



## LEHIGH COUNTY AUTHORITY

September 28, 2015

### BOARD MEETING AGENDA

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

#### **FINANCE AND ADMINISTRATION**

- *Pension Plan Minimum Municipal Obligation (MMO) for 2016*

#### **WATER**

- *Capece, WL-20 and Reservoir-3 (Approval)*

#### **WASTEWATER**

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

#### **OCTOBER MEETINGS**

Workshop Meeting  
Board Meeting

October 12 – 12:00 p.m.  
October 26 – 12:00 p.m.

#### **PUBLIC PARTICIPATION POLICY**

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

## FINANCE & ADMINISTRATION

### ACTION ITEMS

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### DISCUSSION ITEMS

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#### 1. **Pension Plan Minimum Municipal Obligation (MMO) for 2016**

The Pennsylvania Municipal Retirement System (PMRS), which the Authority is enrolled in for employee pension benefits, requires that the Authority calculate its MMO for 2016 and present the information to the Board of Directors prior to submitting to PMRS in October. The information required for this calculation is included in the attached memo and form (**blue**).

### INFORMATION ITEMS

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

Fund	Bank	Location	Gross Amount	Date of Purchase	Date Due	Net Rate %
LLRI CR	PSDLAF	Collateralized CD	400,000.00	9/1/15	12/15/15	0.1
Cons Wtr (2)	PSDLAF	Collateralized CD	155,000.00	9/1/15	12/15/15	0.1
Cons LL2 (314)	PSDLAF	Collateralized CD	245,000.00	9/1/15	12/15/15	0.1
WW Capac	PSDLAF	Collateralized CD	600,000.00	9/1/15	12/15/15	0.1
2010 Wtr Cons A	PSDLAF	Flex Pool	2,000,000.00	9/1/15	12/15/15	0.1
Wtr R&R	PSDLAF	Collateralized CD	1,000,000.00	9/1/15	12/15/15	0.1

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**

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1. **Capece, WL-20 and Reservoir-3 - Approval**

Anticipated work is for the design and bidding of improvements necessary to maximize operation of the water supply system in the Central Lehigh Division. The project will result in the installation of a Variable Frequency Drive (VFD) at WL#20 and a 16-inch motor operated valve at Reservoir #3. Included in these efforts is updated SCADA control for these facilities. This authorization takes us through design, bidding and recommendation to award. Board approval is requested for this Project Authorization (yellow)

### **DISCUSSION ITEMS**

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### **INFORMATION ITEMS**

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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.

4. **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 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.

**5. 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.

**6. 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.

**7. 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.

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

Two projects have begun and are in various stages of proposals and/or finalization of work scope. The projects include: Painting of water plant piping to comply with PaDEP inspection report and a Stormwater pump/control upgrades at Water Distribution. The painting project will be an operational expense, while the Stormwater pump will be a capital project. The painting specifications are being developed with the actual work planned for later this fall or over the winter. These projects will be funded by the LCA Allentown Division.

**9. 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

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### DISCUSSION ITEMS

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### INFORMATION ITEMS

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1. **Wastewater Treatment Capacity**

The 537 consultant is performing a study to determine if the levels of TDS can be reduced at the PTP by source control. If the TDS cannot be reduced it is less likely that a PTP option will be possible for a direct discharge or land application.

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 September. The Pump Station is installed and the electrical work is underway.

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

The project will upgrade the WWTP head works. Gannett Fleming submitted 90% design specifications on which we returned comments on.

4. **Suburban Division -Condition Assessments for Package Wastewater Treatment Plants**

LCA staff met with Cardno BCM staff in early June. Initial site visits were made and data developed. Final reports should be completed by the end September 2015.

5. **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.

6. **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.

7. **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). Power Zone House delivery has been delayed to October 19, but 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.

8. **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. The construction contract with Pro Com is finalized and Notice to Proceed was issued in early September. Pre-construction meeting was held on Sept 16 2015. The project will be funded by the LCA Allentown Division.

**9. 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 and communicated well. The Contractor will prepare and submit a report.

**10. 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 November 2015. This Project is identified in the Lease as Schedule 7 (required) project and will be funded by the LCA Allentown Division.

**11. 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 will be re-bid in October with a modified work scope. This project will be funded by LCA Allentown Division.

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

Several projects have begun and are currently in the design phase. The projects include: Emergency power at the chlorination building and Locker Room upgrades. These projects will be funded by the LCA Allentown Division.

**13. 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.

**14. 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. There has been no response from EPA on our request for an extension.

15. **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 1<sup>st</sup>. 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.





1053 SPRUCE STREET \* P.O. BOX 3348 \* ALLENTOWN, PA 18106-0348  
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email: [service@lehighcountyauthority.org](mailto:service@lehighcountyauthority.org)

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## MEMORANDUM

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**Date:** September 22, 2015  
**To:** Lehigh County Authority Board of Directors  
**From:** Liesel M. Adam, Chief Administrative Officer  
**Subject:** 2016 Minimum Municipal Obligation (MMO) for the Lehigh County Authority Pension Plan (39-448-6N)

Act 205 of 1984, as amended, governs the funding requirements for all municipal pension plans. The law requires the Chief Administrative Officer of each municipal pension plan to inform the governing body of the municipality of the plan's expected financial obligation for the coming year. This must be done by the last business day in September. This memo, provided under the guidance of the Pennsylvania Municipal Retirement System (the plan's administrator), is intended to satisfy the legal requirements of Act 205.

The calculation of the 2016 plan cost, or the MMO, required an estimate of the 2015 W-2 wages of the employees covered by the plan. I have indicated on the attached worksheet my best estimate of the same. Questions on the pension cost calculation may be addressed to either myself or the staff of the Pennsylvania Municipal Retirement System at (800) 622-7968.

Please understand that the MMO is the municipality's 2016 bill for the pension plan. The calculated obligation must be paid by December 31, 2016. The obligation must be met with general fund monies or with any General State Aid to Municipal Pensions to which we may be entitled to under Act 205.

Liesel M. Adam  
Chief Administrative Officer  
[lieseladm@lehighcountyauthority.org](mailto:lieseladm@lehighcountyauthority.org)  
(610) 398-2503, extension 128

Attachment: 2016 MMO Worksheet

**The Minimum Municipal Obligation Worksheet (MMO)**  
**For The**  
**Lehigh County Authority Pension Plan (39-448-6 N)**  
**For Plan Year 2016**

**CHARGES**

Estimated 2015 W-2 Payroll

For Covered Plan Members:

(A) \$8,618,510

PMRS Determined Normal Cost

Expressed as a Decimal:

(B) .1241

RESULT: (A) \* (B) =

(C) \$1,069,557

Administrative Charge (PMRS Determined)

# of Plan Members times \$20:

(D) 3,580

Amortization of Unfunded Liability

(PMRS Determined)

(E) 0

TOTAL CHARGES: (C) + (D) + (E) =

(F) \$1,073,137

**CREDITS**

Repeat Estimated 2015 W-2 Payroll

For Covered Plan Members:

(A) \$8,618,510

Employee Contribution Rate

Expressed as a Decimal:

(G) .01

RESULT: (A) \* (G) =

(H) \$86,185

Amortization of the Actuarial Surplus

(PMRS Determined)

(I) 14,830

TOTAL CREDITS: (H) + (I) =

(J) \$101,105

**MINIMUM MUNICIPAL OBLIGATION**

(Based on 01/01/2013 Actuarial Valuation)

(MMO) \$972,122

Equals TOTAL CHARGES Minus

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

Prepared By: Liesel M. Adam (Name)

Liesel M. Adam (Signature)

Chief Admin. Officer (Title)

(610) 398-2503 (Telephone #)

Please complete the above worksheet with your best estimates and return a copy to the Pennsylvania Municipal Retirement System by October 9. The official copy must be shared with the plan's governing board by the last business day in September.



**Lehigh County Authority**

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**MEMORANDUM**

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**Date:** September 21, 2015

**To:** Authority Board  
**From:** Lance M. Babbitt

**Subject:** **Capece, WL-20 & Reservoir -3**  
Design/Bid Phase

**MOTIONS /APPROVALS REQUESTED:**

No.	Item	Amount
1	<u>Capital Project Authorization</u> Design/Bid Phase	\$89,546
2	<u>Professional Services</u>	
**	ARRO	\$34,300
	Aptus	\$42,046

*(\*\*) Included in the Capital Project Authorization*

**BACKGROUND**

The Central Lehigh Division is serviced by a series of wells, with operating pressures maintained through several above-ground reservoirs. Reservoir #3, located in the western section of the service area, tends to overflow when water levels reach the optimum storage level. In part, this is due to its smaller diameter, but also its close proximity to well WL#20. A system valve along Newtown Road is partially closed, which forces more water to flow to the south eastern section of the service area. At the start of most wells, a certain amount of water is discharged to the surface. A VFD on WL#20, would minimize starts and stops, minimize wasting discharges and would operate at a varying rate from reservoir level signals.

**PROJECT OVERVIEW**

This Authorization is for the design and bidding of improvements necessary to maximize operation of the water supply system in the Central Lehigh Division. The project will result in the installation of a Variable Frequency Drive (VFD) at WL#20 and a 16-inch motor operated valve at Reservoir #3. Included in these efforts is updated SCADA control for these facilities.

**PROFESSIONAL SERVICES SELECTION**

**Design/Bid:** Staff solicited 2 firms for design and bidding proposals. A summary of the proposals follows:

ARRO	\$34,300
JMT	\$35,970

Upon review of their technical proposal and the receipt of written clarifications to a few questions that derived from their project scope, we recommend award of the Design/Bid Phase of this project to ARRO Consulting, Inc. in the amount of \$34,300.00. Man-hours were for both proposals were comparable. In addition to a lower cost, ARRO has been LCA’s consulting engineer, for water, for over 15 years. They also designed and built Well WL#20.

**SCADA:** Staff solicited 2 firms for SCADA design and implementation proposals. The SCADA upgrades will include provision of new Modicon M340 (PLC) units and associated hardware, their installation, all programming of the facilities at the site, as well as screen alterations at the Operations Center. We received one proposal.

Aptus	\$42,046
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Upon review of their technical proposal and the receipt of written clarifications to a few questions that derived from their project scope, we recommend award of the Design/Bid Phase of this project to Aptus Control Systems, Inc. in the amount of \$42,046.00.

**PROJECT SCHEDULE:**

Board Approval	September 28, 2015
Award Work	September 30
Kick off Meeting	October 6
Complete Design & Specification	January 5, 2016
Receive Permits	January 20
Project To Bid	February 1
Contract Proposals due	February 16
Award Contracts	February 22, Board Meeting
Start Construction	April 14
Complete Construction	September 30

**FUTURE AUTHORIZATIONS**

Construction Phase.

## CAPITAL PROJECT AUTHORIZATION

<b>PROJECT NO.:</b>	SDW-15-6	<b>BUDGET FUND:</b>	Water Capital Central Lehigh Div.
<b>PROJECT TITLE:</b>	Capece WL-20 & Res- No.3	<b>PROJECT TYPE:</b>	<input type="checkbox"/> Construction <input type="checkbox"/> Engineering Study <input checked="" type="checkbox"/> Design <input type="checkbox"/> Amendment
<b>THIS AUTHORIZATION:</b>	\$88,846		

**DESCRIPTION AND BENEFITS:**

This Authorization is for the design and bidding of improvements necessary to maximize operation of the water supply system in the Central Lehigh division. The project will result in the installation of a Variable Frequency Drive (VFD) at WL#20 and a 16-inch motor operated valve at Reservoir #3. Included in these efforts is updates SCADA control for these facilities. This authorization takes us through bidding and recommendation to award.

Future authorization will be requested after construction proposals have been received.

**Authorization Status:**

REQUESTED THIS AUTHORIZATION	
<b>Design Phase</b>	
<b>Staff</b>	\$4,500
<b>SCADA</b>	\$42,046
<b>Engineering Consultant</b>	\$34,300
<b>Miscellaneous</b>	\$2,000
<b>Contingencies</b>	\$6,000
<b>Total This Authorization</b>	<b>\$88,846</b>
Future Authorization	
Construction Phase	\$150,000
<b>Total Estimated Project</b>	<b>\$240,000</b>

**REVIEW AND APPROVALS:**

Project Coordinator	Date	Chief Executive Officer	Date
Chief Capital Works Officer	Date	Chairman	Date



Lehigh County Authority

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**PROFESSIONAL SERVICES AUTHORIZATION**

**Professional:** ARRO Consulting, Inc.  
108 West Airport Road  
Lititz, PA 17543

**Date:** September 21, 2015

**Requested By:** LMB  
**Approvals**  
**Department Head:** \_\_\_\_\_  
**Chief Executive Officer:** \_\_\_\_\_

**Description of Services (Capece Tract, Well #20 & Reservoir #3):**

In accordance with the ARRO proposal dated July 10, 2015, ARRO will provide design and bidding services for the modifications at Reservoir #3 and Well WL#20.

**Cost Estimate (not to be exceeded without further authorization):** \$ 34,300.00

**Time Table and Completion Deadline :**

February 28, 2016

**(For Authority Use Only)**

**Authorization Completion:**

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



Lehigh County Authority

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**PROFESSIONAL SERVICES AUTHORIZATION**

**Professional:** Aptus Control Systems, Inc.  
332 East Oak St  
Palmyra, PA 17078

**Date:** September 21, 2015

**Requested By:** LMB  
**Approvals**  
**Department Head:** \_\_\_\_\_  
**Chief Executive Officer:** \_\_\_\_\_

**Description of Services (Capece Tract, Well #20 & Reservoir #3):**

In accordance with the Aptus proposal dated September 3, 2015, Aptus will provide equipment, installation and programming for the modification of SCADA systems at Reservoir #3 and Well WL#20.

**Cost Estimate (not to be exceeded without further authorization):** \$ 42,046.00

**Time Table and Completion Deadline:** September 30, 2016

**(For Authority Use Only)**

**Authorization Completion:**

**Approval:** \_\_\_\_\_

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