99,171	99,166	99,166	94,840
TOTAL NONOPERATING EXPENSES	595,024	594,995	594,995	569,040
TOTAL EXPENSES	\$ 5,445,883	\$ 7,033,676	\$ 5,104,632	\$ 5,263,989

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - LITTLE LEHIGH RELIEF INTERCEPTOR PHASE 1

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 26,274	\$ 34,190	\$ 23,002	\$ 26,149
Overtime	3,287	4,121	2,378	3,607
Employee Benefits	9,339	12,470	8,978	10,759
Total	38,900	50,781	34,358	40,516
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	26,242	39,260	23,002	26,664
Engineering Services	-	-	-	5,000
Compliance Expense	-	-	-	-
Fuel Spill Remediation	3,200	2,800	800	-
Utilities	120,755	123,400	105,050	123,350
Maintenance Services	9,809	109,300	32,100	88,800
Miscellaneous Services	356	5,800	300	7,500
Rental Charges	9,129	10,216	7,570	6,437
Total	169,491	290,776	168,822	257,750
MATERIALS AND SUPPLIES:				
Fuel	1,665	21,700	15,000	8,000
Misc. Materials & Supplies	4,864	6,500	3,350	8,000
Equipment	7,857	18,500	4,800	19,100
Total	14,386	46,700	23,150	35,100
RESERVE FUND ALLOCATION	-	-	-	-
DEPRECIATION & AMORTIZATION	87,059	88,591	87,060	88,590
TOTAL OPERATING EXPENSES	309,836	476,847	313,390	421,956
NONOPERATING EXPENSES:				
Interest Expense	-	68,000	-	68,000
Principal Reduction	-	-	-	-
Coverage *	-	-	-	-
TOTAL NONOPERATING EXPENSES	-	68,000	-	68,000
TOTAL EXPENSES	\$ 309,836	\$ 544,847	\$ 313,390	\$ 489,956

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - LITTLE LEHIGH RELIEF INTERCEPTOR PHASE 2

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 2,108	\$ 2,833	\$ 2,732	\$ 3,305
Overtime	-	-	-	149
Employee Benefits	776	922	1,021	1,249
Total	2,884	3,755	3,753	4,703
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	1,543	2,903	2,413	3,095
Utilities	114	100	90	100
Compliance Expense	-	-	-	-
Maintenance Services	-	23,000	20,000	28,000
Miscellaneous Services	104	150	-	249
General System Planning	-	-	-	-
Rental Charges	375	755	810	747
Total	2,136	26,908	23,313	32,191
MATERIALS AND SUPPLIES:				
Fuel	253	350	200	300
Misc. Materials & Supplies	-	1,000	-	1,000
Equipment	-	10,000	-	10,000
Total	253	11,350	200	11,300
DEPRECIATION & AMORTIZATION	54,246	53,434	54,246	54,246
TOTAL EXPENSES	\$ 59,519	\$ 95,447	\$ 81,512	\$ 102,441

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - COMMON RATE COLLECTOR SYSTEM

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
PERSONNEL:				
Permanent	\$ 57,555	\$ 89,288	\$ 68,091	\$ 86,621
Overtime	6,071	7,754	9,228	8,038
Employee Benefits	22,015	31,587	26,996	34,226
Total	85,641	128,629	104,315	128,885
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	13,630	22,340	15,966	18,893
Utilities	35,430	45,700	41,750	46,200
Treatment & Transportation	244,580	218,500	228,120	219,310
Contract Operating Svcs	32,143	35,500	33,700	35,500
Compliance Expense	-	-	-	-
External Lab Analysis	5,382	15,200	15,200	6,555
Maintenance Services	23,226	55,050	26,300	58,850
Miscellaneous Services	3,759	2,900	2,200	2,900
General System Planning	-	-	-	-
Rental Charges	4,689	5,813	5,692	4,561
Total	362,839	401,003	368,928	392,769
MATERIALS AND SUPPLIES:				
Fuel	4,352	10,900	4,750	10,200
Misc. Materials & Supplies	14,273	27,730	22,400	31,750
Equipment	10,687	11,250	4,750	12,750
Total	29,312	49,880	31,900	54,700
DEPRECIATION & AMORTIZATION	134,290	115,265	131,855	134,400
TOTAL OPERATING EXPENSES	612,082	694,776	636,998	710,754
NONOPERATING EXPENSES:				
DEBT SERVICE:				
Interest Expense	36,333	66,250	68,157	64,300
Principal Reduction	39,383	100,775	98,868	102,725
Coverage (A)	14,334	17,385	15,154	17,291
TOTAL NONOPERATING EXPENSES	90,050	184,410	182,179	184,316
TOTAL EXPENSES	\$ 702,131	\$ 879,186	\$ 819,177	\$ 895,069

Note: This budget includes the Heidelberg Heights, Wynnewood Terrace, Sand Spring, Weisenberg Township and Upper Milford Collector Systems.

(A) Coverage equals 3% of Operating Expenses less depreciation & amortization.

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - WESTERN WEISENBERG SYSTEM

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 37,757	\$ 38,358	\$ 44,867	\$ 40,395
Overtime	2,764	3,492	3,636	3,299
Employee Benefits	11,882	13,622	18,829	15,798
Total	52,403	55,472	67,332	59,492
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	9,719	8,577	12,660	7,830
Utilities	18,034	20,300	14,250	19,500
Contract Operating Svcs	-	-	-	-
Compliance Expense	-	-	-	-
External Lab Analysis	24,374	21,900	21,900	24,310
Maintenance Services	14,520	19,200	10,750	20,700
Miscellaneous Services	5,447	700	1,000	1,000
General System Planning	-	-	-	-
Rental Charges	2,263	2,232	3,124	1,890
Total	74,357	72,909	63,684	75,231
MATERIALS AND SUPPLIES:				
Misc. Materials & Supplies	12,667	11,300	18,700	17,400
Fuel & Mileage	465	2,600	375	500
Equipment	1,285	1,800	2,100	2,100
Total	14,417	15,700	21,175	20,000
DEPRECIATION & AMORTIZATION	48,236	125,000	42,800	43,500
TOTAL OPERATING EXPENSES	189,413	269,081	194,991	198,222
DEBT SERVICE:				
Interest Expense	18,279	16,500	16,033	26,421
Principal Reduction	92,911	138,000	78,162	135,057
Coverage	-	-	4,566	4,642
TOTAL NONOPERATING EXPENSES	111,190	154,500	98,761	166,120
TOTAL EXPENSES	\$ 300,603	\$ 423,581	\$ 293,752	\$ 364,342

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - LYNN TOWNSHIP SYSTEM

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 19,819	\$ 22,096	\$ 13,252	\$ 13,681
Overtime	33	186	1,405	261
Employee Benefits	5,910	7,253	5,205	5,041
Total	25,762	29,535	19,862	18,984
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	17,680	22,834	13,744	12,493
Utilities	25,768	32,500	29,200	32,800
Contract Operating Svcs	72,555	72,000	72,000	72,000
Compliance Expense	-	-	-	-
External Lab Analysis	3,597	5,600	5,600	2,595
Maintenance Services	44,495	78,900	20,300	89,200
Miscellaneous Services	1,058	1,100	400	1,300
General System Planning	-	-	-	4,000
Rental Charges	6,178	5,942	5,185	3,016
Total	171,331	218,876	146,429	217,404
MATERIALS AND SUPPLIES:				
Misc. Materials & Supplies	33,057	36,200	26,700	35,900
Fuel & Mileage	1,535	3,700	1,700	3,600
Equipment	5,557	15,000	6,450	15,000
Total	40,149	54,900	34,850	54,500
DEPRECIATION & AMORTIZATION	94,716	92,809	93,940	93,940
TOTAL OPERATING EXPENSES	331,958	396,119	295,081	384,828
NONOPERATING EXPENSES:				
DEBT SERVICE:				
Interest Expense	-	-	-	-
Principal Reduction	-	-	-	-
Coverage (A)	-	9,099	-	-
TOTAL NONOPERATING EXPENSES	-	9,099	-	-
TOTAL EXPENSES	\$ 331,958	\$ 405,219	\$ 295,081	\$ 384,828

Note: LCA acquired system on 3/1/12.

(A) Equates to 3% of operating expenses less Depreciation and Amortization.

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER - WASHINGTON TWP COLLECTOR SYSTEM

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 4,186	\$ 10,670	\$ 10,977	\$ 3,828
Overtime	271	369	416	1,369
Employee Benefits	1,746	3,593	3,940	1,879
Total	6,203	14,632	15,333	7,075
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	4,096	11,312	10,766	4,656
Utilities	7,406	300	300	300
Treatment & Transportation	83,472	85,000	-	-
Maintenance Services	1,899	15,700	3,700	15,700
Engineering & Contract Operating Svcs	9,960	-	11,700	11,700
Compliance Expense	-	-	-	-
Miscellaneous Services	3,426	2,100	500	1,800
General System Planning	-	-	-	-
Rental Charges	1,120	2,944	1,798	1,124
Total	111,379	117,356	28,764	35,280
MATERIALS AND SUPPLIES:				
Fuel	489	600	600	600
Misc. Materials & Supplies	1,322	3,300	2,500	1,800
Equipment	-	1,800	-	4,000
Total	1,811	5,700	3,100	6,400
DEPRECIATION & AMORTIZATION	-	-	-	-
TOTAL OPERATING EXPENSES	119,393	137,687	47,197	48,756
NONOPERATING EXPENSES:				
DEBT SERVICE:				
Interest Expense	20,046	18,500	16,508	14,522
Principal Reduction	351,929	355,057	355,465	359,034
TOTAL NONOPERATING EXPENSES	371,975	373,557	371,973	373,556
TOTAL EXPENSES	\$ 491,368	\$ 511,244	\$ 419,170	\$ 422,312

2016 BUDGET
SUBURBAN DIVISION
OPERATING AND NONOPERATING EXPENSES
ALLOCATION UNIT: WASTEWATER TREATMENT PLANT

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
OPERATING EXPENSES:				
PERSONNEL:				
Permanent	\$ 25,400	\$ 36,887	\$ 80,566	\$ 49,390
Overtime	-	-	-	-
Employee Benefits	7,626	12,007	31,550	17,858
Total	33,026	48,894	112,116	67,248
PURCHASE OF SERVICES:				
Internal Services - Overhead & Support	21,610	37,802	78,062	44,256
Engineering	12,558	48,000	18,000	48,000
Contract Operating Svcs:		-		
Base	2,478,288	2,515,906	2,515,907	2,525,373
Electrical	744,933	759,117	759,375	762,401
Variable	1,145,452	1,237,875	1,155,000	1,242,467
Repairs	955,536	800,000	800,000	1,200,000
Compliance Expense	-	-	-	-
Treatment & Transportation	1,575,218	1,516,104	1,401,750	1,590,143
Permit/Regulatory	-	10,000	-	5,000
Lab Analysis	-	5,000	2,400	-
Maintenance Services	240	1,000	922	1,000
Miscellaneous Services	55,165	77,400	50,169	57,000
Rental Charges	7,056	9,836	17,300	10,684
Total	6,996,056	7,018,040	6,798,885	7,486,323
Misc. Materials & Supplies	7,013	8,000	3,728	6,500
Equipment	-	-	-	1,000
Total	7,013	8,000	3,728	7,500
DEPRECIATION & AMORTIZATION	3,176,096	3,086,680	3,142,000	3,144,000
TOTAL OPERATING EXPENSES	\$ 10,212,191	\$ 10,161,614	\$ 10,056,729	\$ 10,705,071

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WESTERN LEHIGH INTERCEPTOR SYSTEM
WASTEWATER OPERATING AND NONOPERATING EXPENSES**

PERSONNEL

Permanent/Overtime	Represent salaries and off-time of employees' direct time associated with LCA's Suburban Wastewater System.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Support	Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries.
Utilities	The bulk of the utility costs (\$33,200) are related to the operation of the Spring Creek Road Pump Station (SCRPS), which is driven by wet weather. Also included in this line item is this budget's share of cellular phone services (\$3,500), back-up phone dialer alarm service (\$400), DSL SCADA data line service (\$1,500), and natural gas for the emergency power generator (\$800).
Engineering	Consultant expenses include on-call services for operational issues (\$80,000), and SOP development and general engineering (\$5,000).
Exceptional Strength Analyses (External)	This budget includes analyses of those WLI customers who potentially discharge high-strength waste. Analyses are being provided through contract laboratory services with an outside lab, and laboratory services provided by our Pennsylvania accredited Allentown Wastewater Treatment Plant laboratory. Testing is in conformance with the LCA "2015 REPORT ON WASTEWATER USER CHARGES." For certain repeat testing, the expenses are charged to a municipality (see "Other Income" under Wastewater Revenues).
General Analyses (External)	General Analyses are those conducted for compliance with billing agreements with certain municipal entities. Analyses are being provided by our Pennsylvania accredited Allentown Wastewater Treatment Plant laboratory.
Maintenance Services	This budget includes: Repairs to meter stations (\$5,000), OMI costs (\$15,000), Pipe cleaning services (\$10,000), TV equipment repairs (\$7,500), SCADA maintenance services and upgrades (\$41,000), lawn/trimming services (\$6,000), SCRPS generator maintenance (\$3,500), SCRPS pump service contract (\$4,500), SCRPS other equipment maintenance (\$2,500), SCRPS pump rebuilding (\$15,000), lab maintenance services (\$265), crane services for SCRPS (\$600), meter repairs (\$3,000) and miscellaneous repairs and maintenance (\$4,600).
Fleet Maintenance Services	This budget includes vehicle maintenance (\$10,000) and sewer truck repairs (\$10,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WESTERN LEHIGH INTERCEPTOR SYSTEM
WASTEWATER OPERATING AND NONOPERATING EXPENSES continued**

Treatment & Transportation	For details, see the "LCA 2015 REPORT ON WASTEWATER USER CHARGES."
LCA WTP Treatment/ Removal	Credits are given to the Authority's Wastewater Treatment Plant for removing BOD and TSS pounds in excess of treatment requirements. Credits are given at City unit rates.
Miscellaneous Services	This budget includes: GIS/IM Expense (\$40,000), lab software support (\$1,415) and other miscellaneous services (\$1,300).
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.
I/I Rehabilitation Program	This program includes contracted services and other expenses to repair leaks in the interceptor system.

MATERIALS & SUPPLIES

Fuel	This item is the allocation of a share of total fuel expenses for the service vehicles. The allocation is based on budgeted uniformed personnel time. Increases in fuel costs are projected due to the volatility of this commodity.
Fleet Management Supplies	This budget includes mobile equipment supplies (\$2,250).
Miscellaneous Materials & Supplies	This budget includes analyzers (\$1,000), SCADA supplies (\$4,000), samplers (\$1,500), Sewer TV equipment (\$3,000), sewer sealant supplies (\$1,000), pump station supplies (\$1,200), manhole supplies (\$4,000), lab supplies (\$1,100) and miscellaneous supplies (\$6,500).

EQUIPMENT

Any single item costing more than \$5,000 is included in the Capital Budget. This budget includes: samplers (\$6,600), sewer plugs (\$1,500), manhole covers (\$1,000), lab equipment (\$400), SCRPS equipment (\$1,700), TV camera equipment (\$1,500), SCADA equipment (\$2,000) and miscellaneous tools and safety equipment (\$6,400).

AMORTIZED EQUIPMENT

Represents the amortization of major equipment purchases over 5-10 year periods.

AMORTIZED PLANNING

Costs for the Hydraulic Model and Inflow and Infiltration Flow Monitoring and Investigation work are being recovered through rates over 10 and 20 years, respectively.

DEPRECIATION AND AMORTIZATION

This expense is calculated by the straight-line method using standard depreciation periods. Annual amortization over the life of the financing is included.

DEBT SERVICE

Includes interest and principal on the Spring Creek Force Main and Pump Station and the Flow Equalization Basin projects currently financed through Pennvest loans.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
LITTLE LEHIGH RELIEF INTERCEPTOR SYSTEM - PHASE 1
WASTEWATER OPERATING AND NONOPERATING EXPENSES**

PERSONNEL

Permanent/Overtime	The established operational and preventative maintenance programs will continue.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Support	Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries.
Utilities	The power expense (\$121,000) reflects an estimate of the run time at the Park Pump Station and is ultimately weather dependent. The remaining cost is DSL data line service (\$1,750) and a share of the cellular phone service (\$600).
Engineering	This budget is for miscellaneous consulting and engineering services for inspection of the force main.
Maintenance Services	This budget includes: pump maintenance services (\$66,500), instrument maintenance contract (\$2,100), generator maintenance (\$3,500), SCADA maintenance and upgrades (\$1,500), meter maintenance (\$1,800), site maintenance (\$4,400), and miscellaneous maintenance (\$9,000).
Miscellaneous Services	This budget includes a GIS/IM expense (\$7,200) and miscellaneous expenses (\$300).
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS & SUPPLIES

Fuel	This item is the allocation of a portion of the total LCA gasoline and diesel fuel expenses based on budgeted operations personnel time.
Miscellaneous Materials & Supplies	This budget includes: oils and greases (\$300), SCADA supplies (\$700), analyzers (\$1,500), air releases (\$2,000) and miscellaneous supplies (\$3,500).

EQUIPMENT

This budget includes: heat exchangers (\$6,000), Flo-matcher (\$4,500), sluice gate motor and pump (\$4,000), exhaust fan motor (\$800), sensors (\$500), pump packing rings (\$300) and miscellaneous control equipment (\$3,000).

**DEPRECIATION AND
AMORTIZATION**

Depreciation expense is calculated by the straight-line method using standard depreciation periods.

DEBT SERVICE

Includes interest expense on Park Pump Station Improvements.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
LITTLE LEHIGH RELIEF INTERCEPTOR SYSTEM - PHASE 2
WASTEWATER OPERATING AND NONOPERATING EXPENSES**

PERSONNEL

Permanent/Overtime	The established operational and preventative maintenance programs will continue.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Support	Overhead costs, which are not chargeable to a specific fund are allocated based on salaries within a fund as a percentage to total salaries.
Utilities	This budget includes a share of the cellular phone service (\$100).
Maintenance & Miscellaneous Services	This budget includes siphon chamber cleaning (\$25,000), GIS/IM expense (\$249) and other maintenance services (\$3,000).
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS & SUPPLIES

Fuel	Allocation of a portion of the total LCA fuel expense for the service vehicles based on budget uniformed personnel time.
Miscellaneous Materials & Supplies	Miscellaneous manhole supplies (\$1,000).

EQUIPMENT

Miscellaneous equipment as may be required, including odor control for vent pipes (\$10,000).

**DEPRECIATION AND
AMORTIZATION**

Depreciation expense is calculated by the straight-line method using standard depreciation periods.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
COMMON RATE COLLECTOR SYSTEM
WASTEWATER OPERATING AND NONOPERATING EXPENSES**

PERSONNEL

Permanent/Overtime	Established programs for preventive maintenance of the meter station and collection system, emphasizing I/I control, will continue.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead	Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries.
Utilities	This item includes power costs (\$42,600), share of cellular phone service (\$1,700) and phone service for dialers (\$1,900).
Treatment & Transportation	Represents charges to the Upper Milford and Weisenberg Township Collector Systems for flow and strength based on sample strength or normal strength levels for non-sampled customers. This category includes costs associated with the Western Lehigh Interceptor, the Little Lehigh Interceptors and Emmaus transportation charges.
Maintenance Services	This budget includes treatment plant maintenance (\$8,600), site maintenance (\$7,100), collection system maintenance (\$15,200), line cleaning (\$5,000), sludge hauling (\$15,200), Monk's Security (\$1,500), generator maintenance (\$1,300) and miscellaneous maintenance and repairs (\$4,950).
Miscellaneous Services	This budget includes permit fees (\$2,150), GIS/IM expense (\$450) and miscellaneous services and/or lien fees (\$300).
General System Planning	General System planning expenses which are not attributable to any specific capital project.
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS & SUPPLIES

Miscellaneous Materials & Supplies	This budget includes chlorine (\$2,300), soda ash (\$5,300), sodium thiosulfate (\$900), clara flocc (\$1,700), pH buffer (\$150), odor control materials (\$800), pumping supplies (\$2,500), collection system supplies (\$4,500), treatment plant supplies (\$8,500), miscellaneous lab supplies (\$1,450) and miscellaneous supplies (\$3,650).
Fuel	This item is the allocation of a share of total fuel expense for the service vehicles and is based on budgeted uniformed personnel time.

EQUIPMENT

This budget includes, blower and motors (\$3,900), pumps (\$2,200), miscellaneous lab equipment (\$1,850) and miscellaneous equipment (\$4,800).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
COMMON RATE COLLECTOR SYSTEM
WASTEWATER OPERATING AND NONOPERATING EXPENSES continued**

**DEPRECIATION AND
AMORTIZATION**

Depreciation expense is calculated by the straight-line method using standard depreciation periods. Amortized planning costs are included.

DEBT SERVICE

Includes interest (2.25%) and principal payments on 2011 Sewer Revenue Note for the Heidelberg Heights Wastewater Treatment plant built in the late 1990's and interest (2.43%) and principal on borrowings for the Wynnewood Terrace and the Sand Spring System acquisitions. In addition, interest (2.25%) is included for the 2011 borrowing for the Vera Cruz project in Upper Milford Township. Coverage at 3% of annual operating expenses is included.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WESTERN WEISENBERG SYSTEM
WASTEWATER OPERATING EXPENSES**

PERSONNEL

Permanent/Overtime

This budget includes the collection system & pumping stations located in the Arcadia West Industrial Park (AWIP) in Weisenberg Township (*note: AWIP WTP is decommissioned and the wastewater is currently being hauled to the LCA WTP*). Established programs for preventive maintenance and the original collection system, emphasizing I/I control, will continue.

Benefits

Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

**Internal Services-
Overhead & Support**

Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries. For this system the allocation percentage is further reduced to 20% of the salary ratio, since there are less than 250 customers.

Utilities

This line includes power costs to operate the Arcadia pump stations (\$18,000), phone service for dialers (\$1,100) and this budget's share of cellular phone service (\$400).

External Lab Analyses

External lab costs are budgeted to monitor the wastewater strength from the Arcadia customers individually and perform necessary regulatory testing as required by the NPDES permit.

**Contract Operating
Services**

Not applicable in this budget.

Maintenance Services

Maintenance services are primarily utilized to operate and maintain the system and include the hauling of wastewater from the decommissioned Arcadia West wastewater treatment plant to the LCA WTP (\$11,000), site maintenance (\$2,700), collection system repairs (\$5,000) and miscellaneous maintenance (\$2,000).

Miscellaneous Services

This budget includes a certification fee (\$400), reports preparation (\$300) and miscellaneous services (\$300).

Rental Charges

Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS & SUPPLIES

**Miscellaneous Supplies &
Materials**

This budget includes treatment plant chemicals (\$9,500), collection system supplies (\$400), treatment plant supplies (\$3,100), pumping supplies (\$500) and other supplies (\$3,900).

Fuel

This item is the allocation of a share of total fuel expenses for the service vehicles and is based on budgeted uniformed personnel time.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WESTERN WEISENBERG SYSTEM
WASTEWATER OPERATING EXPENSES - continued**

Equipment

This budget includes lab equipment (\$800), collection system equipment (\$500) and other miscellaneous equipment (\$800).

DEBT SERVICE

Represents interest expense payable on the new Pennvest loan for the Western Weisenberg Wastewater Treatment Plant project.

**DEPRECIATION &
AMORTIZATION**

Depreciation expense is calculated by the straight line method using standard depreciation periods.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
LYNN TOWNSHIP
WASTEWATER OPERATING AND NONOPERATING EXPENSE**

PERSONNEL

Permanent/Overtime	This budget includes the collection system & pumping stations located in Lynn Township. Established programs for preventive maintenance and the original collection system, emphasizing I/I control, will continue.
Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services- Overhead & Support	Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries.
Utilities	This line includes power costs to operate the Lynn Township WTP (\$29,500), phone service for dialers (\$1,000) and this budget's share of cellular phone service (\$2,300).
External Lab Analyses	External lab costs are budgeted to monitor the wastewater strength from the customers.
Contract Operating Services	This system will be contract operated with oversight by and maintenance assistance from LCA.
Maintenance Services	Maintenance services are primarily utilized to operate and maintain the system include: sludge hauling (\$25,000), I/I expense (\$30,000), treatment plant maintenance (\$5,000), site maintenance (\$1,200), collection system repairs (\$12,500), pump services (\$2,500), generator maintenance (\$1,000) and other maintenance services (\$12,000).
Miscellaneous Services	This budget includes a permit fee (\$500), reports preparation (\$300) and miscellaneous services (\$500).
General System Planning	Includes expenses which are not attributable to any specific capital project.
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS & SUPPLIES

Miscellaneous Supplies & Materials	This budget includes treatment plant chemicals (\$28,500), treatment plant supplies (\$1,900), pumping supplies (\$1,700), collection system supplies (\$1,300) and other miscellaneous supplies (\$2,500).
Fuel	This item is the allocation of a share of total fuel expenses for the service vehicles and is based on budgeted uniformed personnel time.
Equipment	This budget includes Telog equipment (\$4,000), replacement pumps (\$5,800), replacement blower (\$2,200), variable speed drives (\$500), lab equipment (\$1,000) and other miscellaneous equipment (\$1,500).

**DEPRECIATION &
AMORTIZATION**

Depreciation expense is calculated by the straight line method using standard depreciation periods.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASHINGTON TOWNSHIP
WASTEWATER OPERATING EXPENSES**

PERSONNEL

Permanent/Overtime	Assumes a full year of operation. Personnel hours include equipment maintenance, collection system maintenance, alarm responses and customer service.
Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services- Overhead & Support	Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries.
Utilities	This line includes a share of cellular phone services (\$300).
Engineering Services	For any miscellaneous engineering services as needed.
Treatment and Transportation	Represents the cost billed by Slatington for treatment of the Washington Township wastewater.
Contract Operating Services	A contract operator will be used to provide daily checks of the pumping stations and meter stations.
Maintenance Services	Maintenance services include: pump and meter station repairs (\$1,200), emergency hauling (\$1,000), collection system maintenance (\$5,000), pump maintenance (\$5,000), generator maintenance (\$1,500) and miscellaneous maintenance (\$2,000).
Miscellaneous Services	This budget includes lien filings (\$500), State Board Annual Fee (\$100), GIS/IM expense (\$1,100), and miscellaneous services (\$100).
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS & SUPPLIES

Miscellaneous Supplies & Materials	This budget includes miscellaneous pumping supplies (\$1,500) and miscellaneous supplies (\$300).
Fuel	This item is the allocation of a share of total fuel expenses for the service vehicles and is based on budgeted uniformed personnel time.
Equipment	This budget includes replacement pumps (\$1,500) and other miscellaneous equipment (\$2,500).
Debt Service	Represents scheduled interest and principal payments on Pennvest loan assumed by LCA through the system acquisition.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER TREATMENT PLANT
WASTEWATER OPERATING AND NONOPERATING EXPENSE**

PERSONNEL

Permanent	Represents salaries and off-time allocated for staff oversight of treatment plant operations.
Employee Benefits	Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Internal Services - Overhead & Support	Overhead costs, which are not chargeable to specific funds, are allocated based on salaries within a fund as a percentage to total salaries.
Engineering Services	The budget includes consulting fees for plant optimization assistance and an Operations Audit on the Contract Operating Services.
Operational Services	Cost of Operations Management Inc. (CH2M) services to operate the plant and includes a portion of plant repairs.
Treatment & Transportation	Represents costs associated with the Western Lehigh and Little Lehigh Interceptor systems for disposal of wastewater hauler and treatment plant discharges.
Permit/Regulatory	The budget includes permit fees as a result of increased PADEP fees.
Lab Analyses	Represents lab testing for special samples and water quality parameters and duplicate analysis for compliance evaluation.
Maintenance Services	The budget includes lawn services.
Miscellaneous Services	The budget includes property and pollution liability insurances (\$52,000), printing expenses (\$1,500) and GIS/IM expenses (\$3,500).
Rental Charges	Allocation of expenses related to the Authority Operations Center renovations and expansion which are being allocated over 30 years.

MATERIALS AND SUPPLIES

Misc. Materials and Supplies	Includes miscellaneous chemicals and other supplies needed for plant operation.
Equipment	Includes miscellaneous items.

**DEPRECIATION &
AMORTIZATION**

Depreciation expense is calculated by the straight line method using standard depreciation periods.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER CAPITAL OVERVIEW**

The major activities included in the 2016 Budget are continuation of the on-going work associated with WLI Signatory I/I Investigation & Remediation program and the selection of Central Lehigh Valley future wastewater capacity alternative. Other projects include Phase-1 of Lynn Township Wastewater Treatment Plant Upgrades & Expansion; Wynnewood Sewer System I & I Remediation-Test & Seal and the Western Weisenberg WWTP Improvements

Project	2016 Budget	2016 Project Stage
WLI Signatory I/I Investigation & Remediation	\$2,000,000	Various
Central Lehigh Valley Wastewater Capacity Planning & Expansion	90,000	Act 537 Planning
Wynnewood Sewer System I & I Remediation	175,000	Construction- Test & Seal
Western Weisenberg WWTP Improvements	278,500	Design/Construction
Lynn Township WTP Upgrades and Expansion, Phase 1	715,000	Construction

**2016 BUDGET
SUBURBAN DIVISION
CAPITAL EXPENDITURES
WASTEWATER**

Project	Priority	Estimated Project Cost	Estimated Costs Through 2015	2016 Budget	Beyond 2016
<u>Future Wastewater Capacity:</u>					
Central Lehigh Valley WW Capacity Planning & Expansion	High	80,616,800	990,800	90,000	79,536,000
Subtotal			990,800	90,000	79,536,000
<u>LCA Wastewater Treatment Plant</u>					
General Improvements	High	15,050,000		800,000	14,250,000
LCA WTP- Combined Heat and Power System	Medium	3,755,000	-	300,000	3,455,000
Subtotal			-	1,100,000	17,705,000
<u>Western Lehigh Interceptor System:</u>					
Capital Management	High	Annual		7,500	
Sewer Mains & Connections	High	Annual		5,000	
Mobile Equipment	High	Annual		60,000	
Other Equipment	High	Annual	-	100,000	
Signatory I/I Investigation & Remediation Program	Mandated	45,000,000	3,500,000	2,000,000	39,500,000
Interceptor Access Easement Acquisitions	Medium	550,000	-	25,000	525,000
Spring Creek Pump Station Upgrades	Medium	283,000	5,000	278,000	-
Subtotal			3,505,000	2,475,500	40,025,000
<u>Little Lehigh Relief Interceptor System:</u>					
Sewer Mains & Connections	High	Annual	-	1,000	
Park Pump Station Renovations & Improvements	High	2,134,500	20,000	100,000	2,014,500
Subtotal			20,000	101,000	2,014,500
<u>Common Rate Collector System:</u>					
General Sewer System Acquisition & Planning	High	Annual	\$ -	\$ 30,000	
Wastewater Facility Condition Assessments (various divisions)	High	610,000		50,000	560,000
Upper Milford Sewer Mains & Connections	High	Annual	-	15,000	
NLSA Sewer Mains & Connections	High	Annual	-	2,000	
Wynnewood Terrace WWTP Remediation & Replacement	High	1,380,000	10,000	70,000	1,300,000
North Whitehall Township Act 537 Plan Update	Medium	35,000	2,000	10,000	23,000
Jordan Creek Wastewater System (1)	Low	7,055,000	320,000	25,000	6,710,000
Wynnewood I/I Investigation and Remediation Program	Medium	695,000	60,000	175,000	460,000
Sand Spring WWTP Remediation & Replacement	Medium	1,610,000	10,000	70,000	1,530,000
Heidelberg Heights I/I Investigation and Remediation Program	Medium	557,000	-	50,000	507,000
Subtotal			402,000	497,000	11,090,000
<u>Weisenberg Township:</u>					
Sewer Mains & Connections	High	Annual		5,000	
Western Weisenberg WWTP Improvements	High	900,000	10,000	278,500	611,500
Subtotal			10,000	283,500	611,500
<u>Lynn Township</u>					
Sewer Mains & Connections	High	Annual		3,000	
Wastewater Treatment Plant Improvements & Expansion	High	3,480,000	165,000	\$ 715,000	2,600,000
			165,000	718,000	2,600,000
Total Wastewater Suburban Division Capital Expenditures			\$ 5,092,800	\$ 5,265,000	\$ 153,582,000

(1) Includes LCA WTP @ Kidspace and Offsite Conveyance Facilities

Note: Projects in bold type will not proceed beyond the planning phase, or beyond current authorized phase without specific authorization from the LCA Board subsequent to the adoption of this budget.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER CAPITAL EXPENDITURES**

General Sewer Acquisitions & Planning	Staff and consultant involvement in actively pursuing system acquisitions (2016 Cap Ex. \$30,000).
Wastewater Facility Condition Assessments	This multi-year project to document baseline condition of wastewater facility buildings and prioritize and perform needed improvements. Assessment to include: 1) structures/HVAC; 2) mechanical/electrical. Industry standard asset management protocol is to be used including risk analysis in order to prioritize and implement maintenance upgrades and repairs to maintain an acceptable level of service. 11 facilities are included in the scope. 2016 work will focus on a condition assessment of structures and HVAC. (2016 Cap Ex \$50,000).
Wastewater Treatment Plant General Improve.	This is an on-going multi-year program to address the continued reliability of the WTP (2016 Cap Ex \$800,000).
LCA WTP-Combined Heat & Power System	Construction of an on-site Combined Heat and Power (CHP) system w/ bio-gas storage which will utilize the bio-gas to generate electrical power and provide heat to the digesters. The project estimate assumes a traditional design/bid/construct LCA owned & operated CHP system. However, alternative options similar to the PPL contract in the Allentown Division where LCA provides the bio-gas, and PPL invests the capital, and owns and operates the system then sells power to LCA at a reduced cost will also be explored. (2016 Cap Ex \$300,000).
Capital Management - WLI	Management activities and general engineering planning as required (\$7,500).
Sewer Mains, Connections (all systems)	Capital Works services required for sanitary sewer system extensions and connections: to include developer plan review, construction inspection and associated administrative tasks. All costs are reimbursable. (2016 Cap Ex \$31,000).
Mobile Equipment	Refurbish Vactor Truck (2016 Cap Ex \$60,000)
Other Equipment	Equipment that is necessary to maintain service integrity. Items include line plugs, sampling equipment, electric and electronic equipment, I/I equipment, mechanical equipment, etc. (2016 Cap Ex \$100,000).
Central Lehigh Valley Wastewater Capacity Planning & Expansion	The City of Allentown does not currently have enough available wastewater treatment capacity to meet LCA's future needs. Updating the 537 Plan is a primary focus this budget year to identify the best alternative for future wastewater capacity. Primary alternatives include increasing capacity at the City of Allentown Wastewater Treatment Plant (WTP); or upgrading the LCA WTP to full treatment (2016 Cap Ex. \$90,000).
Signatory I/I Investigation & Remediation Program	This multiyear on-going I & I reduction project is composed of flow monitoring in LCA and Signatory collection systems tributary to the WLI, approval of the SCARP, SSES investigatory work. Preliminary Objectives Evaluation, Level of Service Modeling and many other tasks ultimately culminating with the work necessary to facilitate the removal of I & I in segments of systems identified with unacceptable levels of I & I 2016 Cap Ex (\$2,000,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER CAPITAL EXPENDITURES continued**

Spring Creek Pump Station Upgrades	This project includes the design and construction of two new motor operators with SCADA control for the 30" weir slide gates. Currently these side gates are manually operated (2016 Cap Ex \$278,000).
Park Pump Station Improvement	This multi-year on-going project addresses the infrastructure repairs, improvements and upgrades necessary for the 28-year-old facility. Included is full SCADA control of the facility, installation of a new double walled underground fuel oil tank; and existing hydraulic sluice gate, upgrade to VFD motor controls and associated equipment and other items identified and prioritized in a condition assessment report completed by our consultant, ARCADIS Inc., (2016 Cap Ex \$100,000).
Wynnewood Sewer System Improvements	This multi-year project will replace within five-years the aged 30 year old 60,000 GPD WWTP that is at the end of its useful life. In the interim remediation work on the existing WWTP is necessary to assure operation. (2016 Cap Ex \$70,000).
North Whitehall Township Act 537 Plan Update - NL	North Whitehall Township will be reevaluating their 2009 ACT 537 Plan which identified a proposed regional wastewater treatment plant located on a five-acre tract on the Kids Peace Campus. The Township will be assuming the lead role on this effort but has requested that LCA provide support and expertise as required (2016 Cap Ex \$10,000).
Jordan Creek Wastewater System - NL	This multi-year on-going project includes the acquisition of a site at the Kids Peace campus for a regional wastewater treatment plant, the design and construction of a 200,000-gpd wastewater treatment plant and pump station and other facilities necessary to provide wastewater service to Kids Peace, Wal-Mart and other properties in the Jordan Creek watershed. The project is currently on hold pending the outcome of the North Whitehall Act 537 Plan Update (2016 Cap Ex \$25,000).
Wynnewood Sewer System I/I Investigation and Remediation Program	This multi-year project includes, flow metering, inspecting all properties for floor drains, sump pumps or any other illegal connections to the sanitary sewer system, inspecting manholes, televising sewer mains & laterals. In addition, a yearly allowance is included to repair identified I & I problems, which is subject to change dependent upon what is found (2016 Cap Ex \$175,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN DIVISION
WASTEWATER CAPITAL EXPENDITURES continued**

Sand Spring WWTP Remediation & Replacement	This multi-year project will replace within three-years the aged 35 year old 35,000 GPD WWTP that is at the end of its useful life. In the interim remediation work on the existing WWTP is necessary to assure operation. (2016 Cap Ex \$70,000).
Heidelberg Heights I/I Investigation and Remediation Program	This multi-year project includes flow monitoring, SSES work in areas identified and some funding for remediation measures. (2016 Cap Ex \$50,000).
Western Weisenberg WWTP Improvements	This multi-year project will address cold weather nitrification issues by insulating the reactor walls and blower piping; covering the SBRs and if warranted the installation of Immersion heaters. Additionally miscellaneous improvements including flow-paced chemical injection, effluent meter, permanent influent sampler, bar screen, driveway paving are also included. (2016 Cap Ex \$278,500).
Lynn Township WWTP Upgrades & Expansion	This multi-year project is envisioned to be executed in two phases. Phase-1 includes disinfection facility and influent chamber upgrades and is expected to be complete in late 2016. Phase-2, if warranted is the expansion the WTP capacity from 80,000 GPD to 160,000 GPD. The WTP Upgrades & Expansion was designed and permitted by Gannett Fleming for the Lynn Township Sewer Authority prior to the LCA acquisition of the system. Phase-2, the WTP expansion addressed in the Townships Act 537 Plan was driven by system infiltration inflow (I/I) issues and projected growth, however we are reevaluating certain assumptions regarding the sizing of the components of WTP as a significant amount of I/I has been removed from the collection system since the initial design. Timing of the WTP expansion will be dependent upon I/I remediation efforts and growth. The Phase-1 improvements will be complete in 2016 (2016 Cap Ex \$715,000).

**2016 BUDGET
SUPPORTING DETAIL
CITY INTERNAL SERVICE**

CITY INTERNAL SERVICE FUND OVERVIEW

The City Internal Service Budget includes overhead, support and general administrative services, which are included in the City Operating and Capital Budgets. These costs are recovered through reimbursements from the City Divisions' operating and capital budget, based upon services provided. The budget incorporates six functions: Accounting, Risk Management, Personnel, Legal, Customer Care and General Administration.

The development of a separate City Internal Service Budget was based on the realization that the City Division was similar to the Suburban Division, in that it maintained a level of exclusive support functions for the productive activities of water and wastewater services. As a result, LCA isolated specific elements of costs, which were allocated to each area of operation, based on the pro-rata share of its salaries.

Today, in addition to the City Internal Service Budget and the Suburban Internal Service Budget, LCA has established a Consolidated Internal Service Budget to capture those costs which benefit both the City and Suburban Division, but whose capture is uneconomical or unreasonable. These Consolidated Internal Service costs are allocated to each Division on its pro rata share of payroll.

**2016 BUDGET
OPERATING EXPENSES
ALLOCATION UNIT: CITY INTERNAL SERVICE**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
PERSONNEL:				
Permanent (A)	\$ 609,045	\$ 693,292	\$ 407,700	\$ 288,576
Overtime	21,207	10,390	17,001	7,937
Benefits	175,167	260,593	176,551	116,543
Total	805,419	964,276	601,252	413,056
CONSOLIDATED INTERNAL SERVICES	1,342,559	1,316,946	1,566,206	1,587,974
PURCHASE OF SERVICES:				
Postage	85,000	92,013	79,237	79,000
Computer Services	9,321	36,700	32,000	4,200
Engineering and Consultant Services	-	-	-	38,000
Advertising	300	-	-	-
Building & Equipment Maintenance	104	-	2,800	5,000
Utilities	30,589	-	23,580	58,600
Dues and Subscriptions	4,969	-	2,000	10,000
Travel & Mileage	2,440	-	1,150	1,500
Education & Training	29,964	44,046	20,682	55,064
Worker's Compensation Insurance	137,873	162,326	157,568	176,112
Property & Liability Insurance	310,315	287,344	244,139	281,699
Legal/Litigation Fees	9,129	2,500	1,980	2,500
Miscellaneous	157,139	-	116,000	144,075
Risk Management	41,123	74,100	67,305	86,100
Compliance Expense	-	5,500	-	500
Public Relations	-	-	-	-
Special Studies	-	-	-	-
Uncollectible Receivables	-	-	-	-
Total	818,266	704,529	748,441	942,351
MATERIALS & SUPPLIES:				
Office Supplies	12,092	12,870	12,073	12,435
Maintenance Materials and Supplies	360	-	-	4,155
Total	12,452	12,870	12,073	16,590
EQUIPMENT/SITE IMPROVEMENT:				
Gen'l Office Furniture and Equipment	18,585	-	-	7,000
Computer Equipment & Software	-	71,243	14,500	16,200
Total	18,585	71,243	14,500	23,200
DEPRECIATION:				
TOTAL EXPENSES	\$ 2,997,281	\$ 3,069,864	\$ 2,942,472	\$ 2,983,171

(A) Salaries include bonus payout.

**2016 BUDGET
REVENUE SUMMARY
CITY INTERNAL SERVICE FUND**

	2014 Budget	2015 Annualized	2015 Estimate	2016 Budget
Service Fee Allocation (1)	\$ 2,997,281	\$ 3,069,864	\$ 2,942,472	\$ 2,983,171
Interest and Other Income				
TOTAL REVENUES	\$ 2,997,281	\$ 3,069,864	\$ 2,942,472	\$ 2,983,171

(1) Internal Service charges to other budgets.

**2016 BUDGET
SUPPORTING DETAIL
CITY INTERNAL SERVICE**

Expenses

PERSONNEL

Permanent/Overtime

Represents salaries and off-time of employees' direct time in the City System supporting either the Water Filtration Plant, Water Distribution System, Wastewater Treatment Plant, Wastewater Collection System or Lab.

Employee Benefits

Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

**Internal Services -
Overhead (Consolidated)**

Overhead costs (\$1,587,974), which are not directly allocable to certain funds are indirectly allocated based on salaries within a fund, division or department as a percentage of total salaries.

Postage

Represents cost to mail City customer water and wastewater billings (\$79,000).

Computer Services

Represents costs such as EZ Micro (\$200), hardware maintenance (\$1,000), and other services (\$3,000).

Education and Training

Budget includes specifically identified training for City Division employees, whether through participation in seminars or classes (\$55,064).

Workers Compensation

Required coverage for City Division workforce (\$176,112).

**Property & Liability
Insurance**

Required coverage required under the Concession Agreement for the City Division assets (\$281,699).

Legal/Litigation Fees

Budgeted fees for legal assistance in Concession compliance (\$2,500).

Miscellaneous Services

Represents banking costs (\$30,000), payment processing fees (\$55,550), outsourced billing (\$30,000), City lien processing (\$16,500), other miscellaneous (\$12,025).

Risk Management

Includes safety equipment, training and miscellaneous. (\$86,100)

MATERIALS & SUPPLIES

Computer Equipment

Includes replacement of five desktop computers (\$5,000), one laptop computer with docking station (\$1,500) various printers and other hardware (\$5,700), miscellaneous software (\$4,000).

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN INTERNAL SERVICE**

SUBURBAN INTERNAL SERVICE OVERVIEW

The Suburban Internal Service Budget includes overhead, support and general administrative services, which are included in the Suburban Operating and Capital Budgets. These costs are recovered through reimbursements from each operating and capital budget, based upon services provided. The budget incorporates six functions: Accounting, Risk Management, Personnel, Legal, Customer Care and General Administration.

The Suburban Internal Service Fund is reimbursed monthly from other Suburban Budget centers. Actual costs are allocated to each budget based upon salaries within each fund. For systems with less than 250 customers, the allocation percentage is further reduced to 20% of the salary ratio to limit cost exposure. At year-end a final reconciliation is prepared with the reimbursement amounts for each fund determined by first allocating Internal Service costs that exclusively benefit an individual budget center and then allocating remaining costs to each budget based upon the salary percentage method described above.

The Authority performs certain work, which is reimbursed by others (municipalities, developers, etc.). Such charges are billed on a direct payroll cost with a cost multiplier applied for benefits and internal service costs. This factor only includes benefits and internal service costs which are not directly allocated to a specific fund. The cost multiplier for 2016 is 2.25 times direct salary and is based on budget figures.

2016 BUDGET
OPERATING EXPENSES
ALLOCATION UNIT: SUBURBAN INTERNAL SERVICE

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
PERSONNEL:				
Permanent (A)	\$ 458,127	\$ 475,392	\$ 304,389	\$ 311,884
Overtime	3,072	320	2,689	3,021
Benefits	144,337	129,324	163,750	98,003
Total	605,536	605,037	470,828	412,908
CONSOLIDATED INTERNAL SERVICES	520,062	452,350	522,069	581,783
PURCHASE OF SERVICES:				
Postage	39,145	41,410	36,000	43,500
Computer Services	1,274	3,000	2,500	6,320
IT Consultant Services	-	-	-	-
Advertising	-	-	-	-
Building & Equipment Maintenance	21,383	-	-	-
Dues & Subscriptions	-	-	-	5,000
Travel & Mileage	785	1,000	780	1,000
Education & Training	11,203	42,829	18,200	19,560
Worker's Compensation Insurance	32,038	38,878	48,210	42,180
Property & Liability Insurance	122,929	175,128	145,000	149,532
Legal/Litigation Fees	24,897	10,000	3,000	10,000
Miscellaneous	58,725	1,500	5,000	55,135
Risk Management	-	20,000	19,106	24,400
Compliance Expense	-	3,000	-	3,000
Public Relations	-	-	-	-
Special Studies	-	-	-	-
Total	312,379	336,745	277,796	359,627
MATERIALS & SUPPLIES:				
Office Supplies	2,052	1,858	1,575	1,540
Maintenance Materials and Supplies	7,512	7,500	6,224	2,000
Total	9,564	9,358	7,799	3,540
EQUIPMENT/SITE IMPROVEMENT:				
Gen'l Office Furniture and Equipment	21,017	-	-	-
Computer Equipment & Software	-	26,100	12,602	26,700
Total	21,017	26,100	12,602	26,700
DEPRECIATION:	10,857	7,000	8,800	9,375
TOTAL EXPENSES	\$ 1,479,415	\$ 1,436,590	\$ 1,299,894	\$ 1,393,933

(A) Salaries include bonus payout.

**2016 BUDGET
REVENUE SUMMARY
SUBURBAN INTERNAL SERVICE FUND**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
Service Fee Allocation (1)	\$ 1,468,380	\$ 1,429,590	\$ 1,291,094	\$ 1,384,558
Interest and Other Income	178	-		
TOTAL REVENUES (2)	\$ 1,468,558	\$ 1,429,590	\$ 1,291,094	\$ 1,384,558

(1) Internal Service charges to other budgets.

(2) Excludes recovery of depreciation since actual equipment & furniture payouts are recovered in full in the year of the expenditure or through use of reserves.

**2016 BUDGET
SUPPORTING DETAIL
SUBURBAN INTERNAL SERVICE**

Expenses

PERSONNEL

Represents salaries and off-time of employees' direct time in the Suburban System supporting the water and/or wastewater operations, including lab analysis or pretreatment operations (\$311,884).

PURCHASE OF SERVICES

**Internal Services -
Overhead (Consolidated)**

Overhead costs (\$581,783), which are not directly allocable to certain funds are indirectly allocated based on salaries within a fund, division or department as a percentage of total salaries.

Postage

Represents cost to mail Suburban customer billings (\$43,500).

Computer Services

Nominal services for computer services (\$6,320).

Education and Training

Budget includes specifically identified training for Suburban Division employees, whether through participation in seminars or classes (\$19,560).

Workers Compensation

Workplace injury coverage for those continuing Suburban workers (\$42,180).

**Property & Liability
Insurance**

Premiums for all Suburban properties, with the exception of the Wastewater Treatment Plant in Upper Macungie (\$149,532).

Legal/Litigation

Represents general litigation expenses within Suburban Division (\$10,000).

Miscellaneous

Represents payment processing fees (\$34,510), outsourced billing (\$17,500), other miscellaneous expenses (\$3,125).

Risk Management

Includes safety equipment, training and miscellaneous (\$24,400).

MATERIALS & SUPPLIES

Office Supplies

Purchase of computer supplies and general office supplies (\$1,540).

Maintenance Supplies

Represents general maintenance supplies for Suburban offices (\$2,000).

Computer Equipment

Budget includes ten desktop computers (\$10,000), two laptop computers with docking stations (\$3,000), five Verizon tablets (\$1,500), various printers and other hardware (\$6,700), miscellaneous software (\$5,500).

DEPRECIATION

Straight-line method of Depreciation is used for office equipment and other furnishings.

**2016 BUDGET
SUPPORTING DETAIL
CONSOLIDATED INTERNAL SERVICE**

CONSOLIDATED INTERNAL FUND OVERVIEW

The City Internal Service Budget includes overhead, support and general administrative services, which are included in the City Operating and Capital Budgets. These costs are recovered through reimbursements from the City Divisions' operating and capital budget, based upon services provided. The budget incorporates six functions: Accounting, Risk Management, Personnel, Legal, Customer Care and General Administration.

The development of a separate City Internal Service Budget was based on the realization that the City Division was similar to the Suburban Division, in that it maintained a level of exclusive support functions for the productive activities of water and wastewater services. As a result, LCA isolated specific elements of costs, which were allocated to each area of operation, based on the pro-rata share of its salaries.

Today, in addition to the City Internal Service Budget and the Suburban Internal Service Budget, LCA has established a Consolidated Internal Service Budget to capture those costs which benefit both the City and Suburban Division, but whose capture is uneconomical or unreasonable. These Consolidated Internal Service costs are allocated to each Division on its pro rata share of payroll.

2016 BUDGET
OPERATING EXPENSES
ALLOCATION UNIT: CONSOLIDATED INTERNAL SERVICE

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
PERSONNEL:				
Permanent (A)	\$ 711,622	\$ 556,096	\$ 870,000	\$ 875,594
Overtime	3,473	-	2,200	-
Benefits	179,687	146,567	307,930	255,880
Total	894,782	702,663	1,180,130	1,131,473
PURCHASE OF SERVICES:				
Postage	30,189	23,344	27,036	28,000
Telephone	25,451	77,800	17,018	44,200
Computer Services	115,660	156,230	184,890	249,780
IT Consultant Services	-	-	-	-
Advertising	4,857	5,000	1,991	3,000
Building & Equipment Maintenance	52,266	62,120	75,694	64,620
Utilities	43,917	46,900	46,317	56,740
Audit Fees	52,855	55,000	42,500	44,000
Dues & Subscriptions	28,457	36,305	31,590	14,780
Travel & Mileage	7,644	7,000	4,729	4,500
Education & Training	51,381	42,015	44,583	40,585
Worker's Compensation Insurance	18,808	22,816	9,963	24,754
P&L Insurance	1,161	1,500	8,240	1,500
Legal/Litigation Fees	102,768	95,500	95,500	95,500
Miscellaneous	83,708	160,250	67,805	47,275
Risk Management	3,203	61,700	54,437	41,050
Compliance Expense	-	17,750	16,071	12,750
Public Relations	68,953	84,525	23,047	80,000
Human Resources	29,144	100,000	85,000	100,000
Special Studies	-	35,000	-	-
Total	720,422	1,090,755	836,411	953,034
MATERIALS & SUPPLIES:				
Office Supplies	16,686	17,678	23,470	22,550
Maintenance Materials and Supplies	144	-	10,226	500
Total	16,830	17,678	33,696	23,050
EQUIPMENT/SITE IMPROVEMENT:				
Gen'l Office Furniture and Equipment	41,833	25,000	15,000	7,000
Computer Equipment & Software	-	33,200	23,038	55,200
Operation Center Improvement	-	-	-	-
Total	41,833	58,200	38,038	62,200
DEPRECIATION:	-			
TOTAL EXPENSES	\$ 1,673,867	\$ 1,869,295	\$ 2,088,275	\$ 2,169,757

(A) Salaries include bonus payout.

**2016 BUDGET
REVENUE SUMMARY
CONSOLIDATED INTERNAL SERVICE FUND**

	2014 Actual	2015 Budget	2015 Estimate	2016 Budget
Service Fee Allocation (1)	\$ 1,680,332	\$ 1,869,295	\$ 2,088,275	\$ 2,169,757
Interest and Other Income				
TOTAL REVENUES	\$ 1,680,332	\$ 1,869,295	\$ 2,088,275	\$ 2,169,757

(1) Internal Service charges to other budgets.

**2016 BUDGET
SUPPORTING DETAIL
CONSOLIDATED INTERNAL SERVICE**

Expenses

PERSONNEL

Permanent/Overtime

Represents salaries and off-time of employees' indirect time in support of LCA's City and Suburban Divisions.

Employee Benefits

Comprised of medical coverage, defined benefit pension, long-term and short term disability, social security and Medicare contributions, flexible spending and unemployment insurance.

PURCHASE OF SERVICES

Postage

Represents cost for general mailings, not identified as either City or Suburban (\$28,000).

Computer Services

Represents costs benefiting both City and Suburban systems, such as MUNIS service license (\$70,000), offsite backup /disaster recovery (\$10,000), GIS ESRI software maintenance (\$16,000), GIS consulting services (\$11,000), EZ Micro (\$25,000), Cityworks software maintenance and consulting services (\$85,000) and other services (\$32,780).

**Building & Equipment
Maintenance**

Represents Operations Center costs, such as office cleaning (\$19,750), security services (\$7,500), site maintenance (\$15,700) and other maintenance (\$21,670).

Utilities

Budget includes Operations Center costs, such as electric (\$47,000), propane (\$5,500), cable (\$1,740) and other utilities (\$2,500).

Audit Fees

Represents an extension of Zelenkofske Axelrod's contract for the audit of LCA.

Dues and Subscriptions

Organization membership fees and contributions and periodical subscriptions.

Travel and Mileage

Includes reimbursement to employees at prevailing IRS rate for personal vehicle use for business purposes.

Education and Training

Represents primarily the leadership team's expenses of seminars, conferences and training.

Workers Compensation

Required coverage for workforce.

Legal/Litigation

Represents costs associated with labor relations, part-time Solicitor and other global legal issues (\$95,500),

Miscellaneous

Comprised of banking costs (\$4,200), compliance expenses (\$17,750), company picnic and other employee activities (\$11,500), other miscellaneous (\$13,825).

Human Resources

Comprised of human resource projects (\$100,000).

Risk Management

Includes safety equipment, training and miscellaneous (\$41,050).

Public Relations

Represents costs associated with reaching out to stakeholders with educational programs and a host of interactive agendas.

**2016 BUDGET
SUPPORTING DETAIL
CONSOLIDATED INTERNAL SERVICE**

MATERIALS & SUPPLIES

Office Supplies

Purchase of copier and computer supplies and general office supplies.

**Office Furniture and
Equipment**

Represents costs of furniture and miscellaneous equipment.

Computer Equipment

Includes purchase of (10) Verizon tablets (\$3,000), (15) desktop computers (\$15,000), domain controller and exchange server upgrade (\$7,000), other hardware purchases (\$17,700), and miscellaneous software (\$12,500).

**2016 BUDGET
CAPITAL EXPENDITURES
ADMINISTRATION**

Project	Priority	Estimated Project Cost	Estimated Costs Through 2015	2016 Budget	Beyond 2016
SCADA Programming, Hardware Upgrades, Software & Training ⁽¹⁾	High	Annual		250,000	
Computer System Hardware & Software Upgrades ⁽²⁾	High	Annual		53,000	
Geographic Information System Upgrades & Application Dev. ¹	High	905,000	331,000	374,000	200,000
Document Management ⁽²⁾	High	434,500	-	50,000	384,500
Total Administration Capital Expenditures:				\$ 331,000	\$ 727,000
				\$ 584,500	

(1) This Project is for the Suburban Division only.

(2) This Project benefits both the Allentown and Suburban Divisions. Project cost will be allocated based upon system revenue where the Suburban Division's share is 1/3 and the City Division's is 2/3.

Note: Projects in bold type will not proceed beyond the planning phase, or beyond current authorized phase without specific authorization from the LCA Board subsequent to the adoption of this budget.

**2016 BUDGET
SUPPORTING DETAIL
ADMINISTRATION**

CAPITAL EXPENDITURES

**SCADA Programming,
Hardware Upgrades,
Software & Training (1)**

This annual on-going project includes both programming and hardware enhancements to the SCADA system to provide reliable telemetry and effective/ pro-active/ flexible control of our facilities. It also includes upgrade to SCADA & Telco communications, radio replacement of Telco lines to reduce monthly Telco charges to resolve on-going communication problems with critical facilities. (2016 Cap Ex \$250,000).

**Computer System Hardware
& Software Upgrades (2)**

This annual on-going project includes the upgrade of the Microsoft Office software, purchase of Human Resources software and server replacements for units older than 6 years. (2016 Cap Ex \$53,000).

**Geographic Information
System Upgrades &
Application Dev. (2)**

This annual on-going project includes the development of applications on an as needed basis and may include integration of the PA One-Call system and fire hydrant and manhole inspection databases and additional mobile application functionality. Mapping of water service lines is also included in this project. (2016 Cap Ex \$374,000).

Document Management(2)

This multi-year project provides for an Electronic Document Management System (EDMS) to store, search and share documents. This project does not plan for the imaging of existing paper documents. (2016 Cap Ex \$50,000)

1) This Project is for the Suburban Division only.

(2) This Project benefits both the Allentown and Suburban Divisions. Project cost will be allocated based upon system revenue where the Suburban Divisions share is 1/3 and the City Division 2/3

MEMORANDUM

Date: October 19, 2015

To: Authority Board
From: Phil DePoe
Subject: Allentown Water Filtration Plant High Service Pipe Gallery Re-Painting -
Construction Phase

MOTIONS / APPROVALS REQUESTED:

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$122,097
2 ⁽¹⁾	Professional Services Authorization – D’Huy Engineering	\$9,200
3	General Contract Award – D.M. Coatings, Inc.	\$82,897

(1) Included in the Capital Project Authorization.

PROJECT OVERVIEW

The project consists of the repainting of the processed water pipe at the Water Filtration Plant. Specific items include but are not limited to the following: Preparation (sand blasting, etc.) of processed water piping including connection joints, support posts and miscellaneous pipe support steel. The DEP Annual Inspection Report dated 7/31/12 discussed the need to repaint this piping.

FINANCIAL

This Project will be funded by the LCA Allentown Division.

PROJECT STATUS

The project was advertised for bid on September 4, 2015. A mandatory pre-bid meeting was held on September 9, 2015. Bids were received on September 22, 2015.

THIS APPROVAL – CONSTRUCTION PHASE

The construction phase includes activities that are necessary to repaint the processed water piping. The General Contractor will be responsible for all construction activities. The design engineer will

be responsible for periodic oversight of the construction, which will be supplemented by in-house project management provided by LCA.

BIDDING SUMMARY

The project requires a General Construction (GC) Contract. The bid results are summarized below:

Bidder	Amount
D.M. Coatings, Inc.	\$82,897.00
Blooming Glen Contractors	\$101,657.00
Pro-Spec Painting, Inc.	\$223,100.00

Based upon the review of the bids, we recommend award of the General Construction contract to D.M. Coatings, Inc., subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES

D'Huy Engineers has been our design consultant on this project and will provide construction engineering and on-site inspection services for the construction phase of the processed water piping repainting. Their work will also include:

1. Schedule and chair a preconstruction meeting and monthly job conference meetings
2. Review shop drawings and respond to RFIs
3. Provide work review visits and assist with contract administration
4. Assess work for substantial completion and open items
5. Prepare punch list and related close-out documentation

PROJECT SCHEDULE

The specifications require the project to be complete by the end of 2015.

FUTURE AUTHORIZATIONS

No future authorizations are anticipated for this project.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	<u>AD-W-15-4</u>	BUDGET FUND:	<u>Allentown Div\Wastewater\Capital</u>
PROJECT TITLE:	<u>Allentown Water Filtration Plant High Service Pipe Gallery Re-Painting – Construction Phase</u>		PROJECT TYPE:
THIS AUTHORIZATION:	<u>\$122,097</u>	<input checked="" type="checkbox"/>	Construction
TO DATE (W/ ABOVE)	<u>\$133,097</u>	<input type="checkbox"/>	Engineering Study
		<input type="checkbox"/>	Equipment Purchase
		<input type="checkbox"/>	Amendment No. 1

DESCRIPTION AND BENEFITS:

The project consists of the repainting of the processed water pipe at the Water Filtration Plant. Specific items include but are not limited to the following: Preparation (sand blasting, etc.) of processed water piping including connection joints, support posts and miscellaneous pipe support steel.

Please see attached Board Memo for further project details.

Authorization Status:

Previous Authorizations	
Design Phase	\$11,000

Requested This Authorization	
Construction Phase	
Staff	\$10,000
Construction Contractor	\$82,897
Engineering Consultant	\$9,200
Miscellaneous	10,000
Contingency	10,000
Total This Authorization	\$122,097

Future Authorizations	None Anticipated
Total Estimated Project	\$133,097

REVIEW AND APPROVALS:

_____ Project Manager	_____ Date	_____ Chief Executive Officer	_____ Date
_____ Chief Capital Works Officer	_____ Date	_____ Chairman	_____ Date



Lehigh County Authority

1053 Spruce Street * P.O. Box 3348 * Allentown, PA 18106-0348
(610)398-2503 * FAX (610)398-8413 * Email: service@lehighcountyauthority.org

PROFESSIONAL SERVICES AUTHORIZATION
Amendment No. 1

Professional: D'HUY ENGINEERING, INC.
One East Broad Street, Suite 310
Bethlehem, PA 18018

Date: October 19, 2015

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive

Officer: _____

Allentown Division – Water Filtration Plant High Service Pipe Gallery Re-Painting

Previous Authorizations

Design Phase

\$7,500

This Authorization – Construction Phase:

\$9,200

D'Huy Engineering will conduct periodic inspection of the construction activities throughout the entire construction phase. Other consultant services will be provided and are listed below:

Professional Services
1. Facilitate pre-construction and monthly job status meetings
2. Review/approve contractor submittals and respond to RFI's
3. Provide periodic construction inspections throughout project
4. Prepare punch list and final payment certifications

(1) Reference Memo for additional information

Cost Estimate (not to exceed without further authorization):

\$16,700

Time Table and Completion Deadline: All construction activities are to be completed before January 2016.

(For Authority Use Only)

Authorization Completion:

Approval: _____ **Actual Cost:** _____ **Date:** _____

**PROFESSIONAL SERVICES AUTHORIZATION
INDEMNIFICATION
Allentown Division – Water Filtration Plant High Service Pipe Gallery Re-
Painting
Construction Phase**

(To be signed by Professional and returned to the Authority)

I am or represent the Professional indicated above, and as such I am authorized to:

☐ Accept the terms of the professional services authorization dated October 19, 2015 (attached) and

Name (signature):

Name (printed)

Title:_____

MEMORANDUM

Date: October 19, 2015

To: Authority Board
From: Phil DePoe
Subject: Kline's Island WWTP – Chlorine Storage Facility Standby Generator –
Construction Phase

MOTIONS / APPROVALS REQUESTED

No.	Item	Amount
1	Capital Project Authorization – Construction Phase	\$162,200
2 ⁽¹⁾	Professional Services Authorization – D'Huy Engineering	\$13,500
3	General Contract Award – Wind Gap Electric	\$108,700

(1) Included in the Capital Project Authorization.

PROJECT OVERVIEW

The project consists of the purchase and installation of a new 250 kW standby generator with sub base fuel tank, concrete pad, automatic transfer switch, interconnecting conduit and wiring and tie-in to an existing MCC (Motor Control Center).

FINANCIAL

This Project will be funded by the LCA Allentown Division.

PROJECT STATUS

The project was advertised for bid on September 19, 2015. A mandatory pre-bid meeting was held on September 30, 2015. Bids were received on October 15, 2015.

THIS APPROVAL – CONSTRUCTION PHASE

The construction phase includes activities that are necessary to install the emergency generator. The General Contractor will be responsible for all construction activities. The design engineer will be responsible for periodic oversight of the construction, which will be supplemented by in-house project management provided by LCA.

BIDDING SUMMARY

The project requires a General Construction (GC) Contract. The bid results are summarized below:

Bidder	Amount
Wind Gap Electric, Inc.	\$108,700
Pioneer Construction Co., Inc.	\$111,000
Albarell Electric, Inc.	\$116,500
BSI Electrical Contractors	\$116,950
George J. Hayden, Inc.	\$124,400
Orlando Diefendorfer Electrical Contractors Inc.	\$124,722
A.N. Lynch Co., Inc.	\$130,000
Blooming Glen Contractors, Inc.	\$145,122

Based upon the review of the bids, we recommend award of the General Construction contract to Wind Gap Electric, subject to the receipt of the necessary Performance Bonds, Insurance and other required documentation.

PROFESSIONAL SERVICES

D'Huy Engineers has been our design consultant on this project and will provide construction engineering and on-site inspection services for the construction phase of the emergency generator installation. Their work will also include:

1. Schedule and chair a preconstruction meeting and monthly job conference meetings
2. Review shop drawings and respond to RFIs
3. Provide work review visits and assist with contract administration
4. Assess work for substantial completion and open items
5. Prepare punch list and related close-out documentation

PROJECT SCHEDULE

The specifications require the project to be complete by the end of April 2016.

FUTURE AUTHORIZATIONS

No future authorizations are anticipated for this project.

CAPITAL PROJECT AUTHORIZATION

PROJECT NO.:	<u>AD-S-15-4</u>	BUDGET FUND:	<u>Allentown Div\Wastewater\Capital</u>
PROJECT TITLE:	<u>Kline's Island WWTP – Chlorine Storage Facility Standby Generator – Construction Phase</u>		PROJECT TYPE:
THIS AUTHORIZATION:	<u>\$162,200</u>	<input checked="" type="checkbox"/>	Construction
TO DATE (W/ ABOVE)	<u>\$179,700</u>	<input type="checkbox"/>	Engineering Study
		<input type="checkbox"/>	Equipment Purchase
		<input type="checkbox"/>	Amendment No. 1

DESCRIPTION AND BENEFITS:

The project consists of the purchase and installation of a new 250 kW emergency generator with sub base fuel tank, concrete pad, automatic transfer switch, interconnecting conduit and wiring and tie-in to an existing MCC.

See attached Board Memo for further project details.

Authorization Status:

<i>Previous Authorizations</i>	
<i>Design Phase</i>	<i>\$17,500</i>

Requested This Authorization	
<i>Construction Phase</i>	
Staff	\$20,000
Construction Contractor	\$108,700
Engineering Consultant	\$13,500
Miscellaneous	10,000
Contingency	10,000
Total This Authorization	\$162,200

Future Authorizations	None Anticipated
Total Estimated Project	\$179,700

REVIEW AND APPROVALS:

_____	_____	_____	_____
Project Manager	Date	Chief Executive Officer	Date
_____	_____	_____	_____
Chief Capital Works Officer	Date	Chairman	Date



Lehigh County Authority

1053 Spruce Street * P.O. Box 3348 * Allentown, PA 18106-0348
(610)398-2503 * FAX (610)398-8413 * Email: service@lehighcountyauthority.org

PROFESSIONAL SERVICES AUTHORIZATION
Amendment No. 1

Professional: D'HUY ENGINEERING, INC.
One East Broad Street, Suite 310
Bethlehem, PA 18018

Date: October 19, 2015

Requested By: Phil DePoe

Approvals

Department Head: _____

Chief Executive

Officer: _____

**Allentown Division – Kline's Island WWTP – Chlorine Storage Facility Standby Generator –
Construction Phase**

Previous Authorizations
Design Phase

\$14,000

This Authorization – Construction Phase:

\$13,500

D'Huy Engineering will conduct periodic inspection of the construction activities throughout the entire construction phase. Other consultant services will be provided and are listed below:

Professional Services
1. Facilitate pre-construction and monthly job status meetings
2. Review/approve contractor submittals and respond to RFI's
3. Provide periodic construction inspections throughout project
4. Prepare punch list and final payment certifications

(1) Reference Memo for additional information

Cost Estimate (not to exceed without further authorization):

\$27,500

Time Table and Completion Deadline: All construction activities are to be completed by the end of April 2016.

(For Authority Use Only)

Authorization Completion:

Approval: _____ **Actual Cost:** _____ **Date:** _____

**PROFESSIONAL SERVICES AUTHORIZATION
INDEMNIFICATION
Allentown Division – Kline’s Island WWTP – Chlorine Storage Facility
Standby Generator
Construction Phase**

(To be signed by Professional and returned to the Authority)

I am or represent the Professional indicated above, and as such I am authorized to:

☐ Accept the terms of the professional services authorization dated October 19, 2015 (attached) and

Name (signature):

Name (printed)

Title:_____