#### CITY OF BELLAIRE TEXAS

MAYOR AND COUNCIL

August 15, 2016 DE AGOSTO DE 15 de, el año 2016 15 Tháng Tám 2016 2016年8月15日

Council Chamber Regular Session 6:00 PM

7008 S. RICE AVENUE BELLAIRE, TX 77401



#### Mayor

Andrew S. Friedberg

Mayor Pro Tem	Council Member	Council Member
Roman F. Reed	Gus E. Pappas	Michael Fife
Council Member	Council Member	Council Member
Trisha S. Pollard	Pat B. McLaughlan	David R. Montague

#### **Mission Statement:**

The City of Bellaire is dedicated to outstanding quality service and facilities to ensure an open, progressive, and secure community.

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Agenda Mayor and Council August 15, 2016

#### **REGULAR SESSION - 6:00 P.M.**

- A. Call to Order and Announcement of a Quorum Andrew S. Friedberg, Mayor.
- B. Inspirational Reading and/or Invocation David R. Montague, Council Member.
- C. Pledges of Allegiance David R. Montague, Council Member.

#### 1. U.S. Pledge of Allegiance:

I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.

#### 2. Pledge to the Texas Flag:

Honor the Texas flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible.

#### D. Recognition of Proclamation - Andrew S. Friedberg, Mayor.

Issuance of a proclamation by Mayor Andrew S. Friedberg proclaiming August 15, 2016, as Coach Rocky Manuel Day in the City of Bellaire, Texas, in recognition of his legendary career as Bellaire High School Baseball Coach and offering the community's best wishes on the occasion of his well-deserved retirement - Submitted by Andrew S. Friedberg, Mayor.

#### I. PUBLIC HEARING

- A. Reading of Notice of Public Hearing Tracy L. Dutton, City Clerk.
- B. Summary of Public Hearing Procedure Paul A. Hofmann, City Manager.

#### C. Presentation of Proposal:

Public hearing regarding the proposed budget for the City of Bellaire, Texas, for the fiscal year beginning October 1, 2016, and ending September 30, 2017 (FY 2017 Budget) - Submitted by Paul A. Hofmann, City Manager.

#### D. Public Comment.

The Mayor will recognize speakers who have completed a sign-up sheet prior to the commencement of the public hearing. Each speaker shall have a time limit of up to five (5) minutes, with no extension, and with notice after four (4) minutes that one (1) minute is left.

#### E. Questions from the Mayor and City Council.

#### F. Close of Public Hearing.

Oral public comment on the subject matter of the public hearing will not be received following the close of the public hearing. The public may submit written comments to

the City Council prior to its final deliberation. All written comments must be received in the City Clerk's office by noon on the Thursday preceding the meeting of final deliberation for inclusion in the public record of the proceedings. It is anticipated that final deliberation will occur on Monday, September 19, 2016; therefore, written comments should be submitted by noon on Thursday, September 15, 2016.

See Rules of Procedure of the City Council of the City of Bellaire, Texas, as of January 25, 2016.

#### G. Adjourn.

#### **II. REGULAR MEETING**

#### A. Call to Order and Announcement of a Quorum - Andrew S. Friedberg, Mayor.

#### **B.** Approval of Minutes:

Consideration of and possible action on the approval of the minutes of the Regular Session of the City Council of the City of Bellaire, Texas, dated Monday, July 18, 2016 - Submitted by Tracy L. Dutton, City Clerk.

#### C. Personal/Audience Comments.

In order to address the City Council, please complete a sign-up sheet (located at the entrance to the Council Chamber), and submit it to City Clerk Tracy L. Dutton prior to the time for personal/audience comments. Each speaker shall have a time limit of up to five (5) minutes, with no extension, and with notice after four (4) minutes that one (1) minute is left. In the event of pressing business before the City Council or matters requiring its immediate attention or action, the City Council may, prior to the opening of audience comments, set a different maximum time limit for each speaker by a vote of four (4) members of the City Council.

The purpose of this item is to allow the residents of Bellaire and other interested persons an opportunity to address the City Council on agenda issues and on non-agenda issues that are a matter of the jurisdiction of the City Council (i.e., City policy and legislative issues). Non-agenda issues regarding daily operational or administrative matters should be first dealt with at the administrative level by calling City Hall at (713) 662-8222 during business hours.

[Note: The Texas Open Meetings Act, Texas Government Code, Chapter 551, prohibits the City Council from fully discussing, debating, or considering subjects for which public notice has not been given on the agenda. Issues that cannot be referred to the City Staff for action may be placed on the agenda of a future City Council Session.]

#### D. Reports:

- City Manager's Report regarding communication, field and personnel updates, calendar reminders, and notes of appreciation - Submitted by Paul A. Hofmann, City Manager.
- 2. Monthly Financial Report for the Period Ending July 31, 2016 Submitted by Terrence Beaman, Chief Financial Officer.
- 3. Quarterly Report from the Evelyn's Park Conservancy Board Submitted by Patricia King-Ritter, President, and Lou Waters, Vice President, Evelyn's Park Conservancy Board.

- E. New Business:
  - Adoption of Ordinance(s)/Resolution(s)
- E. Nuevos Negocios:
  - Aprobación de la Ordenanza (s) / Resolución (s)
- E. kinh doanh mới
  - Thông qua Pháp lệnh (s) / Độ phân giải (s)
- E. 新生意

条例(S) 的通过/分辨率(S)

- Consideration of and possible action on the adoption of an ordinance of the City Council of the City of Bellaire, Texas, authorizing the Mayor of the City of Bellaire, Texas, to execute, for and on behalf of the City of Bellaire, Texas, a Performance Contract Agreement between the City of Bellaire and Siemens Industry, Inc., Building Technologies Division, for work and services in connection with the Bellaire Performance Contracting Project - Requested by Brant Gary, Director of Public Works.
- 2. Consideration of and possible action on the adoption of a resolution of the City Council of the City of Bellaire, Texas, to publish a notice of intent to issue Certificates of Obligation Submitted by Paul A. Hofmann, City Manager.
- 3. Consideration of and possible action on the adoption of an ordinance of the City Council of the City of Bellaire, Texas, calling a bond election within the City of Bellaire, Texas, for the purpose of providing funds for: 1) street and drainage facility improvements, 2) the construction of new municipal buildings (City Hall/Civic Center and Police/Courts Building), 3) water line improvements, and 4) sidewalk improvements; establishing the date of the bond election on the uniform election date designated by the State of Texas as the first Tuesday after the first Monday in November or November 8, 2016; establishing election precincts, polling places, and appointing election officials; and setting forth certain guidelines - Submitted by Tracy L. Dutton, City Clerk. Attached to this agenda is an additional copy with the information relating to this item translated into Spanish, Vietnamese, and Mandarin Chinese. Con este orden del día se adjunta una copia adicional con la información relativa a este punto traducida al español, vietnamita y chino mandarín. Lịch trình này có kèm thêm một bản chuyển ngữ thông tin này sang tiếng Tây ban nha, tiếng Việt, và tiếng Quảng đông. 本議程另附與上文相關的一段文字,已翻譯成西班牙語、越南語及中文普通話

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3. Consideración y posible acción en relación a la adopción de una ordenanza del Consejo Municipal de la Ciudad de Bellaire, Texas, para convocar una elección de bonos dentro de la Ciudad de Bellaire, Texas, con el fin de generar ingresos para: 1) mejoras de instalaciones de calles y drenaje, 2) la construcción de nuevos edificios municipales (Alcaldía/Centro Cívico y edifico para la policía/tribunales), 3) mejoras de la línea de agua, y 4) mejoras de las aceras; fijar la fecha de la elección de bonos para que sea en la fecha uniforme de elecciones designada por el Estado de Texas, el primer martes posterior al primer lunes de noviembre, es decir el día 8 de noviembre de 2016; establecer los precintos electorales y los lugares de votación y designar a los funcionarios electorales; y estipular ciertas pautas - Solicitado por Tracy L. Dutton, Secretaria de la Ciudad. Con este orden del día se adjunta una copia adicional con la información relativa a este punto traducida al Inglés, vietnamita y chino mandarín. Attached to this agenda is an additional copy with the information relating to this item translated into English, Vietnamese, and Mandarin Chinese. Lịch trình này có kèm thêm một bản chuyển ngữ thông tin này sang tiếng Tây ban nha, tiếng Việt, và tiếng Quảng

本議程另附與上文相關的一段文字,已翻譯成西班牙語、越南語及中文普通話

3. Xem xét và có thể tiến hành thông qua một sắc lệnh của Hội Đồng Thành Phố thuộc Thành Phố Bellaire, Texas, yêu cầu tổ chức một cuộc bầu cử trái phiếu trong phạm vi Thành Phố Bellaire, Texas, để tài trợ ngân khoản cho: công trình cải tiến cơ sở vật chất đường phố và cống rãnh thoát nước, 2) xây các tòa nhà thành phố mới (Tòa Thị Chánh/Trung Tâm Dân Sự và Cảnh Sát/Khu Tòa Án), 3) các công trình cải tiến đường ống dẫn nước, và 4) các công trình cải tiến lối đi bộ; ấn định ngày tổ chức cuộc bầu cử trái phiếu vào ngày bầu cử đồng loạt do Tiểu Bang Texas qui định, là ngày thứ Ba đầu tiên sau ngày thứ Hai đầu tiên của tháng Mười Một, hay ngày 8 tháng Mười Một, 2016; thiết lập các phân khu bầu cử, địa điểm bỏ phiếu, và bổ nhiệm các viên chức tuyển cử; và đề ra một số qui định hướng dẫn - Do bà Tracy L. Dutton, Thư k Thành Ph ố để trình. trình này có kèm thêm một bản chuyển ngữ thông tin này sang tiếng Tây ban nha, tiếng Việt, và tiếng Quảng đông. Attached to this agenda is an additional copy with the information relating to this item translated into Spanish, Vietnamese, and Mandarin Chinese. Con este orden del día se adjunta una copia adicional con la información relativa a este punto traducida al español, vietnamita y chino mandarín.

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- 3. 考慮採納Texas州Bellaire市市議會一項法令(並可能採取行動,在Texas州Bellaire市範圍內召集一項債券選舉,藉此為以下活動提供資金: 1) 街道及排水設施修繕, 2) 建造新的市政大樓(市政廳/文教娛中心和警察/法院大樓), 3) 水管線修繕:及
  - 4) 人行道修繕;根據Texas州指定的統一選舉日期确定債券選舉日期,統一選舉日期為11月第一個星期一后的第一個星期二(2016年11月8日);確定選舉

選區、投票地點並委任選舉官員;及按市書記員Tracy L. Dutton呈報的內容,制定特定指導方針。

本議程另附與上文相關的一段文字,已翻譯成西班牙語、越南語及中文普通話

Attached to this agenda is an additional copy with the information relating to this item translated into Spanish, Vietnamese, and Mandarin Chinese. Con este orden del día se adjunta una copia adicional con la información relativa a este punto traducida al español, vietnamita y chino mandarín. Lịch trình này có kèm thêm một bản chuyển ngữ thông tin này sang tiếng Tây ban nha, tiếng Việt, và tiếng Quảng đồng.

Agenda Mayor and Council August 15, 2016

#### F. Community Interest Items from the Mayor and Council.

It is the intent of this item to provide members of the City Council the opportunity to make a report about items of community interest, which may include expressions of thanks, congratulations, or condolence; information regarding holiday schedules; honorary recognition of City officials, employees, or other citizens or entities; reminders of upcoming events sponsored by the City or another entity that is scheduled to be attended by a City official or City employee; and announcements involving an imminent threat to the public health and safety of people in Bellaire that has arisen after the posting of the agenda.

No action may be taken on a reported item of community interest, and no possible action discussed except a proposal to place the subject on the agenda for a subsequent meeting.

See Texas Government Code, Chapter 551, Open Meetings Act.

#### G. Adjourn.

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#### **Mayor and Council**

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED INFORMATION ITEM (ID # 1988)



Meeting: 08/15/16 06:00 PM
Department: City Clerk
Category: Proclamation
Department Head: Tracy L. Dutton
DOC ID: 1988

#### **Item Title:**

Issuance of a proclamation by Mayor Andrew S. Friedberg proclaiming August 15, 2016, as Coach Rocky Manuel Day in the City of Bellaire, Texas - Submitted by Andrew S. Friedberg, Mayor.

#### **Background/Summary:**

On August 15, 2016, Mayor Andrew S. Friedberg will present a proclamation he has issued proclaiming August 15, 2016, as Coach Rocky Manuel Day in the City of Bellaire, Texas, in recognition of Coach Manuel's legendary career as Bellaire High School Baseball Coach. Coach Manuel has announced his retirement from coaching high school baseball in the Houston Independent School District for 35 years, including the past 25 years at Bellaire High School. The community offers its best wishes and congratulations on the occasion of his well-deserved retirement.

#### **Previous Council Action Summary:**

N/A

#### **Fiscal Impact:**

N/A

#### **Recommendation:**

Issuance of a proclamation proclaiming August 15, 2016, as Coach Rocky Manuel Day in the City of Bellaire, Texas.

#### **ATTACHMENTS:**

• Coach Rocky Manuel Day - BHS - August 15 2016 (PDF)

Updated: 8/11/2016 2:42 PM by Tracy L. Dutton

# of Bellaire, Occasion of Bellaire, Occasion of Bellaire, Occasion of Texas

# **Proclamation**

Whereas, Coach Rocky Manuel has announced his retirement from coaching high school baseball in the Houston Independent School District for 35 years, including the past 25 years at Bellaire High School; and

Whereas, over the course of his career Coach Manuel amassed an HISD-record 998 wins, including two state championships for the Bellaire Cardinals, in 1994 and 1999; and

Whereas, the 1999 team was named National Champions, and Coach Manuel National Coach of the Year, by USA Today; and

Whereas, Coach Manuel's legacy goes far beyond his winning record, as he has served as a mentor to and touched the lives of countless student-athletes, including more than 200 who went on to play Division I college baseball and seven to the major leagues; and

Whereas, the citizens of Bellaire celebrate Coach Manuel's legendary career and his many contributions to Bellaire High School and the surrounding community;

Now, Therefore, I, Andrew S. Friedberg, Mayor of the City of Bellaire, Texas, do hereby proclaim August 15, 2016, as

#### Coach Rocky Manuel Day

in the City of Bellaire, Texas, and congratulate Coach Manuel on his many successes and offer him our community's best wishes on the occasion of his well-deserved retirement.



In Witness Whereof, I have hereunto set my hand and caused the seal of the City of Bellaire, Texas, to be affixed this 15th day of August, 2016.

Andrew S. Friedberg
Mayor
City of Bellaire, Texas

#### **Mayor and Council**

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED ACTION ITEM (ID # 1963)



Meeting: 08/15/16 06:00 PM Department: City Manager's Office Category: Budget Department Head: Diane K White DOC ID: 1963

#### **Item Title:**

Public hearing regarding the proposed budget for the City of Bellaire, Texas, for the fiscal year beginning October 1, 2016, and ending September 30, 2017 (FY 2017 Budget) - Submitted by Paul A. Hofmann, City Manager.

#### **Background/Summary:**

On July 18, 2016, City Council adopted Ordinance No. 16-042 calling a public hearing before the City Council of the City of Bellaire, Texas, on Monday, August 15, 2016, at 6:00 p.m. in the Council Chamber, First Floor of City Hall, 7008 South Rice Avenue, Bellaire, Texas 77401, to receive written and oral comments on the proposed budget of the City of Bellaire, Texas, for the fiscal year beginning October 1, 2016, and ending September 30, 2017 (FY 2017 Budget).

#### **Previous Council Action Summary:**

On July 18, 2016, Ordinance No. 16-042 was approved calling the public hearing on the FY 2017 proposed budget.

On July 18, 2016, the FY 2017 Proposed Budget was presented to City Council.

#### **Fiscal Impact:**

N/A

#### **Recommendation:**

N/A

#### ATTACHMENTS:

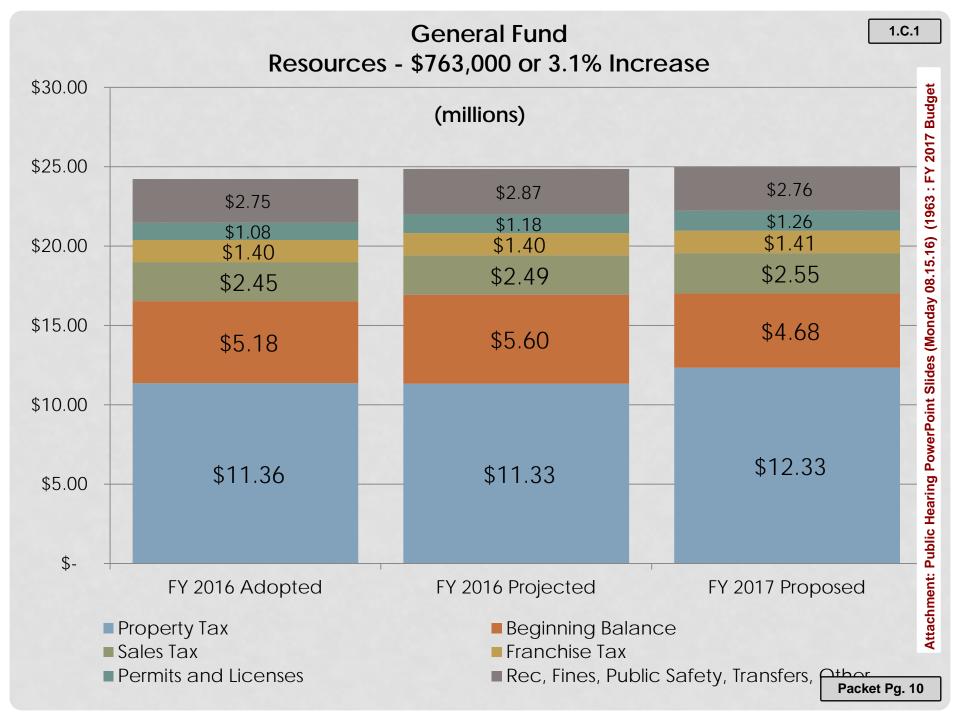
• Public Hearing PowerPoint Slides (Monday 08.15.16) (PDF)

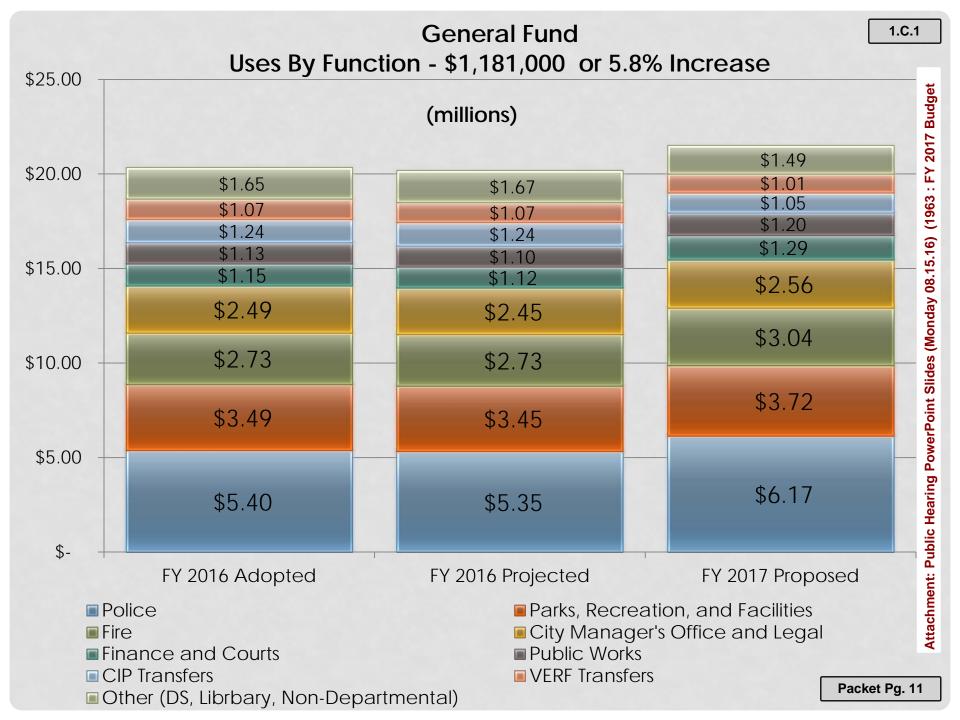
Updated: 8/10/2016 5:35 PM by Tracy L. Dutton

## FY2017 PROPOSED BUDGET PUBLIC HEARING MONDAY, AUGUST 15, 2016

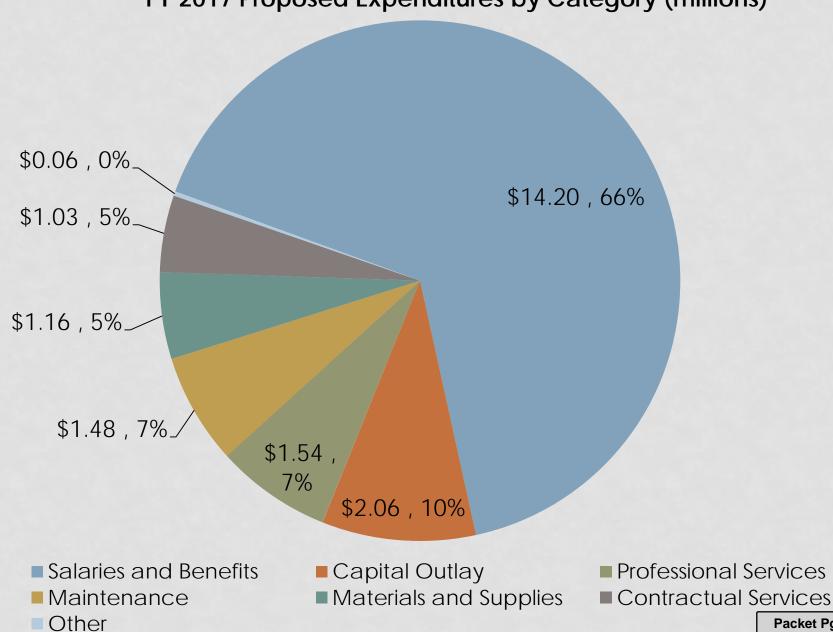
PRESENTED BY: PAUL A. HOFMANN – CITY MANAGER

# GENERAL FUND

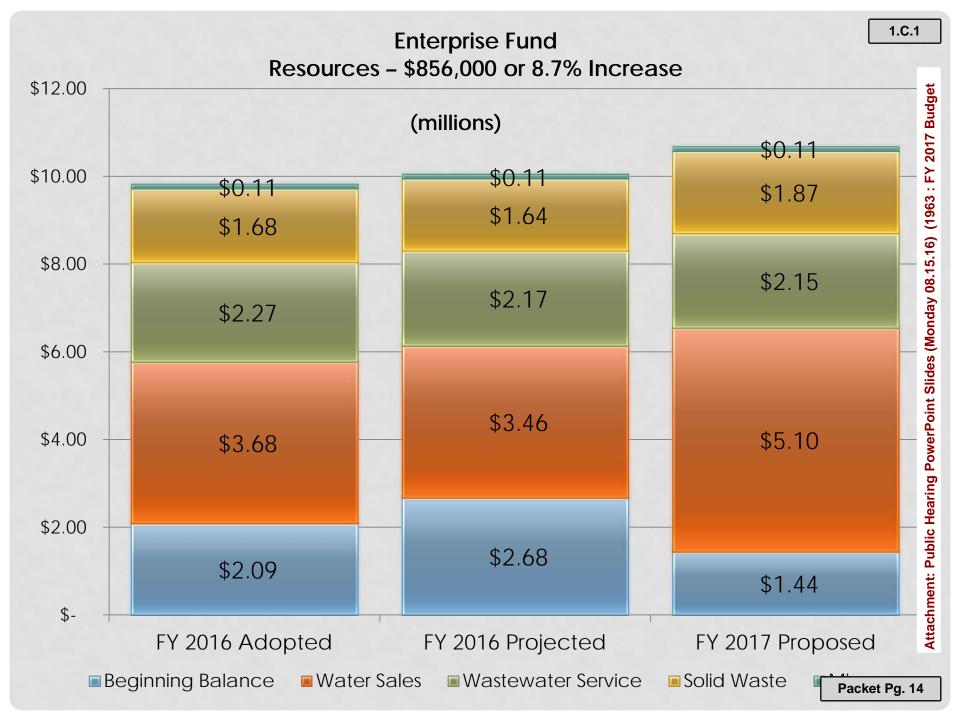


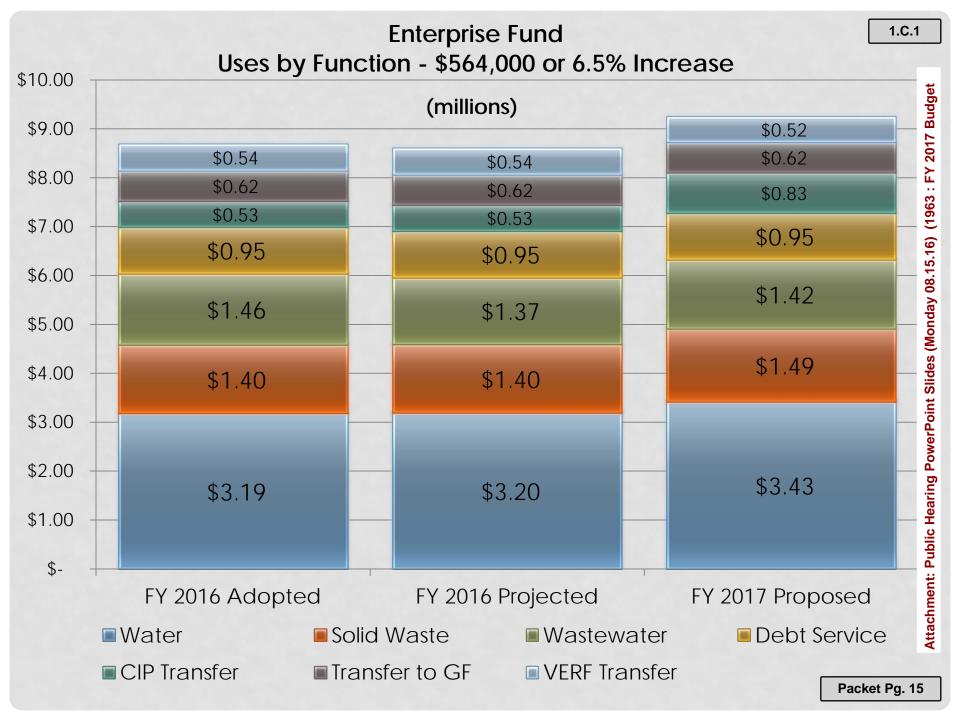


#### **General Fund** FY 2017 Proposed Expenditures by Category (millions)

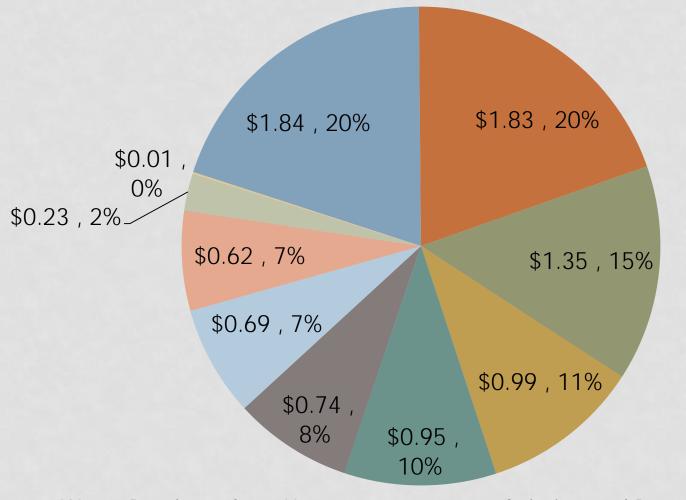


# ENTERPRISE FUND





# Enterprise Fund FY 2017 Proposed Expenses by Category (millions)



- Water Purchase from Houston
- Capital Outlay
- Debt Service
- Maintenance
- Contractual Services

- Salaries and Benefits
- Materials and Supplies
- Professional Services
- Transfer to GF
- Other

# **BUDGET HIGHLIGHTS**

# FY2017 BUDGET HIGHLIGHTS GENERAL FUND

- Proposed revenue increase of 6.6%,
- Proposed total tax rate of \$0.3848 vs. current total tax rate of \$0.3805
- Proposed uses increase of 5.8% vs. FY 2016 budgeted uses driven primarily by
  - \$855,839 in Police/Fire salary adjustments (75th percentile)
  - \$175,618 in salary market adjustments (1.5%) and salary step adjustments (3.5%) for other employees
  - \$118,309 in proposed budget enhancements
  - \$81,534 in maintenance for Evelyn's Park
  - \$69,984 in equipment for police communication and investigation
  - The increases noted above are partially offset by a \$190,000 decrease in CIP transfers

# FY2017 BUDGET HIGHLIGHTS ENTERPRISE FUND

- Proposed revenue increase of 19% vs. FY 2016
- Transfers to CIP fund are proposed to increase 56% (\$295,000) to support:
  - SCADA Phase II,
  - wastewater collection line replacement,
  - rehabilitation of the Renwick ground storage tank, and
  - Improvements to the water and wastewater system
- Water purchases from Houston are anticipated to increase 11% (\$187,861)
- Water main maintenance costs are proposed to increase 36% (\$48,792)

# TAX RATE

#### COMPARE TAX RATES

City	Rate	
Bellaire	\$0.38480/100	
State Average*	\$0.55116/100	

<sup>\*</sup>Cities which participated in the 2016 TML Taxation and Debt Survey which have a population between 15,000 and 20,000

Tax Year 2014	Tax Year 2015 (Current Rate)	Tax Year 2016 (Proposed Rate)	
\$0.3936/100	\$0.3805/100	\$0.3848/100	

#### Based on the preliminary roll provided on April 28, 2016:

Tax year 2016 - Average residential taxable value= \$778,442 @ \$0.3848/100 = \$2,995

Tax year 2015 - Average residential taxable value= \$618,997 @ \$0.3805/100 = \$2,355

Tax year 2014 - Average residential taxable value =\$540,606 @ \$0.3936/100 = \$2,127



#### CITY OF BELLAIRE TEXAS

## MAYOR AND COUNCIL JULY 18, 2016

Council Chamber Regular Session 7:00 PM

### **7008 S. RICE AVENUE** BELLAIRE, TX **77401**

#### **REGULAR SESSION - 7:00 P.M.**

#### A. Call to Order and Announcement of a Quorum - Andrew S. Friedberg, Mayor.

**Andrew S. Friedberg, Mayor,** called the Regular Session of the City Council of the City of Bellaire, Texas, to order at 7:09 p.m. on Monday, July 18, 2016. He announced that a quorum of the members of the City Council was present as set forth in the table below:

Name	Title	Status
Andrew S. Friedberg	Mayor	Present
Roman F. Reed	Mayor Pro Tem	Present
Trisha S. Pollard	Council Member	Present
Gus E. Pappas	Council Member	Absent
Pat B. McLaughlan	Council Member	Present
Michael Fife	Council Member	Present
David R. Montague	Council Member	Present

Other officials present were Paul A. Hofmann, City Manager; Martye M. Kendrick, Assistant City Attorney; and Tracy L. Dutton, City Clerk.

Mayor Friedberg briefly touched on the tragic loss of Bellaire Police Officer Marco Zarate, noting that his funeral earlier in the day was a true hero's send off and that the City Council was honored to have been in attendance. Expressions of condolence were given to the family of Officer Zarate, the Bellaire Police Department, City Staff, and the Bellaire community.

#### B. Inspirational Reading and/or Invocation - Pat B. McLaughlan, Council Member.

**Pat B. McLaughlan, Council Member,** provided the inspirational reading for the evening.

#### C. Pledges of Allegiance - Pat B. McLaughlan, Council Member.

**Council Member McLaughlan** led the City Council and audience in the U.S. Pledge of Allegiance and the Pledge to the Texas Flag.

#### **D. Personal/Audience Comments.**

**Mayor Friedberg** advised that the time limit for public comments was five (5) minutes, with no extension, and with notice after four (4) minutes that there was one (1) minute left. Speakers were reminded that non-agendaed issues regarding operational or

administrative matters were properly directed first to City Staff.

#### Lynn McBee:

Ms. McBee addressed City Council regarding the budget presentation to be made later in the evening. She complimented the City Manager and City Staff on the budget documentation, noting that it was well organized and clearly written.

Ms. McBee referenced one item in the budget document that was of particular concern to her. That item related to the hiring of a consultant to assist a proposed Charter Review Commission. She indicated that the last consultant hired by the City to assist the Charter Review Commission had been a disaster, in her opinion. She urged City Council to reconsider that budget item and to allow the City Attorney to provide assistance to a new Charter Review Commission.

#### **Written Comments:**

**Mayor Friedberg** noted that two written comments had been received for the evening's meeting. The first was from **Mark Crawford** who raised a question of priorities and suggested that the City Council should focus on other budgetary needs rather than beautification. The second was from **Robert Riquelmy** who suggested that the Bellaire Police Department needed new and outside leadership.

It was noted by **Mayor Friedberg** that members of the City Council had received complete copies of the written comments for the meeting and said comments were included in the record of the meeting.

#### E. Reports and Presentations:

1. City Manager's Report regarding communication, field and personnel updates, calendar reminders, and notes of appreciation - Submitted by Paul A. Hofmann, City Manager.

**Paul A. Hofmann, City Manager,** presented the City Manager's Report dated July 18, 2016, to members of the City Council.

The City Manager's Report included an overview of communications made to residents since his last report. Communications included notice of the death of Bellaire Police Officer Marco Zarate, as well as information regarding arrangements for visitation and the funeral; notice of the rescheduling of the first City-Wide Beautification Workshop; notice of the postponement of the Police Community Meeting; notification of an update of the floor plan detail for the Municipal Facilities Project; and notification regarding the City's mandated Drought Contingency Plan.

Personnel updates included one new hire, Police Officer Delfino Guerra, who was scheduled to start working for the City on July 25, 2016.

City Manager Hofmann provided calendar reminders and an overview of upcoming City Council meetings and agenda items for the month of August.

In closing, City Manager Hofmann thanked Council Members for words of encouragement and the love and support that each of them had exhibited over the last week. He also publicly thanked the following entities that provided support to the City of Bellaire: West University Place Police Officers, Harris County Precinct 5 Sheriff's Department Officers, Houston Police Officers,

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representatives from other law enforcement agencies, Harris County District Attorney Devon Anderson, Memorial Hermann Hospital, Prosperity Bank, Patrons for Bellaire Parks, and Rudy's Bar-B-Q. He personally thanked Chief of Police Byron Holloway and his command staff for their focus on Officer Zarate's family over the last few days and Detectives Gil Macedo, Mercedes Santillanes, Juanita Sandoval, and Officer J. W. Edwards who had devoted their time to being with the family.

**Mayor Friedberg** opened the floor for questions of the City Manager regarding his report. Hearing none, he proceeded to agenda item E(2).

2. Presentation of the FY 2016 Third Quarter Report for the City of Bellaire, Texas - Submitted by Diane K. White, Assistant City Manager.

**Diane K. White, Assistant City Manager (ACM),** presented the City of Bellaire Quarterly Report for the nine months ended June 30, 2016 (third quarter), to members of the City Council. The report included an overview of projected General Fund revenues and expenditures and projected Enterprise Fund revenues and expenses. With respect to the Vehicle and Equipment Fund, ACM White advised that all vehicles funded for fiscal year 2016 had been purchased.

**Mayor Friedberg** opened the floor for questions from the City Council regarding the quarterly report. Hearing none, he continued to agenda item E(3).

3. Presentation of the proposed annual budget for the City of Bellaire, Texas, for the fiscal year commencing on October 1, 2016, and ending on September 30, 2017–Submitted by Paul A. Hofmann, City Manager.

**Mayor Friedberg,** by way of introduction, advised that although the presentation this evening was the first formal presentation of the proposed budget for fiscal year 2017, this was not the first time that City Council and the public had an opportunity to see what was in it. The proposed budget was prepared by the City Manager and City Staff as specified in the City's Charter and based on direction given by the City Council throughout the year; however, the budget document belonged to the citizens. Mayor Friedberg noted that there would be multiple opportunities for citizens to provide input before the proposed budget was formally adopted.

**Paul A. Hofmann, City Manager,** presented the proposed budget for fiscal year 2017 to members of the City Council. The presentation began with a brief overview of proposed expenditures related to each of the City Council's focus areas (i.e., public infrastructure and facilities, residential and recreational, capital projects, budget and finance, and commercial redevelopment).

#### **General Fund Summary:**

City Manager Hofmann advised that the General Fund was structurally balanced. There was an overall increase of 6% in total expenditures (\$1.3 million); however, recurring expenditures would not exceed recurring revenues.

#### **Property Tax Calculation:**

City Manager Hofmann advised that, based on *preliminary* information from the Harris County Appraisal District, the City's certified tax roll would increase from \$4.5 billion to \$4.8 billion. The total tax rate was anticipated to increase 8.6% to \$0.3896 per \$100 valuation (or a little less than one cent).

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#### Property Tax Burden:

City Manager Hofmann provided an example of the tax burden on a homeowner with an average home value of \$835,000 and a 20% homestead exemption. That burden was noted to be an annual property tax payment in the amount of \$2,600.

#### **Enterprise Fund:**

City Manager Hofmann advised that proposed new water and sewer rates would generate \$1.5 million in new revenues in the Enterprise Fund for fiscal year 2017. It was noted that the proposed increase was driven by: 1) a need to deal with future debt; 2) a need to adequately fund the City's surface water expenses; 3) a need to fund the cash Capital Improvement Program; and 4) a need to manage the ending fund balance in the Enterprise Fund.

#### **Debt Service Fund:**

City Manager Hofmann indicated that an assumption had changed with respect to the Debt Service Fund regarding the possibility of lowering the City's bond interest rate and that \$11 million in bond authority for water lines to be voted on in November of 2016 would be general obligation debt subject to the full faith and credit of the City, with the actual debt service revenue stream coming from the water and sewer fund.

#### **Property Tax Calculation:**

In determining the tax rate change associated with the Debt Service Fund, City Manager Hofmann referenced the following assumptions that were made: a bond election in November of 2016 along the lines previously discussed, to include \$4 million in new funds for sidewalks.

The proposed budget presentation concluded with an overview of department service plans and the budget calendar for the remainder of the year.

**Mayor Friedberg** opened the floor for questions from City Council regarding the budget presentation. Following questions, he moved to agenda item F.

#### F. New Business:

#### **Consent Agenda:**

#### 1. Approval of Minutes:

Consideration of and possible action on the approval of the minutes of the Regular Session of the City Council of the City of Bellaire, Texas, held on Monday, June 20, 2016 - Submitted by Tracy L. Dutton, City Clerk.

Mayor and Council - Regular Session - Jun 20, 2016 5:30 PM

Generated: 8/10/2016 3:53 PM

#### 2. Project Closeout:

Consideration of and possible action on the adoption of an ordinance of the City Council of the City of Bellaire, Texas, authorizing the Mayor of the City of Bellaire, Texas, to execute for and on behalf of the City of Bellaire, Texas, an "Application for Payment - Final (No. 4)" with Batterson LLP, in the amount of \$35,883.56 to a contract for the FY 2014 Street Striping Project and authorizing the City to make the final payment to Batterson LLP, on said project in the amount of \$35,883.56. This final payment results in a final contract amount of \$100,496.91 compared to the original contract amount of \$105,441.00 - Requested by Brant Gary, Director of Public Works.

#### 3. Call of Public Hearing:

Consideration of and possible action on the adoption of an ordinance of the City Council of the City of Bellaire, Texas, calling a FY 2017 budget public hearing before the City Council of the City of Bellaire, Texas, on Monday, August 15, 2016, at 6:00 p.m. in the Council Chamber, First Floor of City Hall, 7008 South Rice Avenue, Bellaire, Texas - Submitted by Diane K. White, Assistant City Manager.

Mayor Friedberg inquired as to whether there were any requests to remove and separately consider any of the three items on the Consent Noting none, he called for a motion to adopt the Consent Agenda.

#### **Motion:**

To adopt the Consent Agenda dated July 18, 2016.

**RESULT:** ADOPTED [UNANIMOUS]

Trisha S. Pollard, Council Member **MOVER:** SECONDER: David R. Montague, Council Member

Friedberg, Reed, Pollard, McLaughlan, Fife, Montague **AYES:** 

ABSENT: **Pappas** 

#### G. Community Interest Items from the Mayor and Council:

Community interest items from the Mayor and Council included expressions of thanks, commendations, and appreciation to Chief Byron Holloway, City Manager Paul A. Hofmann, the Bellaire Police Department, City Staff, Bellaire citizens, and the media for their compassionate handling of a difficult and tragic week. Expressions of condolence were also offered to the family of Officer Marco Zarate.

#### H. Adjourn.

Mayor Friedberg advised that the Regular Session of the City Council of the City of Bellaire, Texas, was adjourned at 8:22 p.m. on Monday, July 18, 2016.

**Mayor and Council** 

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED ACTION ITEM (ID # 1922)



Meeting: 08/15/16 06:00 PM
Department: City Manager's Office
Category: Presentation
Department Head: Paul A. Hofmann
DOC ID: 1922

#### **Item Title:**

City Manager's Report regarding communication, field and personnel updates, calendar reminders, and notes of appreciation - Submitted by Paul A. Hofmann, City Manager.

#### **Background/Summary:**

City Manager's Report regarding communication, field and personnel updates, calendar reminders, and notes of appreciation.

#### **Previous Council Action Summary:**

N/A

#### **Fiscal Impact:**

N/A

#### **Recommendation:**

N/A

Updated: 5/10/2016 9:29 AM by Raquel Porras

**Mayor and Council** 

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED ACTION ITEM (ID # 1912)



Meeting: 08/15/16 06:00 PM Department: City Manager's Office Category: Report Department Head: Diane K White

DOC ID: 1912

#### **Item Title:**

Monthly Financial Report for the Period Ending July 31, 2016 - Submitted by Terrence Beaman, Chief Financial Officer.

#### **Background/Summary:**

In accordance with the Charter of the City of Bellaire, Article VII, Section 4, Paragraph 3, please find attached the monthly financial report for the month of July for FY 2016.

#### **Previous Council Action Summary:**

N/A

#### **Fiscal Impact:**

N/A

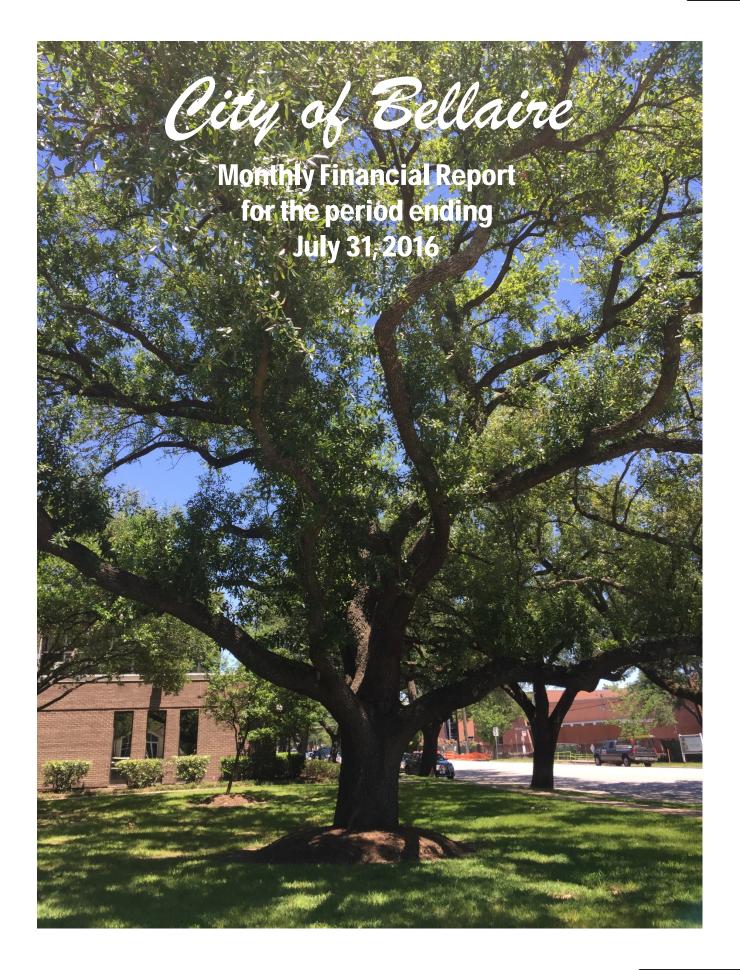
#### **Recommendation:**

N/A

#### **ATTACHMENTS:**

(PDF) July 2016 Monthly Financial Report

Updated: 8/2/2016 2:04 PM by Todd Gross



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# City of Bellaire Finance



#### **MEMORANDUM**

To: Paul A. Hofmann, City Manager

From: Terrence Beaman, Chief Financial Officer

Date: August 15, 2016

Subject: Financial Analysis for Month Ending July 31, 2016

#### **GENERAL FUND**

#### **General Fund Revenues:**

FY 2016	Actual	Allocated	Over/(Under)
Budget	07/31/2016	Budget	Allocated Budget
\$19,047,107	\$17,895,708	\$17,712,402	\$183,306

The allocated budget is a five year average of the percent of revenue collected as of the end of each month in the fiscal year by major categories. In the ten months ending July 31, 2016 the City has collected 94% of its total budgeted revenues and is over its allocated budget for the ten months ending July 31, 2016 by \$183,306.

Approximately 97% of current property taxes are receipted in the months of November through February. The City has collected 99% of its current property tax revenue as of July 31, 2016. However, based on the allocated budget Property tax revenues are under by \$98,880.

Sales tax and Franchise fees are right in line with budget with collection rates at 83% for each of them. Sales tax revenue received through July is over the allocated budget by \$26,977. Franchise fees are over the allocated budget by \$10,880.

Permits, fees and licenses are over the allocated budget by \$52,738 due to a permit fee that was received in January for the Episcopal High School Athletic Facility for \$105,398.

All other revenues are on target.

#### **General Fund Expenditures:**

FY 2016	Actual	Allocated	Over/(Under)
Budget	07/31/2016	Budget	Allocated Budget
\$20,343,095	\$16,475,645	\$16,560,792	(\$85,147)

Salary and benefits are 73.0% of the general fund total budget for FY2016. As of July, salary and benefits are slightly under budget to actual at 82% expended.

Purchased services are under the allocated budget by \$162,004, and are tracking under budget at 76%. This category is driven by routine and non-routine maintenance items as well as contract labor.

Supplies are over the allocated budget by \$16,208. This category includes fuel which has been fluctuating this fiscal year. Other line items that impact this category are driven by the timing in which departments make purchases.

The "other" category is mainly the transfers from the General Fund to the Capital and Vehicle and Equipment Replacement fund and those transfers are made monthly and are right on target. Other/transfers is over the allocated budget to due to a one-time overpayment in sales tax.

#### **ENTERPRISE FUND**

#### **Enterprise Fund Revenues:**

FY2016	Actual	Allocated	Over/(Under)
Budget	07/31/2016	Budget	Allocated Budget
\$7,746,600	\$5,856,789	\$6,237,551	(\$380,762)

Water revenues are below the allocated budget by \$218,539 and wastewater revenues are under the allocated budget by \$4,370. Rainfall through July totaled 78.45 inches compared to 58.89 inches in FY2015. Solid Waste fees are slightly above the allocated budget by \$9,375. Overall revenue collection in the Enterprise fund compared to the FY2016 adopted budget is slightly under budget at 76% of total collections.

#### **Enterprise Fund Expenditures:**

FY2016	Actual	Allocated	Over/(Under)
Budget	07/31/2016	Budget	Allocated Budget
\$8,726,146	\$6,890,956	\$7,025,306	(\$134,350)

Salary and benefits are under the allocated budget due to vacancies. The purchased services & supplies are under the allocated budget which is driven by the timeliness of when items are purchased.

Overall Enterprise Fund Line items are tracking slightly less than budget with total expended through July of 79%.

Cumulative Rainfall thru July Annual Rainfall

FY2016	FY2015	FY2014	FY2013
79.05	58.89	45.66	23.74
	71.70	57.57	30.06

#### City of Bellaire General Fund Revenues and Expenditures (Unaudited) Year-To-Date as of July 2016

	July				 Year to Date							
		FY 2016	July	% of	 Allocated	10	ai to Date	Over/(Under)	YTD % to			
		Budget	Actual	Budget	Budget		Actual	Allocation	Budget			
Revenues			7101001				71010.01	7				
Property		11,359,339	20,291	0%	11,330,850		11,231,970	(98,880)	99%			
Franchise Taxes		1,397,000	130,564	9%	1,148,492		1,159,372	10,880	83%			
Sales Taxes		2,454,118	192,406	8%	2,007,282		2,034,259	26,977	83%			
Permits, Fees, Licenses		1,082,550	82,920	8%	890,766		943,504	52,738	87%			
PARD Charges and Fees		904,200	114,140	13%	783,691		882,515	98,824	98%			
Public Safety		386,800	24,895	6%	325,267		383,641	58,374	99%			
Fines		766,500	62,031	8%	655,346		640,767	(14,579)	84%			
All Other		696,600	60,954	9%	570,708		619,680	48,972	89%			
Total Operating Revenues	\$	19,047,107	688,202	4%	17,712,402		17,895,708	183,306	94%			
Expenditures												
Salary & Benefits		13,020,134	1,521,279	12%	10,731,108		10,624,764	(106,344)	82%			
Purchased Services		3,708,907	214,216	6%	2,964,613		2,802,609	(162,004)	76%			
Supplies		1,173,054	103,704	9%	894,224		910,432	16,208	78%			
Other/Transfers		2,430,000	198,659	8%	1,960,000		2,126,993	166,993	88%			
Capital Purchases		11,000	-	0%	10,847		10,847	-	100%			
Total Operating Expenditures		20,343,095	2,037,858	10%	16,560,792		16,475,645	(85,147)	81%			
rotal operating Exponentares		20,010,000	2,001,000	1070	10,000,102		10,110,010	(00,111)	0170			
Net Revenues/(Expenditures)	\$	(1,295,988)	\$ (1,349,656)	\$ (0)	\$ 1,151,610	\$	1,420,063	\$ 268,453				
									_			
Audited Fund Balance 9/30/15	\$	5,604,047										
FY 2016 Revenue Budget	·	19,047,107										
FY 2016 Expenditure Budget		20,343,095										
Projected Ending Fund Balance	\$	4,308,059										
60 Day Reserve Requirement (Includes only operating budget)	\$	3,004,349										

#### City of Bellaire Enterprise Fund Revenues and Expenses (Unaudited) Year-To-Date as of July 2016

		July		Year to Date						
	FY 2016		% of	Allocated		Over/(Under)	YTD % to			
	Budget	Actual	Budget	Budget	Actual	Allocation	Budget			
Revenues										
Water	3,595,900	255,024	7%	2,797,295	2,578,756	(218,539)	72%			
Wastewater	2,186,000	181,583	8%	1,808,209	1,803,839	(4,370)	83%			
Solid Waste	1,666,000	140,464	8%	1,388,120	1,397,495	9,375	84%			
All Other	298,700	7,701	3%	243,927	76,700	(167,227)	26%			
Total Revenues	\$ 7,746,600	\$ 584,773	8%	\$ 6,237,551	\$ 5,856,789	\$ (380,762)	76%			
Expenditures										
Salary & Benefits	1,811,916	169,178	9%	1,509,554	1,304,099	(205,455)	72%			
Purchased Services	1,652,730	147,559	9%	1,244,804	1,268,473	23,669	77%			
Supplies	2,565,400	168,899	7%	2,056,781	2,104,285	47,504	82%			
Other	2,696,100	221,820	8%	2,214,167	2,214,099	(68)	82%			
Total Expenditures	8,726,146	707,457	8%	7,025,306	6,890,956	(134,350)	79%			
Net Revenues/(Expenditures)	\$ (979,546)	\$ (122,684)	\$ (0)	\$ (787,755)	\$ (1,034,167)	\$ (246,412)				

 Working Capital 9/30/15
 \$ 2,670,089

 FY 2016 Revenue Budget
 7,746,600

 FY 2016 Expenditure Budget
 8,726,146

 Projected ending Working Capital
 \$ 1,690,543

60 Day Fund Balance \$ 1,275,691

(Includes only operating budget)

Working Capital (current assests minus current liabilities)

# City of Bellaire Debt Service Fund Revenues and Expenditures Year-To-Date as of July 2016

		FY 2016		YTD Unaudited
		Budget		Actual
Revenues				
Property Taxes		5,883,026		5,827,941
Investment Earnings		3,000		6,394
Total Operating Revenues		5,886,026		5,834,335
Operating Transfer In		950,000		791,667
Bond Premium				
Total Revenues	\$	6,836,026	\$	6,626,002
Expenditures				
Principal Payment		4,055,000		4,055,000
Interest Payment		2,768,026		1,399,340
Other Debt Expense		13,000		4,350
Total Expenditures	\$	6,836,026		5,458,690
Net Revenues/(Expenditures)	\$	_	\$	1,167,312
,			<u> </u>	-,,
Audited Fund Balance 9/30/15	\$	E14 10E		
	Ф	514,125		
FY 2016 Revenue Budget		6,836,026		
FY 2016 Expenditure Budget Projected Ending Fund Balance	\$	6,836,026 514,125	-	
Frojected Ending Fund Dalance	Φ	314,123	=	

#### City of Bellaire Vehicle/Equipment Replacement Fund Revenues and Expenditures Year-To-Date as of July 2016

FY 2016 Budget		July Actual		YTD Actual		Encumbrance		FY2016 Budget Balance
1,066,000		88,833		888,333				177,667
542,000		45,167		451,667				90,333
\$ 1,608,000	\$	134,000	\$	1,340,000	\$	-	\$	268,000
25,000		22,986		22,986		-		2,014
55,000		-		40,478		-		14,522
300,000		21,238		239,443		23,703		36,853
50,000		-		· -		52,157		(2,157)
265,000		29,618		116,018		135,197		13,785
520,000		49,996		177,793		264,064		78,143
\$ 1,215,000	\$	123,838	\$	596,719	\$	475,121	\$	143,160
\$ 393,000	\$	10,162	\$	743,281	\$	(475,121)	\$	124,840
\$ 419,975 1,608,000 1,215,000 812,975	<del>-</del>							
<b>\$</b>	1,066,000 542,000 \$ 1,608,000  25,000 55,000 300,000 50,000 265,000 520,000 \$ 1,215,000  \$ 419,975 1,608,000 1,215,000	1,066,000 542,000 \$ 1,608,000 \$  25,000 55,000 300,000 50,000 265,000 520,000 \$ 1,215,000 \$  \$ 419,975 1,608,000 1,215,000	Budget         Actual           1,066,000         88,833           542,000         45,167           \$ 1,608,000         \$ 134,000           25,000         22,986           55,000         -           300,000         21,238           50,000         -           265,000         29,618           520,000         49,996           \$ 1,215,000         \$ 123,838           \$ 419,975         1,608,000           1,215,000         1,215,000	Budget         Actual           1,066,000         88,833           542,000         45,167           \$ 1,608,000         \$ 134,000           25,000         22,986           55,000         -           300,000         21,238           50,000         -           265,000         29,618           520,000         49,996           \$ 1,215,000         \$ 123,838           \$ 419,975         1,608,000           1,215,000         \$ 123,5000	Budget         Actual         Actual           1,066,000         88,833         888,333           542,000         45,167         451,667           \$ 1,608,000         \$ 134,000         \$ 1,340,000           25,000         22,986         22,986           55,000         -         40,478           300,000         21,238         239,443           50,000         -         -           265,000         29,618         116,018           520,000         49,996         177,793           \$ 1,215,000         \$ 123,838         \$ 596,719           \$ 419,975         1,608,000           1,215,000         \$ 123,838	Budget         Actual         Actual           1,066,000         88,833         888,333           542,000         45,167         451,667           \$ 1,608,000         \$ 134,000         \$ 1,340,000           25,000         22,986         22,986           55,000         -         40,478           300,000         21,238         239,443           50,000         -         -           265,000         29,618         116,018           520,000         49,996         177,793           \$ 1,215,000         \$ 123,838         \$ 596,719           \$ 419,975         1,608,000           1,215,000         \$ 123,838	Budget         Actual         Actual           1,066,000         88,833         888,333           542,000         45,167         451,667           \$ 1,608,000         \$ 134,000         \$ 1,340,000         \$ -           25,000         22,986         22,986         -           55,000         -         40,478         -           300,000         21,238         239,443         23,703           50,000         -         -         52,157           265,000         29,618         116,018         135,197           520,000         49,996         177,793         264,064           \$ 1,215,000         \$ 123,838         \$ 596,719         \$ 475,121           \$ 393,000         \$ 10,162         \$ 743,281         \$ (475,121)	FY 2016 Budget         July Actual         YTD Actual         Encumbrance Encumbrance           1,066,000 542,000         88,833 4542,000         888,333 4542,000         88,833 4542,000         88,833 4542,000         88,833 451,667         88,833 451,667         88,833 451,667         88,833 451,667         88,833 451,667         88,833 451,667         88,833 451,668,000 46,478         88,833 451,668,000 46,478         88,833 451,668,000 40,478         88,833 451,668,000 40,478         88,833 451,668,000 40,478         88,833 451,668,000 40,478         88,833 451,668,000 40,478         88,833 451,668,000 40,478         88,833 451,668,000 40,478         88,833 451,668,000 47,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833 41,668,000 41,215,000         88,833

#### City of Bellaire CIP Fund Revenues and Expenditures Year-To-Date as of July 2016

		FY 2016 Budget		Carryover nds/Budget	Fu	Total nds/Budget	July Actual		YTD Actual	Er	ncumbrance		FY2016 Budget Balance
Revenues													
General Fund Transfer		1,240,000		534,084		1,774,084	103,33	33	1,033,332				206,668
RBB Facilities				751,051		751,051							-
RBB Infrastructure				1,000,000		1,000,000							-
Enterprise Fund Transfer		530,000		1,203,471		1,733,471	44,16		441,667				88,333
Evelyn's Park		138,638		1,488,580		1,627,218	21,83	31	160,469				(21,831)
Designated Park Funds				351,200		351,200							-
Insurance - Flood				305,845		305,845	17,77	<b>'</b> 5	195,488				(195,488)
Insurance - Traffic Signal				33,693		33,693							-
Road Humps	_		•	702	•	702	A 10= 10		<b>A</b> 4 000 050			_	
Total Revenues	\$	1,908,638	\$	5,668,626	\$	7,577,264	\$ 187,10	)6	\$ 1,830,956			\$	77,682
Projects													
FY 2014 City Wide Beautification				5,721		5,721	_		5,721				_
FY 2014 Street & Drainage Reconstruction	_			3,721		3,721			5,721				
Phase 5B*	_	614,057		386,862		1,000,919					995,465		5,454
FY 2015 Evelyn's Park		160,469		1,488,580		1,649,049	_				1,655,744		(6,695)
FY 2015 Municipal Rehab Projects		-		40,860		40,860	_		22.097		1,000,7 11		18,763
FY 2015 Park Improvements				279,568		279,568	-		221,603		6,493		51,472
FY 2015 Traffic Signal Maintenance				33,693		33,693			33,693		,		´-
FY 2016 City Wide Beautification		300,000		•		300,000	-		17,500		12,376		270,124
FY 2016 Pavement Mgt Program		830,618				830,618			421				830,198
FY 2016 Playground/Shade Structure		70,000				70,000					69,990		10
FY 2016 PW Facilities Assessment		25,000		305,845		330,845			23,652		348		306,845
FY 2016 ROW		50,000				50,000							50,000
FY 2016 Storm Water Drainage		45,000				45,000	36,00	00	40,500		4,500		-
Total General Projects	\$	2,095,144	\$	2,541,129	\$	4,636,273	\$ 36,00	00	\$ 365,187	\$	2,744,917	\$	1,526,170
FY 2013 Fine Screen Building				149,408		149,408	23,49	91	34,082		28,850		86,476
FY 2013 WWT Electrical				8,440		8,440					2,216		6,224
FY 2015 City Wide Scada System		150,000		94,500		244,500	4,50	00	42,000		48,950		153,550
FY 2015 Facility Water Barrier				33,000		33,000			=00.040		40.40=		33,000
FY 2015 Water/Sanitary Sewer Program				605,875		605,875	10,84	13	523,048		42,167		40,660
FY 2016 Rehab Renwick Ground Storage		55,000				55,000					43,265		11,735
FY 2016 Wendell-Bellaire Lift Station		55,000				55,000	4,87		29,735		44,143		(18,878)
FY 2016 WW Collection Line		20,000				20,000	5,95		5,950		13,800		250
FY 2016 WW System Upgrades	Φ.	250,000	Φ	004 000	Φ.	250,000	43,03		65,601	Φ.	21,927	<b>.</b>	162,472
Total Enterprise Projects	\$	530,000	\$	891,223	\$	1,421,223	\$ 92,69	19	\$ 700,416	\$	245,318	\$	475,489
Total Expenditures/Encumberances	\$	2,625,144	\$	3,432,352	\$	6,057,496	\$ 128,69	9	\$ 1,065,603	\$	2,990,234	\$	2,001,659
Net Revenues/(Expenditures)	\$	(716,506)	\$	2,236,274	\$	1,519,768	\$ 58,40	)7	\$ 765,353				

<sup>\*</sup>Pay as you Go portion of Bonds in Fund 620

Audited Fund Balance 9/30/15	\$ 5,668,626
FY 2016 Revenue Budget	1,908,638
FY 2016 Expenditure Budget	6,057,496
Projected Ending Fund Balance	\$ 1,519,768

#### City of Bellaire Bond Fund **Revenues and Expenditures** Year-To-Date as of July 2016

		Preliminary					EV	′ 2016
	FY 2016 Budget	Carryover Funds/Budget	Total Budget	July Actual	YTD Actual	Encumbrance	Вι	idget lance
Revenues Interest				4,444	39,903			(39,903)
Bond Proceeds		20,995,926	20,995,926					
Total Revenues	\$ -	\$ 20,995,926	\$ 20,995,926	\$ 4,444	\$ 39,903		\$	(39,903)
Projects								
FY 2012 Drainage Phase 5		7,462,026	7,462,026	554,674	5,540,928	1,921,098		0
FY 2015 Drainage Phase 5B	7,910,187	, - ,	7,910,187	602,781	1,024,446	6,885,741		0
FY 2013 New City Hall/Police/Municipal Court		812,611	812,611	16,835	144,491	642,547		25,573
FY 2015 Evelyn's Park		4,687,159	4,687,159	781,786	2,775,628	1,900,752		10,780
FY 2015 Nature Discovery Center		500,000	500,000	-	477	477	4	499,045
Total Project Expenditures	7,910,187	13,461,796	21,371,983	1,956,075	9,485,971	11,350,614	5	535,398
Net Revenues/(Expenditures)	\$ (7,910,187)	\$ 7,534,130	\$ (376,057)	\$ (1,951,631)	\$ (9,446,067)		\$ (5	575,301)
,								•
Audited Fund Balance 9/30/15 FY 2016 Revenue Budget	\$ 20,995,926							
FY 2016 Expenditure Budget	21,371,983							
Projected Ending Fund Balance	\$ (376,057)	<u></u>						

Note to ending balance RBB funds from General CIP will be used to reconcile negative balance.

#### City of Bellaire Metro Fund Revenues and Expenditures Year-To-Date as of July 2016

		P	Preliminary					EV 2046
	FY 2016 Budget		Carryover Inds/Budget	Total Budget	July Actual	YTD Actual	Encumbrance	FY 2016 Budget Balance
Revenues Metro Sales Tax	 1,200,000		2,898,256	4,098,256	93,218	1,110,256	-	89,744
Interest Total Revenues	\$ 1,700 1,201,700	\$	2,898,256	\$ 1,700 4,099,956	\$ 794 94,012	\$ 6,380 1,116,636		(4,680) \$ 85,064
Projects								
FY2014 City Wide Trip Hazard FY2014 Sidewalk Projects FY2015 Street Pavement Mgt			471,331 456,212	471,331 456,212	126,090 2,746	224,521 259,435	246,810 12,646	- 184,131
Program FY2015 Street Striping Program	1,200,000		1,896,620 75,793	3,096,620 75,793	331,021	1,372,462 31,136	646,903 43,219	1,077,255 1,439
Total Project Expenditures	 1,200,000		2,899,956	4,099,956	459,857	1,887,554	949,578	1,262,824
Net Revenues/(Expenditures)	\$ 1,700	\$	(1,700)	\$ -	\$ (365,845)	\$ (770,918)		
Audited Fund Balance 9/30/15	\$ 2,901,556							
FY 2016 Revenue Budget FY 2016 Expenditure Budget Projected Ending Fund Balance	\$ 1,201,700 4,099,956 3,300	-						

## CITY OF BELLAIRE CURRENT PROPERTY TAX COLLECTIONS FY 2013 - FY 2016

<u>Month</u>	FY 2013	FY 2014	FY 2015		FY 2016
Oct	\$ -	\$ -	\$ -	\$	-
Nov	501,713	652,841	585,025		131,234
Dec	3,558,843	3,908,433	5,450,400		3,881,188
Jan	10,050,022	10,346,813	11,526,041		8,702,108
Feb	12,978,460	13,952,561	15,160,981		4,005,865
Mar	13,101,633	14,090,483	15,457,518		206,525
Apr	13,251,738	14,192,561	15,521,158		90,455
May	13,284,289	14,238,069	15,576,794		49,017
Jun	13,307,908	14,279,764	15,630,176		57,865
Jul	13,319,875	14,282,615	15,634,846		14,076
Aug	13,339,458	14,282,615	15,634,846		
Sep	13,344,243	14,282,615	15,634,846		
			YTD Collections	\$	17,138,332
			% of Budget		100.05%
			% of Total Levy		99.64%
	FY 2016 Budget -	Total Tax Revenue		\$	17,130,365
	2015 Tax Year Tax	kable Value - Certifie	ed Appraisal Roll*	\$	4,061,031,301
	2014 Tax Year - U	nder Protest or not (	Certified*		459,542,279
	Total			-	4,520,573,580
	Total Levy at \$0.38	305 / \$100 =		<u>\$</u>	17,200,782

#### Ten Largest Taxpayers in City of Bellaire (Tax Year 2015) \*

		Tax	<u>kable Value</u>
Chevron Chemical Company	Oil & Gas		79,604,253
Pin Oak North Parcrel LL LLC	Land/Improvements		49,900,289
KBS SOR 6565 6575 West Loop	Land/Improvements		40,675,000
BRI 1833 6330 LLC	Land/Improvements		39,319,862
Centerpoint Energy Inc.	Electric Utility		29,510,049
SBC Communications	Utility		28,734,297
CHP Houston Tx MOB Owner LLC	Land/Improvements		25,165,006
CHP Houston TX Hospital Land	Hospital		24,940,369
Pin Oak South Parcell LL LLC	Land/Improvements		19,941,588
5909-5959 Realty LTD	Land/Improvements		12,650,000
		\$	350,440,713
Tax Levy @ \$0.3805/100		\$	1,333,427
% of Total Levy			7.75%

<sup>\*</sup> Source: Municipal Advisory Council of Texas

#### CITY OF BELLAIRE HOUSING INFORMATION FY 2016

#### **July**

Houses, Townhomes & Vacant Lots for S	<u>ale</u>	*
Price Range		
\$ 0 - \$ 250,000		1
\$ 250,001 - \$ 500,000		38
\$ 500,001 - \$ 750,000		27
\$ 750,001 - \$ 1,000,000		38
> \$ 1,000,000		83
Total Units For Sale *	_	187
Total HCAD Residential Units/Lots **		6,018
For Sale as a % of Total Units		3.11%
Highest Listing Price - Home	\$	3,388,888
Lowest Listing Price - TH/Lot	\$	249,900
Houses for Lease *		65
Highest Lease/Month	\$	9,500
Lowest Lease/Month	\$	1,130

#### Foreclosure History as of end of Quarter Reported by RealtyTrac

	<u>Auction</u>	<b>Bank Owned</b>
At Quarter End 12-31-14	3	2
At Quarter End 03-31-15	4	2
At Quarter End 06-30-15	3	2
At Quarter End 09-30-15	2	2
At Quarter End 12-31-15	3	2
At Quarter End 03-31-16	2	2
At Quarter End 06-30-16	-	2

#### **New Residential Construction**

			Dollar V	'alue
Fiscal Year		<b>New Units</b>	<b>Construction</b>	Avg/Unit
2007		169	85,632,703	506,702
2008		132	75,405,507	571,254
2009		49	26,026,889	531,161
2010	***	64	34,682,458	541,913
2011		56	30,064,905	536,873
2012	***	93	54,914,376	590,477
2013	***	113	65,491,037	579,567
2014		125	78,420,596	627,365
2015		98	52,190,001	532,551
2016		54	35,136,794	650,681

Average Appraised Value (Tax Year 2015) \$ 835,801

<sup>\*</sup> Source: realtor.com does not include for sale or lease by owner

<sup>\*\*</sup> Based on information provided by the Harris County Tax Assessor-Collector and the Harris County Appraisal District includes estimated values

<sup>\*\*\*</sup> Numbers revised based on system correction

#### CITY OF BELLAIRE SUMMARY OF SALES & MIXED BEVERAGE TAX FY 2014 - FY 2016

Pa	yment				
Month	<u>Period</u>	_	FY 2014	FY 2015	FY 2016
Sales Tax	<u>x</u>				
Oct	Aug	\$	506,393	\$ 168,534	\$ 153,643
Nov	Sep		191,544	204,637	236,498
Dec	Oct		186,277	187,620	196,711
Jan	Nov		178,766	168,955	253,578
Feb	Dec		239,214	289,944	253,419
Mar	Jan		180,302	175,468	176,377
Apr	Feb		168,270	168,824	171,712
May	Mar		189,723	201,769	210,865
Jun	Apr		169,660	174,538	172,229
Jul	May		159,472	171,111	186,436
Aug	Jun		253,895	230,014	-
Sep	Jul		186,787	209,043	
	Sub-Total	\$	2,610,303	\$ 2,350,457	\$ 2,011,468
Mixed Be	everage				
Oct	1st Qtr		4,366	5,493	6,012
Jan	2nd Qtr		4,730	6,053	5,238
Apr	3rd Qtr		4,616	5,839	5,570
Jul	4th Qtr		5,341	6,004	5,970
	Sub-Total		19,053	23,389	22,790
	- 3.0		. 5,555		 ,. 55
	Total	\$	2,629,356	\$ 2,373,846	\$ 2,034,258

### CITY OF BELLAIRE SUMMARY OF FRANCHISE FEES FY 2014 - FY 2016

		Total		Total		YTD
		FY 2014		FY 2015		FY 2016
Electric		\$ 825,798	\$	823,552	\$	686,412
Gas		144,037		123,933		90,735
Telephone		121,736		115,691		87,196
Cable		 308,268		328,259	_	295,029
	Total	\$ 1,399,839	<u>\$</u>	1,391,435	<u>\$</u>	1,159,372

#### CITY OF BELLAIRE SUMMARY OF PURCHASE ORDERS FY 2016

	(	Oct	-15		No۱	/-15		De	c-15		1st	Qtr
	<u>Issued</u>		<u>Amount</u>	<u>Issued</u>		<u>Amount</u>	<u>Issued</u>		<u>Amount</u>	<u>Issued</u>		<u>Amount</u>
Total Purchase Orders	315	\$	4,163,768	214	\$	997,313	243	\$	895,582	772	\$	6,056,663
PO for \$5,000 - \$50,000	35	\$	565,114	27	\$	430,626	13	\$	191,970	75	\$	1,187,710
% of Total Purchase Orders	11.11%		13.57%	12.62%		43.18%	5.35%		21.44%	9.72%		19.61%
\$ 5,000 - \$ 25,000 \$ 25,001 - \$ 50,000	30 5	\$	400,456 164,658	21 6	\$ \$	219,421 211,205	10 3	\$	101,908 90,062	61 14	\$ \$	721,785 465,925
	Jan-16		Feb-16			Mar-16			2nd Qtr			
	Issued		Amount	Issued		Amount	Issued		Amount	Issued		<u>Amount</u>
Total Purchase Orders	228	\$	321,509	87	\$	8,979,419	249	\$	2,723,606	564	\$	12,024,534
PO for \$5,000 - \$50,000	11	\$	147,807	17	\$	296,918	17	\$	329,263	45	\$	773,988
% of Total Purchase Orders	4.82%		45.97%	19.54%		3.31%	6.83%		12.09%	7.98%		6.44%
\$ 5,000 - \$ 25,000 \$ 25,001 - \$ 50,000	11 -	\$	147,807 -	14 3	\$	173,228 123,690	14 3	\$	200,346 128,917	39 6	\$	521,381 252,607
,		_	-16			y-16		·	n-16			Qtr
	Issued	٠,٣٠	Amount	Issued		Amount	Issued	<u> </u>	Amount	Issued	0.0	Amount
Total Purchase Orders	203	\$	585,380	265	\$	840,318	217	\$	470,615	685	\$	1,896,313
PO for \$5,000 - \$50,000	19	\$	260,345	17	\$	179,478	15	\$	211,599	51	\$	651,422
% of Total Purchase Orders	9.36%		44.47%	6.42%		21.36%	6.91%		44.96%	7.45%		34.35%
\$ 5,000 - \$ 25,000 \$ 25.001 - \$ 50.000	16 3	\$	165,797	16 1	\$	153,317	14 1	\$	179,367	46 5	\$	498,481
\$ 25,001 - \$ 50,000		\$	94,548	·	\$	26,160	_	\$	32,232	_	\$	152,940
		Jul-	-		Auç	g-16		Se	0-16	Issued	4tn	Qtr
Total Purchase Orders	lssued 155	\$	Amount 177,166	<u>Issued</u> -	\$	Amount -	<u>Issued</u> -	\$	Amount -	155 155	\$	Amount 177,166
PO for \$5,000 - \$50,000	4	\$	56,611	-	\$	-	-	\$	-	4	\$	56,611
% of Total Purchase Orders	2.58%		31.95%	#DIV/0!		#DIV/0!	#DIV/0!		#DIV/0!	2.58%		31.95%
\$ 5,000 - \$ 25,000 \$ 25,001 - \$ 50,000	3 1	\$ \$	30,500 26,111	1 1	\$ \$	- -	-	\$ \$	- -	3 1	\$ \$	30,500 26,111

<sup>\*</sup> Purchases include bids, sole source, and cooperative purchasing.

**Mayor and Council** 

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED ACTION ITEM (ID # 1987)



Meeting: 08/15/16 06:00 PM
Department: City Manager's Office
Category: Report
Department Head: Paul A. Hoffman

DOC ID: 1987

#### **Item Title:**

Quarterly Report from the Evelyn's Park Conservancy Board - Submitted by Patricia King-Ritter, President Evelyn's Park Conservancy Board.

#### **Background/Summary:**

Per Ordinance No. 14-035, and the Development and Operating Agreement for Evelyn's Park, the Conservancy shall present a quarterly report.

#### **Previous Council Action Summary:**

N/A

#### **Fiscal Impact:**

None

#### **Recommendation:**

N/A

Updated: 8/10/2016 5:33 PM by Tracy L. Dutton

**Mayor and Council** 7008 S. Rice Avenue

Bellaire, TX 77401

SCHEDULED **ACTION ITEM (ID # 1979)** 



Meeting: 08/15/16 06:00 PM Department: Public Works Category: Contract Department Head: Brant Gary

DOC ID: 1979

#### **Item Title:**

Consideration of and possible action on the adoption of an ordinance of the City Council of the City of Bellaire, Texas, authorizing the Mayor of the City of Bellaire, Texas, to execute, for and on behalf of the City of Bellaire, Texas, a Performance Contract Agreement between the City of Bellaire and Siemens Industry, Inc., Building Technologies Division, for work and services in connection with the Bellaire Performance Contracting Project - Requested by Brant Gary, Director of Public Works.

#### **Background/Summary:**

On May 2, 2016, the Public Works Department presented its proposed projects for FY 2017. Projects and costs identified by Siemens were reviewed by ARKK Engineers, the City's engineer. Additionally, the projects were designed by Jones and Carter, a local engineering firm.

After reviewing the feasibility of projects, on August 2, 2016, Siemens presented to Council the first phase of the project, which includes upgrades to the:

- Water Meter System
- Water/Waste Water System

The next step in this process is the adoption of an ordinance authorizing the Mayor to execute a Performance Contract Agreement with Siemens. Once authorized Siemens would be able to initiate the upgrades to the Water Meter and Water/Waste Water Systems. The project is anticipated to be completed within fifteen (15) months, with the water meter swap out to be completed by May 2017.

#### **Previous Council Action Summary:**

Public Works presented this project to Council at its May 2, 2016 meeting. No action was taken.

Siemens presented the final scope of the project to Council at a August 2, 2016 workshop. No action was taken.

#### **Fiscal Impact:**

Total costs for the Bellaire Performance Contracting Project, as presented are \$12,781,805.00. The plan is to issue Certificates of Obligation to finance the improvements. Funding for the project is projected to be cost neutral over the life of the improvements, due to a contract guarantee provided by Siemens. Funding will come from multiple sources; 1) an increase in water revenues from new meters 2) reduction in operational and energy costs and 3) reduced transfers out.

The estimated fiscal impacts are based upon the issuance of Certificates of Obligation. Utilization of other potential financing options requiring an election (e.g. General Obligation

Updated: 8/11/2016 1:55 PM by Shawn Cox

Bonds) or additional options not requiring an election (tax exempt lease, certificates of participation, etc.) with different financing costs may result in changes to this statement.

#### **Recommendation:**

Brant Gary, Director of Public Works, recommends approval of this item.

#### **ATTACHMENTS:**

- Performance Contracting Memo (PDF)
- Performance Agreement Contract Ordinance (DOCX)
- Performance Contracting Agreement (PDF)



## City of Bellaire

## Department of Public Works

#### **MEMORANDUM**

TO: Paul A. Hofmann, City Manager

FROM: Brant Gary, Director of Public Works

DATE: August 11, 2016

SUBJECT: Bellaire's Performance Contract Project History & Overview

Since the initial discussions began regarding the proposed Performance Contracting project, there has been a lot of work dedicated to trying to achieve infrastructure improvements and identify resources necessary to finance these improvements. Some reports and questions asked have involved items that have been discussed, but perhaps not fully understood. In an effort to address some of those questions and misconceptions, the following items are being presented to provide a full overview of the project development and items proposed for formal consideration on August 15<sup>th</sup>.

#### **TIMELINE**

This timeline is intended to demonstrate that a great deal of time has been spent researching the City's needs and communicating those needs at various stages of the process.

In late 2015, the City began the annual process of reviewing its capital needs for the City's Utility System. As a part of that process, the City began discussions regarding a possible Performance Contracting approach that would help to identify a funding source for necessary improvements as well as to guarantee performance and efficiency savings that could offset project costs utilizing those savings and efficiencies to pay for the improvements.

In February 2016, the City entered into a Letter of Intent (LOI) that would provide a project feasibility study from Siemens to review our infrastructure needs (including a meter audit where 70 meters were replaced). This LOI was approved utilizing a contract through Choice Partners purchasing cooperative. Choice Partners had completed the state-mandated RFQ process and awarded the contract to Siemens. There was no upfront cost to the City, but there would be a \$25,000 fee if no projects were selected to move forward by the City.

In May 2016, City Council was presented an overview of this proposed project. This included the identified preliminary scope, the utilization of the Choice Partners contract for the LOI with Siemens, and an overview of Performance Contracting as a procurement method allowed by State law, LGC 302. It also discussed the future timeline for project development and Council review of the proposed contract with Siemens.

In August 2016, Council was presented with the specific scope findings as well as cost estimates for the project. Staff and Siemens representatives were present to answer questions and explain the need behind the proposed project components. Formal contract consideration is scheduled for August 15<sup>th</sup>.

#### PERFORMANCE CONTRACTING

This section provides an overview of the Performance Contracting process where proposed infrastructure improvements are implemented by leveraging efficiencies realized. This also includes the legal authority for this approach which has been used across the state of Texas and the nation.

The concept of performance contracting is a procurement method that is similar to the design-build approach and utilizes guaranteed efficiency and energy savings to offset project costs. Local governments are authorized to utilize Performance Contracting as defined in Texas Local Government Code Ch.302. This type of project utilizes a professional services selection process for the "provider", which is very similar to the way cities select financial advisors and engineers. In addition, the state statute also requires a 3<sup>rd</sup> party review of the technical calculations and assumptions about the project benefits and scope of work. Since the City Engineer is not involved in the design of the project or the calculations of benefits, the City Engineer is a qualified engineer according to the statute who also has knowledge of our systems and can best serve as an advocate for the City during this process.

This procurement method allows public entities to obtain needed efficiency increases and infrastructure upgrades through the replacement of old and inefficient equipment and processes. A performance contracting project is able to be paid for through energy and efficiency savings, typically within a City's existing budget. Considering the costs and magnitude of current City infrastructure needs, a solution such as Performance Contracting appears to be the City's best method for implementation and funding. This approach has been effectively utilized by many cities in the Houston area and around the state. Financing for these types of projects is usually through a tax-exempt lease or some other financing method (such as Certificates of Obligation) not requiring an election. The efficiency and energy savings provide a guaranteed benefit that is used to help pay for the payment of any debt incurred.

#### **CHOICE PARTNERS & SELECTION OF SIEMENS**

This section explains the City of Bellaire's relationship with the Choice Partners purchasing cooperative and how the Choice Partners RFQ process was utilized to select Siemens for the LOI.

There are various purchasing cooperatives in the industry that have been utilized to award numerous performance contracts over many years. Choice Partners, a division of the Harris County Department of Education, has awarded contracts to vendors in this sector for almost 8 years. The City of Bellaire has been a Choice Partners member since the interlocal agreement was approved in 2009. Choice Partners has over 500 public and non-profit agencies that utilize their services. The fee to Choice Partners is paid wholly by Siemens and nothing comes from the member agencies. Their staff has been available as needed throughout this process and are willing to help in any way.

Working through Choice Partners, the City of Bellaire was able to utilize their RFQ process completed by Choice Partners staff members with years of experience in this area. Siemens was awarded the Energy Management and Conservation Contract by choice Partners in 2015 through a competitive Request for Qualifications process, which complied with Local Government Code 302. The six companies that responded to that process include ABM Building, Heat Transfer Solutions, OpTerra Energy Services, Inc., Schneider Electric, Buildings Americas, Siemens Industry, Inc, and Way Service, Ltd. Through that RFQ selection, the City agreed to a Letter of Intent (LOI) with Siemens to study the possibilities of a feasible project.

Siemens has been in the Performance Contracting business for decades helping companies save money and upgrade their facilities. Choice Partners feels very confident that its members will benefit from the services provided by this contract. Similar to the Construction Manager at Risk (CMAR) contract currently utilized by the facilities project, pricing presented by Siemens is guaranteed, and will not change, unless the project scope changes. Additionally, through this contract, Siemens also guarantees the savings.

#### **HISTORY OF UTILITY INFRASTRUCTURE ISSUES**

The City has seen an increase in issues related to utility infrastructure over the years. Recently, large projects focusing on water and wastewater lines and the Central Water Plant have taken place. The WWTP has not had a comprehensive overhaul like these other programs.

Over the years, several engineering reports and other studies have identified various immediate and long term needs for the WWTP. These items have outlined many of the same repairs identified in this proposed project; including repairs to the aeriation system, controls, pumps, electrical systems, buildings, and other equipment. In 2006, the total estimated costs for repairs identified at the time totaled \$4.2 million according to one engineering report. To address those necessary repairs, the City began to address individual issues utilizing limited capital funding on an annual basis. However, this funding did not address all issues identified or future issues which have resulted since that time. The City has since fallen further behind in terms of WWTP system maintenance and infrastructure renewal.

Planned and unplanned inspections have also highlighted some of the WWTP issues. At times, the City has been found to be out of compliance on certain items during a TCEQ or staff inspection, but avoided a violation by making immediate repairs to those problem areas. Over the past several years, the City has had to continually make emergency repairs to various aspects of the plant to avoid potential TCEQ violations and related fines. Frequent examples of such repairs include our plant processing pumps and motors, RAS pumps, and our control panels. In addition, it should also be noted that if the City attempted to get a new permit, our current plant does not meet current standards and would not be issued a permit in today's regulatory environment.

#### **SCOPE & PRICING DEVELOPMENT**

The narrative below highlights the process involved in the development of the proposed scope and project details. The work to be performed, approach used, and pricing identified were all developed with the City's preferences and oversight at the forefront. All recommendations were heavily scrutinized by the City so as to best leverage the guaranteed benefits against the proposed costs of the work to be done.

As mentioned previously, in February 2016, the City Manager signed a Letter of Intent (LOI) with Siemens to start the evaluation process. As a part of this LOI, the City received 70 new water meters to replace the old meters pulled for accuracy testing. If after the evaluation period, the City decided not to move forward with Siemens' proposal; the City would have only had to pay \$25,000 for the work performed.

During the initial study (and throughout this process), Siemens representatives met with City staff and city consultants. This included members of City Administration, Finance, PW Administration, PW Utility System Plant Operations, the City Engineer, and a Plant Operations specialist utilized by the City. Siemens was provided information about outstanding infrastructure needs and toured the WWTP. Based on that input and specific City vendor/equipment preferences, Siemens was able to produce a proposed project scope. Siemens also revisited several aspects of the project scope at the request of City staff and the City Engineer. A separate engineer, Jones & Carter, was selected to perform design engineering tasks. The design and efficiency assumptions were reviewed by the City Engineer as part of the required 3<sup>rd</sup> party review process.

In order to obtain the best pricing for the City, Siemens conducted a competitive bid process with various vendors and suppliers. Additionally, Siemens procurement department compared the local pricing to their national contracts and pricing in order to further negotiate the best price for the City. Once the project scope was narrowed, the components and costs identified by Siemens were reviewed by ARKK Engineers, the City's engineer, and City staff. The review of that pricing found that the project components were fairly priced. For example, the meter portion was compared to another project at an area city (not done with Siemens) and found to be in line considering cost escalations and differences in equipment. Similar to the Construction Manager at Risk (CMAR) contract currently utilized by the facilities project, pricing presented by Siemens is guaranteed, and will not change, unless the project scope changes. In addition, the performance and efficiencies identified are contractually guaranteed.

#### PROPOSED PROJECT REVIEW

The following is an overview of the proposed project scope to be considered by Council. It is important to note that the project represents the best combination of infrastructure needs with energy & operational efficiencies so as to minimize any costs outside of the savings realized.

After reviewing the feasibility of the identified projects with the City, including Public Works, City Management and Finance staff, Siemens presented the proposed project details to Council on August 2, 2016, The total cost for the proposed project is \$12,781,805. That total included the following items:

- Project Design & Mgmt-\$ 678,280
  - This portion of the project covers all design engineering and construction management services. These fees as a percentage of project costs are in line with similar projects.
- Water Meter & AMI \$ 4,591,371
  - Upgrades to the Water Meter System will include the replacement of ALL City meters and the incorporation of an Automated Metering Infrastructure (AMI) system. AMI allows for the direct input of meter information into the City's system and does not require each meter to be individually read.
  - The water meter audit found that 67% of the current meter inventory is 15 years old or older. Our existing 5/8 x 3/4 meters are estimated to only have a 76% accuracy.
  - O An optional component of the system upgrade is the "customer portal". The Customer Portal will allow residents to get a daily account of the water they are using. The annual cost to the City for this option is \$13,755 (around \$1.79 per meter). This option can be removed at any point during the contract period. So, if after the first year we don't like the service, we do not have to continue it.
  - During the installation of the new meters, the City will still utilize its meter reading contract with Alexanders, to read meters not yet swapped out. As a part of the Performance Contract Siemens will set up the necessary installation and training on the new software. There will be no interruption to billing.
- Aeration System \$ 2,448,527
  - The Aeration system is currently not functioning as designed. Old piping is leaking, air diffusers in the basins are clogged or broken, and the blowers that produce air are past their useful life and inefficient.
  - o The blower control panel is antiquated and not operating properly.
  - Underground piping is leaking hot air.
  - Clogged diffusers have led to uneven and inefficient aeration.

- Digester Upgrades \$ 1,289,479
  - o The MECC (motor electric control center) which provides power to the digester and its controls is past its useful life and obsolete. Without this, the plant cannot process solids.
  - o Corroded and exposed electrical equipment presents a safety concern for operators.
  - Blowers in the Digester area are past their useful lifespan and are operating inefficiently.
- Main Lift Station \$ 2,809,323
  - o The main lift station will be converted to a "wet well" from the current "dry well", which is very narrow and a confined space, making it extremely difficult to maintain.
  - o Current pumps are past their useful life. New submersible pumps which can be raised up for maintenance and lowered down for use will be installed.
  - Due to the confined space and aging equipment, some valves cannot be exercised.
  - o The MECC serving this area is also past its useful life and is a safety concern for operators.
- Disinfection System \$ 532,435
  - o The disinfection system would be converted from chlorine gas, which is a highly hazardous chemical, to sodium bisulfate (bleach), which is much safer to work with.
  - o This is currently the standard approach for new treatment plants today.
- RAS Pumps & Flow Ctrl -\$ 432,390
  - The Return Activated Sludge (RAS) pumps are beyond useful life and require frequent repairs to maintain operations.
  - One pump is out of service; a lack of redundancy is an issue.

The items replaced are expected to lessen the City's flood plain exposure and provide additional useful life for these plant components of 20-25 years. As mentioned earlier the project and estimated costs have been reviewed by the City staff and City Engineer.

#### **NEXT STEPS**

This section outlines the next steps in considering this project and potential impacts from changes.

The next step in this process is the adoption of an ordinance authorizing the Mayor to execute a Performance Contract Agreement with Siemens and the passing of a resolution to provide notification of Council's intent to issue Certificates of Obligation to fund the project. Once authorized Siemens would be able to initiate the upgrades to the Water Meter and Water/Waste Water Systems. While the receipt of the project funds and corresponding payments to Siemens would have to be added to the upcoming budget, there would be a net-zero impact to the FY17 budget. The City would not, however, pay any debt payments until the construction of the project is complete and savings were being achieved in FY18.

The project is anticipated to be completed within fifteen (15) months, with the water meter swap out to be completed by May 2017, just before our current meter reading contract expires. If the project timing changes, there are some potential impacts. Those impacts could include potential pricing increases, financing rate changes, continued inefficiencies/loss of benefits (meter reading charges, water loss, electricity charges, etc.), and overall plant functionality due to the critical nature of some repairs (e.g. Obsolete Digester MECC-Plant cannot operate as needed without it).

It should be noted that this project and its funding sources are independent of any discussions around the water rate study. This project will not require any tax increases or separate, non-inflationary water rate increases to implement.



#### ORDINANCE NO. 16-\_\_\_\_

CONSIDERATION OF AND POSSIBLE ACTION ON THE ADOPTION OF AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS, AUTHORIZING THE MAYOR OF THE CITY OF BELLAIRE, TEXAS, TO EXECUTE FOR AND ON BEHALF OF THE CITY OF BELLAIRE, TEXAS, A PERFORMANCE CONTRACT AGREEMENT BETWEEN THE CITY OF BELLAIRE AND SIEMENS INDUSTRY, INC., BUILDING TECHNOLOGIES DIVISION FOR WORK AND SERVICES IN CONNECTION WITH THE BELLAIRE PERFORMANCE CONTRACTING PROJECT.

## BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS:

**THAT** the Mayor of the City of Bellaire, Texas, is hereby authorized to execute, for and on behalf of the City of Bellaire, Texas, a *Performance Contract Agreement* by and between Siemens Industry, Inc., Builting Technologies Division and the City of Bellaire, Texas, in a form as attached hereto and marked "Exhibit A," in connection with the Bellaire Performance Contracting Project.

**PASSED** and **APPROVED** this 15<sup>th</sup> day of August, 2016.

(SEAL)

City Attorney

ATTEST:	SIGNED:
Tracy L. Dutton, TRMC City Clerk	Andrew S. Friedberg Mayor
APPROVED AS TO FORM:	
Alan P. Petrov	

between

**City of Bellaire, Texas** 

and

## Siemens Industry, Inc., Building Technologies Division

#### **TABLE OF ARTICLES**

- 1. Agreement
- 2. Glossary
- 3. General
- 4. Performance Guarantee
- 5. Work by SIEMENS
- 6. CLIENT Responsibilities
- 7. Changes and Delays
- 8. Compensation
- 9. Acceptance
- 10. Insurance and Allocation of Risk
- 11. Hazardous Material Provisions
- 12. Miscellaneous Provisions
- 13. Maintenance Services Program

Number:

Article 1
AGREEMENT

THIS **PERFORMANCE CONTRACTING AGREEMENT** ("Agreement") is made this day of August, 2016 (the "Effective Contract Date", defined below), by and between Siemens Industry, Inc., Building Technologies Division ("SIEMENS") and the party identified below as the CLIENT.

The CLIENT: City of Bellaire, TX

7008 South Rice Ave. Bellaire, Texas 77401-4495

DESIGNATED REPRESENTATIVE: Mr. Paul Hofmann

PHONE: 713-662-8228 FAX:

#### Siemens Industry, Inc., Building Technologies Division

1000 Deerfield Parkway Buffalo Grove, Illinois 60089

With offices at: 8850 Fallbrook Road

Houston, Texas 77064

DESIGNATED REPRESENTATIVE: Mr. Robert McMillin

PHONE: 281-949-3000 FAX:

For Work and Services in connection with the following project (the "Project"):

City of Bellaire, Texas Performance Contracting Project

The CLIENT considered performing the following FIMs but at this time, has determined to exclude them from the Scope of Work and Services, Exhibit A:

- 1. Additional WWTP Upgrades
- 2. Lighting Enhancements & Renovations
- 3. HVAC Replacements
- 4. Energy Management Control Systems
- 5. Traffic Signal Upgrades
- 6. Water Line Replacements

#### **Articles and Attachments**

This Agreement consists of this document, which includes the following articles and exhibits which are acknowledged by the CLIENT and SIEMENS and incorporated into the Agreement by this reference:

#### Articles

- 1. Agreement
- 2. Glossary
- 3. General
- 4. Performance Guarantee
- 5. Work BY SIEMENS
- 6. The CLIENT's Responsibilities
- 7. Changes and Delays
- 8. Compensation
- 9. Acceptance
- 10. Insurance and Allocation of Risk
- 11. Hazardous Material Provisions
- 12. Miscellaneous Provisions
- 13. Maintenance Services Program

#### **Exhibits**

Exhibit A Scope of Work and Services
Exhibit B Payment Schedule(s)

Exhibit C Performance Assurance

Exhibit D1 Form of Certificate of Substantial Completion Exhibit D2 Form of Certificate of Final Completion

Attachment #1 Water Meter Annual Revenue Calculations

Attachment #2 Water Meter Baseline Account List

Attachment #3 Water Meter Baseline Consumption Data

Attachment #4 Water Meter Baseline Test Results
Attachment #5 Water Meter Warranty Documents

This Agreement, when executed by an authorized representative of the CLIENT and authorized representatives of SIEMENS, constitutes the entire, complete and exclusive agreement between the Parties relative to the project scope stated in Exhibit A. This Agreement supersedes all prior and contemporaneous negotiations, statements, representations, agreements, letters of intent, awards, or proposals, either written or oral relative to the same, and may be modified only by a written instrument signed by both Parties.

#### **COMPENSATION/TERMS OF PAYMENT:**

As full consideration for the performance of the Work and Services set forth in Exhibit A, and for the Performance Assurance set forth in Exhibit C, the CLIENT shall pay SIEMENS in such manner and amounts as agreed to in Exhibit B.

Agreed for	City of Bellaire, Texas
(Signature) by:	
Print Name and Title:	
(Signature) by:	
Print Name and Title:	
Agreed for	Siemens Industry, Inc.
Agreed for (Signature) by:	Siemens Industry, Inc.
J	Siemens Industry, Inc.
(Signature) by:	Siemens Industry, Inc.
(Signature) by: Print Name and Title:	Siemens Industry, Inc.

#### Article 2

#### Glossary

The following terms shall for all purposes have the meanings stated herein, unless the context otherwise specifies or requires, or unless otherwise defined in the Agreement:

**Acceptance** means the CLIENT has signed, or is deemed to have signed, a Certificate of Final Completion.

Acceptance Date means the date on which the CLIENT signs or is deemed to have signed a Certificate of Final Completion.

**Annual Performance Assurance Report** means the document prepared by SIEMENS and submitted to the CLIENT as part of the Performance Assurance Service Program, which identifies the Savings achieved for the applicable Annual Period.

Annual Period means a twelve (12) month period beginning on the Guarantee Date or on any anniversary date thereof.

**Annual Realized Savings** means the actual Savings achieved by the CLIENT during an Annual Period, calculated as the sum of the Measured & Verified Savings plus the Stipulated Savings.

**Applicable Law** means laws, ordinances, codes, rules and regulations applicable to the Work and in effect on the Effective Contract Date.

**Baseline** means the measurements of Facility energy usage taken prior to the Effective Contract Date, and the Facility operating practices in effect prior to the Effective Contract Date, as set forth in the Performance Assurance, Exhibit C.

**Baseline Period** means the period of time from which data is provided to SIEMENS to derive the Baseline measurements. The Baseline Period is set forth in the Performance Assurance, Exhibit C.

BTU means a British Thermal Unit and is a unit of thermal energy.

**Capital Off-Set Savings** means a sub-category of Operational Savings where Savings will result in a cost effective upgrade to the Facility to address one or more of the following issues: potential future increased costs, comfort, code non-compliance, usage requirements, user needs and/or expectations.

**Certificate of Final Completion** means a document, in the form attached as Exhibit D2 hereto, indicating that the Work identified in Article 1 of the Scope of Work and Services-Exhibit A has been completed in accordance with the Agreement, including all items in the Outstanding Items List(s).

**Certificate of Substantial Completion** means a document, in the form attached as Exhibit D1 hereto, indicating that the Work, or a designated portion of the Work, is Substantially Complete in accordance with the Agreement. A Certificate of Substantial Completion may be accompanied by an Outstanding Items List.

**CLIENT Representative** means the person identified to SIEMENS by the CLIENT as the person authorized to make decisions on behalf of the CLIENT as set forth in Section 6.1(a) hereof.

**Construction Period** means the period between the Effective Contract Date and the first day of the month following the Acceptance Date.

**Construction Period Savings** means the actual accumulated Measured & Verified Savings plus the Stipulated Savings achieved from the Effective Contract Date until the Guarantee Date.

**Contracted Baseline** means the post-FIM-implementation Facility operating profile based on parameters described in Exhibit C, which the CLIENT shall maintain throughout the Performance Guarantee Period and are relied upon by SIEMENS for the calculation of Guaranteed Savings as provided in the Performance Assurance, Exhibit C. The Contracted Baseline must also include stipulated hours of operation and plug-loads for all Facilities, and must include stipulated blended, or non-blended, utility rates.

**Deferred Maintenance** means a sub-category of Operational Savings where Savings result from a reduction of current or potential future repair and maintenance costs due to certain work being performed hereunder where such work had been previously postponed.

**Deliverables** shall mean collectively, (a) any Equipment and any Software Product deliverable to CLIENT from SIEMENS under or in connection with the Work, and (b) any Work Product Deliverables.

Effective Contract Date is the date appearing at the top of this Agreement, unless specifically indicated otherwise.

**Energy Conservation Measure** or **ECM** means the SIEMENS Products and/or other third party equipment, devices, materials and/or software as installed by SIEMENS at the Facilities, or as repaired or replaced by SIEMENS or the CLIENT hereunder, for the purpose of improving the efficiency of utility consumption.

**Equipment** means the installed physical equipment to be provided by SIEMENS as described in the Scope of Work and Services, Exhibit A.

**Escalation Rate** means an annual percentage increase to be applied to the previous Annual Period's energy savings, operational savings and service pricing, beginning and occurring on dates outlined in the Performance Assurance, Exhibit C. A different Escalation Rate may be applied to differing Savings calculations and/or payment schedules depending on the percentage agreed upon by the Parties.

Facility or Facilities means the building(s) or structure(s) where Work will be installed or implemented.

**Facility Improvement Measures** or **FIMs** means the (i) Instruments, know-how and Intellectual Property, including but not limited to methods and techniques for energy conservation, owned or licensed by SIEMENS and employed by SIEMENS to perform the Work and Services under this Agreement; and, (ii) the installation of Equipment and Software Products with the intent of generating net savings or efficiencies at or in connection with the operation of the Facilities. A FIM may include one or multiple ECMs as well as any non-conservation-related activities, means or methods.

**FEMP** means the Federal Energy Management Program managed by the United States Department of Energy.

**FEMP Guidelines** means the FEMP M&V Guidelines v. 3.0 published by FEMP as M&V Guidelines; Measurement and Verification for Federal Energy Management Projects.

**Guarantee Date** means the first day of the month following the date on which the CLIENT executes, or is deemed to have executed, the Certificate of Final Completion.

**Guaranteed Annual Savings** are the Guaranteed Measured & Verified Savings plus the Stipulated Savings that SIEMENS guarantees will be achieved in an Annual Period of the Performance Guarantee Period.

**Guaranteed Measured & Verified Savings** means the Measured & Verified Savings that SIEMENS guarantees will be achieved, as described in the Performance Assurance, Exhibit C.

**Guaranteed Savings** means the amount of Savings that SIEMENS guarantees will be achieved at the Facility during the Performance Guarantee Period. as identified in the Performance Assurance, Exhibit C as subject to the limitation identified in Section 4.8.

Hazardous Materials refers to the definition found in Section 11.1.

**Instruments** means all know-how, tools and related documentation owned or licensed by SIEMENS and used by SIEMENS to install or commission Equipment and Software Products for operation at the Facility, including but not limited to tools for installing any Software Products in Equipment, performing diagnostics on Equipment as installed in the Facility as well as any reports, notes, calculations, data, drawings, estimates, specifications, manuals, documents, all computer programs, codes and computerized materials prepared by or for SIEMENS and used by SIEMENS to provide an ECM or a FIM. Instruments excludes Work Product Deliverables.

Intellectual Property Rights or Intellectual Property means all trade secrets, patents and patent applications, trade marks (whether registered or unregistered and including any goodwill acquired in such trade marks), services marks, trade names, internet domain names, copyrights (including rights in computer software), moral rights, database rights, design rights, rights in know-how, rights in inventions (whether patentable or not) including, but not limited to, any and all renewals or extensions thereof, and all other proprietary rights (whether registered or unregistered, and any application for the foregoing), and all other equivalent or similar rights which may subsist anywhere in the world, including, but not limited to, any and all renewals or extensions thereof.

**IPMVP** means the International Performance Measurement and Verification Protocol, Volume 1, EVO 10000-1.2007 as prepared by the Efficiency Valuation Organization.

**kW** and **kWh** means kilowatt and kilowatt hour, respectively.

**Maintenance Services Program** or **MSP** means the Services performed by SIEMENS to maintain the Equipment in good working order. The MSP may also contain Services unrelated to the maintenance of the Equipment. If applicable, the MSP is more fully described in the Scope of Work and Services, Exhibit A.

**Material Change** means a measurable deviation in the Contracted Baseline such that there is an adverse impact on the Annual Realized Savings which results or will result in a Savings Shortfall.

**Measured & Verified Savings** means those Savings that can be calculated and ascertained by the methodology set forth in the Performance Assurance, Exhibit C.

Oil refers to the definition found in Section 11.1.

**Operational Savings** means Savings derived from reduced operational expenses, including but not limited to, Deferred Maintenance, or Capital Off-Set Savings. Operational Savings can only be expressed in monetary value and are Stipulated Savings.

**Outstanding Items List** means a list of items in need of completion or correction that relates to the Work, or a designated portion thereof that is Substantially Complete. The absence of such items does not deprive the CLIENT of the ability to put such Work, or a designated portion thereof to beneficial use. An Outstanding Items List may be attached to a Certificate of Substantial Completion.

Parties means the CLIENT and SIEMENS.

**Performance Assurance** is the process of ascertaining whether the FIMs are performing at the level necessary to achieve the Guaranteed Savings.

**Performance Assurance Services Program or PASP** means the Services required to monitor the operation of the FIMs so that SIEMENS can provide the Annual Performance Assurance Report detailing the Annual Realized Savings and comparing the same to the Annual Guaranteed Savings based upon the calculations agreed to by the Parties in the Performance Assurance, Exhibit C. The Services provided under the PASP are described in the Scope of Work and Services, Exhibit A.

**Performance Guarantee** means the guarantee that SIEMENS makes to the CLIENT which is reconciled and confirmed through the Performance Assurance process set forth in the Performance Assurance, Exhibit C.

**Performance Guarantee Period** means the timeframe from the Guarantee Date to the last day of the final Annual Period as described in Table 1.1 of the Performance Assurance, Exhibit C, or the period from the Guarantee Date until the termination of this Agreement, whichever occurs earlier.

**Permitted Users** means the CLIENT, its employees and agents.

**Savings** means the Parties' intended result from implementing all FIMs. Savings can be derived from reductions in energy or utility consumption, reductions in operating expenses, a changed utility rate classification or a combination thereof. The Savings that are achieved from reduced energy or utility consumption are converted to a dollar figure based upon the calculation in Article 4.1.1 and as detailed in the Performance Assurance, Exhibit C. When converted to a dollar figure, these Savings become energy cost savings. Operational Savings are only expressed in a dollar figure.

Savings Shortfall means the Annual Realized Savings less the Guaranteed Annual Savings for the Annual Period resulting in an amount less than zero.

Services means those services to be provided by SIEMENS as described in the Scope of Work and Services, Exhibit A.

**SIEMENS Pre-existing Intellectual Property** means any Intellectual Property: (i) that has been conceived or developed by an employee or subcontractor of SIEMENS before SIEMENS performs any Work or Services under this Agreement; (ii) that is conceived or developed by such employee or subcontractor at any time wholly independently of SIEMENS performing the Work under this Agreement; or, (iii) if developed while performing the Work under this Agreement, where the development of Intellectual Property for the benefit of the CLIENT is not expressly identified as a FIM or part of a FIM. SIEMENS Pre-existing Property is included in all reports, notes, calculations, data, drawings, estimates, specifications, manuals, documents, all computer programs, codes and computerized materials prepared by or for SIEMENS.

**SIEMENS Product** means a product, including Software Product and/or Equipment, offered for sale or license by SIEMENS or its affiliates or subsidiaries and developed prior to performing the Work or SIEMENS rendering services in connection with this Agreement. A SIEMENS Product also includes improvements or modifications to any Equipment and any Software Product developed by SIEMENS or developed as part of the Work, including any SIEMENS Product that is configured or modified for operation at a site specified by the CLIENT. Any information that is provided by the CLIENT and incorporated into a SIEMENS Product is not, by itself, a SIEMENS Product. A compilation of such information and the product of such compilation, however, is a SIEMENS Product.

**Software Product** means any software that is owned or licensed by SIEMENS or its affiliates and that is either separately deliverable for use in the Equipment or for use in a computer system owned by the CLIENT or delivered as firmware embedded in the Equipment.

Stipulated Savings are a sub-category of Guaranteed Savings that do not require post-FIM implementation measurement and verification because they are agreed upon by the Parties based upon representations made to SIEMENS by the CLIENT

and through the application of generally accepted analytical formulae. As such, Stipulated Savings are agreed upon in advance by the Parties and cannot be changed. When used as a methodology for representing a FIM's energy savings, such methodology is not recognized as a measurement and verification methodology under IPMVP. Therefore, where the IPMVP measurement methodologies are required, a methodology other than Stipulated Savings must be used to calculate energy savings.

**Substantial Completion or Substantially Complete** means the Work, or any identifiable portion thereof, which is sufficiently complete, in accordance with the provisions of this Agreement relating to the Scope of the Work and Services, Exhibit A, such that the CLIENT will be able to realize from such Work substantially all of the practical benefits intended to be gained therefrom, or otherwise employ the Work or the FIMs for their intended purposes.

**Therm** is a measure of energy equal to 100,000 BTUs.

**Total Guaranteed Savings** means the sum of the Savings that are guaranteed for all Annual Periods during the Performance Guarantee Period (inclusive of the Construction Period, if applicable). The Total Guaranteed Savings are reflected in Tables 1.1 and 1.2 in the Performance Assurance, Exhibit C.

**Work** means collective labor, Equipment and services comprising the FIMs to be performed by SIEMENS, as described in the Scope of Work and Services, Exhibit A.

**Work Product Deliverable** means the tangible form of a report or drawing specifically developed for, commissioned by and deliverable to the CLIENT in connection with the Work to be performed by SIEMENS under this Agreement.

## Article 3 General

- 3.1 The Parties hereto acknowledge and agree that this Agreement has been negotiated at arm's length and among the Parties equally sophisticated and knowledgeable as to the subject matter of this Agreement. Each party has conferred, or has had the opportunity to confer, with their respective legal counsel. Accordingly, in the event any claim is made relating to any conflict, omission, or ambiguity in this Agreement, no presumption, burden of proof, or persuasion shall be implied by virtue of the fact that this Agreement was drafted by or at the request of a particular party or its legal counsel.
- 3.2 The CLIENT hereby engages and SIEMENS hereby accepts the engagement to perform and to provide the Work and Services set forth in Exhibit A in accordance with the terms and conditions of this Agreement.
- 3.3 SIEMENS shall perform the Work as an independent contractor with exclusive control of the manner and means of performing the Work in accordance with the requirements of this Agreement. SIEMENS has no authority to act or make any agreements or representations on behalf of the CLIENT. This Agreement is not intended, and shall not be construed to create, between the CLIENT and SIEMENS, the relationship of principal and agent, joint-venturers, co-partners or any other such relationship, the existence of which is hereby expressly denied. No employee or agent of SIEMENS shall be, or shall be deemed to be, an employee or agent of the CLIENT.
- 3.4 SIEMENS represents, warrants and covenants to the CLIENT that:
  - (a) It has all requisite corporate power to enter into this Agreement, and that its execution hereof has been duly authorized and does not and will not constitute a breach or violation of any of SIEMENS organizational documents, any Applicable Law, or any agreements with third parties;
  - (b) It has done and will continue to do all things necessary to preserve and keep in full force and effect its existence and the Agreement;
  - (c) This Agreement is the legal, valid and binding obligation of SIEMENS, in accordance with its terms, and all requirements have been met and procedures have been followed by SIEMENS to ensure the enforceability of the Agreement;
  - (d) To SIEMENS best knowledge, there is no pending or threatened, suit, action, litigation or proceeding against or affecting SIEMENS that affects the validity or enforceability of this Agreement; and,
  - (e) It is duly authorized to do business in all locations where the Work and Services are to be performed.
- 3.5 The CLIENT represents, warrants and covenants to SIEMENS that:

- (a) It has all requisite corporate power and/or statutory authority to enter into this Agreement, and that its execution hereof has been duly authorized and does not and will not constitute a breach or violation of any of the CLIENT's organizational documents, any Applicable Law, or any agreements with third parties;
- (b) It has done and will continue to do all things necessary to preserve and keep in full force and effect its existence and the Agreement;
- (c) This Agreement is the legal, valid and binding obligation of the CLIENT, in accordance with its terms, and all requirements have been met and procedures have been followed by the CLIENT to ensure the enforceability of the Agreement;
- (d) To the CLIENT's best knowledge, there is no pending or threatened, suit, action, litigation or proceeding against or affecting the CLIENT that affects the validity or enforceability of this Agreement; and,
- (e) The CLIENT has consulted with its legal counsel and is relying on the advice of its counsel concerning all legal issues related to this Agreement, and is not relying on SIEMENS in this regard.

#### Article 4

#### **Performance Guarantee**

- 4.1 The Annual Realized Savings generated during each Annual Period will be no less than the Guaranteed Annual Savings as shown in Tables 1.1 and 1.2 of the Performance Assurance, Exhibit C, subject to the limits in Section 4.8. The measurement and verification calculation methodology for determining the Savings is set forth in the Performance Assurance, Exhibit C.
  - 4.1.1 <u>General</u>. Except as otherwise provided, energy savings will be calculated for each month of each Annual Period as the product of (a) "units of energy saved" (kWh, Therms, GJ, etc.) multiplied by (b) "cost of energy."
    - (a) Units of energy saved are calculated by 1) assuming the Contracted Baseline has been maintained per Section 4.3 below, and 2) subtracting the then current period measured units of energy consumed from the Baseline units of energy defined in Article 5 of Exhibit C.
    - (b) Costs of energy are defined in Article 6 of Exhibit C-Utility Rate Structures and Escalation Rates.
- 4.2 Any future Escalation Rates to be applied to utility, energy or other costs are set forth in Exhibit C. SIEMENS and the CLIENT agree that the Baseline data set forth in Exhibit C is a full and accurate reflection of the existing Facility, equipment, operation, business use and energy usage, and that such Baseline data will be the basis on which all future energy use will be compared in order to determine the Annual Realized Savings.
- 4.3 SIEMENS and the CLIENT agree that the Contracted Baseline fully described in Exhibit C will represent the new operating and/or equipment profile of the Facility resulting from the FIM implementation. The Performance Guarantee is dependent upon and is subject to the express condition that the CLIENT operates and maintains its Facilities within the Contracted Baseline parameters, as may be adjusted in accordance with the terms herein, during the entire term of the Performance Guarantee Period.
- 4.4 The CLIENT agrees to notify SIEMENS prior to or within thirty (30) days of CLIENT's knowledge of any Material Change.
- 4.5 Within thirty (30) days of notice of a Material Change, SIEMENS' discovery of a Material Change and with prompt notice to CLIENT, SIEMENS will either:
  - (a) Require an adjustment to the Performance Assurance and the Performance Guarantee as a result of the Material Change; or,
  - (b) Where a commercially reasonable adjustment to the Performance Guarantee is unavailable, terminate both the Performance Assurance and the Performance Guarantee.
- 4.6 A Performance Guarantee Period savings reconciliation as identified in Section 4.1 will be performed at the end of each Annual Period as follows:
  - (a) Within ninety (90) days of the Guarantee Date, the Construction Period Savings shall be reconciled and applied to the calculation of the first Annual Period's Annual Realized Savings.

- (b) At the conclusion of each Annual Period, SIEMENS will calculate the Annual Realized Savings and compare the calculated amount to the applicable Guaranteed Annual Savings amount.
- (c) Where the Annual Realized Savings are less than the Guaranteed Annual Savings, a Savings Shortfall shall be recorded for the applicable Annual Period.
- (d) A Savings Shortfall shall be paid by SIEMENS within sixty (60) days following the CLIENT's acceptance of the reconciliation and once paid SIEMENS shall have fulfilled its obligations under the Performance Guarantee for the applicable Annual Period.
  - 4.6.1 As the mutual goal of the Parties is to maximize Savings, if SIEMENS can correct a Savings Shortfall through an operational improvement at no expense or material inconvenience to the CLIENT and without future operational expenses, and the CLIENT declines to allow such operational improvement, then any future Savings Shortfall that the improvement would have corrected will be negated by deeming the value of the Savings Shortfall as Savings achieved and adding the amount of same to the Annual Realized Savings calculations for each Annual Period thereafter.
- 4.7 The Performance Guarantee is dependent upon and is subject to the express condition that the CLIENT maintains the PASP during the entire Performance Guarantee Period. If the CLIENT fails to maintain, breaches, cancels or otherwise causes the termination of the PASP then; (a) The Performance Guarantee shall terminate immediately and be void and of no force or effect; or, (b) Where termination of the Performance Guarantee acts to render the Agreement in violation of Applicable Law, all Guaranteed Savings thereafter shall be determined to have been achieved and SIEMENS shall have been deemed to have met its Performance Guarantee obligations under this Agreement for each and every Annual Period thereafter without the obligation to provide the CLIENT, or any third-party as the case may be, with any further Annual Performance Assurance Reports.
- 4.8 The payments and credits based on Savings Shortfalls, if any, are the sole remedy of the CLIENT under this Performance Guarantee. ANY PAYMENTS MADE OR TO BE MADE TO THE CLIENT UNDER THE TERMS OF THIS PERFORMANCE GUARANTEE SHALL NOT EXCEED THE PAYMENTS ACTUALLY MADE BY CLIENT TO EITHER SIEMENS AND/OR A THIRD-PARTY (IN THE EVENT THAT THE CLIENT HAS FINANCED THE TRANSACTION) FOR THE AGGREGATE OF: THE PRICE, AS DEFINED IN EXHIBIT B, ARTICLE 1.1; THE PASP PAYMENTS; THE MSP PAYMENTS, IF ANY; AND, IF APPLICABLE, THE CLIENT'S COST OF FINANCING THE WORK. The CLIENT's cost of financing the Work is the cost of financing calculated either: (a) On the date that the escrow account is funded in accordance with Exhibit B, Article 1.2; or, (b) On the Effective Contract Date if the escrow requirement is expressly waived by SIEMENS.
- 4.9 The CLIENT represents that all existing equipment that is not installed by SIEMENS under this Agreement but is deemed necessary to achieve the Performance Guarantee, is in satisfactory working condition. Prior to the beginning of the Performance Guarantee Period, SIEMENS will have inspected all such existing equipment and reported any deficiencies to the CLIENT. To the extent that the deficiencies are not remedied by the CLIENT prior to the Guarantee Date, the adverse effect on the ability of the Project to attain the necessary Guaranteed Savings shall be factored into the Annual Performance Assurance Report and, if necessary, the Performance Guarantee shall be adjusted accordingly.
- 4.10 If the Equipment or the existing equipment is altered or moved by any person (including the CLIENT) other than SIEMENS or a person authorized by SIEMENS, the CLIENT shall immediately notify SIEMENS in writing, and SIEMENS reserves the right to perform a reacceptance test on, or if necessary a re-commissioning of, the system at the CLIENT's expense in order to determine if a Material Change has occurred.
- 4.11 SIEMENS will have no liability or obligation to continue providing PASP Services or any Guaranteed Savings under the Performance Guarantee in the event that the CLIENT fails to:
  - (a) Authorize a re-acceptance test or re-commissioning that SIEMENS reasonably deems necessary in order to determine if a Material Change has occurred;
  - (b) Provide access to any Facility where Work is to be performed;
  - (c) Service and maintain all Equipment in accordance with the manufacturers' recommendations in order to prevent a Savings Shortfall; or,

- (d) Provide SIEMENS with accurate Facility operating information as soon as such information becomes reasonably available to the CLIENT, including energy usage and cost, executed preventive maintenance and repair records, building or equipment additions, and occupancy levels during each Annual Period.
- 4.12 Unless expressly contrary to Applicable Law, should the CLIENT decide to discontinue the PASP before the end of the Performance Guarantee Period, the CLIENT will give SIEMENS thirty (30) days prior written notice and in such notice indicate that the CLIENT has selected one of the following:
  - (a) The CLIENT will re-invest the avoided cost of cancellation of the PASP into Facility improvements and services that improve the overall Facility's performance and which improvements and services are implemented by SIEMENS; or,
  - (b) The CLIENT will pay to SIEMENS 100% of the remaining value left in the PASP Annual Period, as a liquidated damage and not as a penalty, to compensate SIEMENS for SIEMENS' up-front costs and expenses in preparing to perform the PASP as contracted for the Annual Period.
- 4.13 Unless expressly contrary to Applicable Law, any disputes concerning the calculation of the Annual Realized Savings or changes to the Contracted Baseline that are not resolved by negotiation between the Parties within thirty (30) days of the notice of the dispute, will be resolved by a third-party professional engineering firm which is reasonably acceptable to both SIEMENS and the CLIENT. The determination of such firm will be final and binding upon CLIENT and SIEMENS. SIEMENS and the CLIENT will each be responsible for half of the fees of such firm.

#### Article 5

#### Work by SIEMENS

- 5.1 SIEMENS will perform the Work expressly described in this Agreement and in any work release documents or change orders that are issued under this Agreement and signed by both Parties. The Work performed by SIEMENS shall be conducted in a workmanlike manner and in accordance with industry standards.
- 5.2 SIEMENS shall perform the Work during its normal hours, Monday through Friday inclusive, excluding holidays, from 7am to 6pm, unless otherwise agreed herein. The CLIENT shall make the Facility available so Work may proceed in an efficient manner.
- 5.3 SIEMENS is not required to conduct safety, reacceptance or other tests, install new devices or equipment or make modifications to any Equipment unless expressly made a part of the Work identified in the Scope of Work and Services, Exhibit A. Any CLIENT request to change the scope or the nature of the Work or Services must be in the form of a mutually agreed change order, effective only when executed by the Parties.
- 5.4 All Work Product Deliverables shall become the CLIENT's property upon receipt by CLIENT. SIEMENS may retain file copies of such Work Product Deliverables. If any Instruments are provided to the CLIENT under this Agreement, any such Instruments shall remain SIEMENS' property, including the Intellectual Property conceived or developed by SIEMENS in the Instruments. All SIEMENS' Pre-existing Intellectual Property that may be included in the Deliverables provided to the CLIENT under this Agreement shall also remain SIEMENS property including the SIEMENS Pre-existing Intellectual Property included in the Work Product Deliverables. All Work Product Deliverables and any Instruments provided to the CLIENT are for Permitted Users' use and only for the purposes disclosed to SIEMENS. SIEMENS hereby grants the CLIENT a royalty-free (once payments due under this Agreement are paid to SIEMENS), non-transferable, perpetual, nonexclusive license to use any SIEMENS Pre-existing Intellectual Property solely as incorporated into the Deliverables and SIEMENS' Intellectual Property as incorporated into any Instruments provided to the CLIENT under this Agreement. Under such license, and following agreement to be bound to such separate confidentiality provisions that may exist between the Parties, Permitted Users shall have a right to:
  - (a) Use, in object code form only, the Software Products included in the Deliverables ("Software Deliverables");
  - (b) Make and retain archival and emergency copies of such Software Deliverables (subject to any confidentiality provisions) except if the Software Deliverable is embedded in the Equipment; and,
  - (c) Use all such Deliverables and such Instruments, provided however, the Deliverables and Instruments shall not be used or relied upon by any parties other than Permitted Users, and such use shall be limited to the particular project and location for which the Deliverables are provided. All Deliverables provided to the CLIENT are for Permitted Users' use only for the purposes disclosed to SIEMENS, and the CLIENT shall not transfer them to

others or use them or permit them to be used for any extension of the Work or any other project or purpose, without SIEMENS' express written consent.

- 5.4.1 Any reuse of such Deliverables or such Instruments for other projects or locations without the written consent of SIEMENS, or use by any party other than Permitted Users will be at Permitted Users' risk and without liability to SIEMENS; and, the CLIENT shall indemnify, to the extent permitted by law, defend and hold SIEMENS harmless from any claims, losses or damages arising therefrom.
- 5.4.2 In consideration of such license, CLIENT agrees not to reverse engineer any Equipment or Software Product to reconstruct or discover any source code, object code, firmware, underlying ideas, or algorithms of such Equipment or Software Product even to the extent such restriction is allowable under Applicable Law.
- 5.4.3 Nothing contained in this Agreement shall be interpreted or construed to convey to the CLIENT the preexisting Intellectual Property rights of any third party incorporated into the Deliverables. CLIENT agrees to take delivery of any Software Deliverables subject to any applicable SIEMENS or third party end-user license agreement accompanying such Software Deliverable.
- 5.5 SIEMENS shall be responsible for any portion of the Work performed by any subcontractor of SIEMENS. SIEMENS shall not have any responsibility, duty or authority to direct, supervise or oversee any contractor of the CLIENT or their work or to provide the means, methods or sequence of their work or to stop their work. SIEMENS' work and/or presence at the Facility shall not relieve others of their responsibility to the CLIENT or to others.

#### 5.6 SIEMENS warrants that:

- (a) Unless otherwise agreed, all Equipment shall be new and of good quality. Until one year from the date the Equipment is installed, all Equipment manufactured by SIEMENS or bearing its nameplate will be free from defects in material and workmanship arising from normal use and service.
- (b) Labor for all Work, excluding PASP or MSP Services, is warranted to be free from defects in workmanship for one year after the Work is performed. PASP Services and MSP Services are warranted to be free from defects in workmanship for ninety (90) days after the Services are performed.

#### 5.7 Warranty Limitation:

- (a) The limited warranties set forth in Section 5.6 will be void as to, and shall not apply to, any Equipment (i) repaired, altered or improperly installed by any person other than SIEMENS or its authorized representative; (ii) which the CLIENT or a third party subjects to unreasonable or improper use or storage, uses beyond rated conditions, operates other than per SIEMENS or the manufacturer's instructions, or otherwise subjects to improper maintenance, negligence or accident; (iii) damaged because of any use of the Equipment after the CLIENT has, or should have had, knowledge of any defect in the Equipment; or (iv) not manufactured, fabricated and assembled by SIEMENS or not bearing SIEMENS nameplate. However, SIEMENS assigns to the CLIENT, without recourse, any and all assignable warranties available from any manufacturer, supplier, or subcontractor of such Equipment.
- (b) Any claim under the limited warranty granted above must be made in writing to SIEMENS within thirty (30) days after discovery of the claimed defect unless discovered directly by SIEMENS. Such limited warranty only extends to the CLIENT and not to any subsequent owner of the Equipment. The CLIENT's sole and exclusive remedy for any Equipment or Services not conforming with this limited warranty is limited to, at SIEMENS' option: (i) repair or replacement of defective components of covered Equipment; (ii) re-performance of the defective portion of the Services; or (iii) to the extent previously paid and itemized, the issuance of a credit or refund for the original purchase price of such defective component or portion of the Equipment or Services.
- (c) SIEMENS shall not be required to repair or replace more than the component(s) of the Equipment or the portion of the Work and Services actually found to be defective. SIEMENS' warranty liability shall not exceed the purchase price of such item. Repaired or replaced Equipment or Services will be warranted hereunder only for the remaining portion of the original warranty period.
- 5.8 THE EXPRESS LIMITED WARRANTIES PROVIDED ABOVE ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, STATUTORY, EXPRESS, OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY

DISCLAIMED. THE LIMITED EXPRESS WARRANTIES AND REPRESENTATIONS SET FORTH IN THIS AGREEMENT MAY ONLY BE MODIFIED OR SUPPLEMENTED IN A WRITING EXECUTED BY A DULY AUTHORIZED SIGNATORY OF EACH PARTY.

- 5.9 SIEMENS will not be responsible for the maintenance, repair or replacement of, or Services necessitated by reason of:
  - (a) Non-maintainable, non-replaceable or obsolete parts of the Equipment, including but not limited to: ductwork, shell and tubes, heat exchangers, coils, unit cabinets, casings, refractory material, electrical wiring, water and pneumatic piping, structural supports, cooling tower fill, slats and basins, etc., unless covered by the warranty provisions herein or otherwise specifically stated herein; or
  - (b) The CLIENT's or a third-party's negligence, abuse, misuse, improper or inadequate repairs or modifications, improper operation, lack of operator maintenance or skill, corrosion, erosion, improper or inadequate water treatment, electrolytic action, chemical action, failure to comply with manufacturer's operating and environmental requirements, Acts of God, or other reasons beyond SIEMENS' control. Unless expressly agreed in writing, SIEMENS is not responsible for the removal or reinstallation of replacement valves, dampers, or waterflow and tamper switches with respect to pipes and ductwork, including vent or drain system. SIEMENS ASSUMES NO RESPONSIBILITY FOR ANY SERVICE PERFORMED ON ANY EQUIPMENT OTHER THAN THAT PERFORMED BY SIEMENS OR ITS AGENTS.

#### Article 6

#### CLIENT Responsibilities

- 6.1 The CLIENT, without cost to SIEMENS, shall:
  - (a) Designate a contact person with authority to make decisions for the CLIENT regarding the Work and provide SIEMENS with information sufficient to contact such person in an emergency;
  - (b) Coordinate the work of contractors under CLIENT's sole control so as not to disrupt the Work and Services proceeding in an efficient manner;
  - (c) Provide or arrange for access from 7am to 6pm, Monday through Friday and make all reasonable provisions for SIEMENS to enter any Facility where Work is to be performed so that Work may proceed in an efficient manner;
  - (d) Permit SIEMENS to control and/or operate all building controls, systems, apparatus, equipment and machinery necessary to perform the Work;
  - (e) Furnish SIEMENS with blueprints, surveys, legal descriptions, waste management plans and all other available information pertinent to the Work and any Facility where the Work is to be performed as may be reasonably requested by SIEMENS. Such plans and blueprints, along with an executed copy of this Agreement, with its Exhibits, shall be kept and maintained in CLIENT's files for a period of fifteen (15) years from the Effective Contract Date;
  - (f) Furnish SIEMENS with all approvals, permits and consents from government authorities and others as may be required for performance of the Work, except for those SIEMENS has expressly agreed in writing to obtain;
  - (g) In accordance with Article 11 hereof, promptly notify SIEMENS of all known or suspected Hazardous Materials at the Facility, of any contamination of the Facility by Oil or Hazardous Material, and of any other conditions requiring special care or which may reasonably be expected to affect the Work, and provide SIEMENS with any available documents describing the quantity, nature, location and extent of such materials, contamination or conditions;
  - (h) Comply with Applicable Law and provide any notices required to be given to any government authorities in connection with the Work, except such notices SIEMENS has expressly agreed in writing to give;
  - (i) Provide SIEMENS with legally required materials and information (including but not limited to Material Safety Data Sheets) related to all Hazardous Materials located at any Facility where the Work is to be performed;
  - (j) Furnish SIEMENS with any contingency plans, safety programs and other policies, plans or programs related to any Facility where the Work is to be performed;
  - (k) Operate, service and maintain all Equipment according to the manufacturer's recommendations including those set forth in the manufacturer's operating manuals or instructions, as well as all requirements of Applicable Law or

of authorities having jurisdiction. The CLIENT shall furnish all needed servicing and parts for said FIMs, which parts shall become part of the FIMs. Such Equipment shall be operated only in the specified operating environment, which shall be supplied by the CLIENT, including without limitation: (1) suitable electrical service, including clean, stable, properly conditioned power, to all Equipment; (2) telephone lines, capacity and connectivity as required by such Equipment; and (3) heat, light, air conditioning or other environmental controls, and other utilities in accordance with the specifications for the Equipment;

- (I) Promptly notify SIEMENS of any unusual operating conditions, hours of usage, system malfunctions, installed equipment or building alterations that may affect the Equipment or energy usage or any Services; and,
- (m) If applicable, provide and pay for a dedicated voice grade dial-up phone line, or a mutually agreed communication method, and install a terminal block, or an equivalent communication mechanism, in a mutually agreed upon location. All on-line service Equipment (excluding the phone line) will remain the property of SIEMENS unless otherwise stated herein.
- 6.2 Unless contrary to Applicable Law, and in accordance with the requirements of the Texas Public Records Act, the CLIENT acknowledges that the technical and pricing information contained in this Agreement is confidential and proprietary to SIEMENS and agrees not to disclose it or otherwise make it available to others without SIEMENS' express written consent.
- 6.3 The CLIENT acknowledges that it is now and shall at all times remain in control of the Facility. Except as expressly provided herein, SIEMENS shall not be responsible for the adequacy of the health or safety programs or precautions related to the CLIENT's activities or operations, the CLIENT's other contractor(s), the work of any other person or entity, or Facility conditions. SIEMENS shall not be responsible for inspecting, observing, reporting or correcting health or safety conditions or deficiencies of the CLIENT or others at the Facility. So as not to discourage SIEMENS from voluntarily addressing health or safety issues while at the Facility, in the event SIEMENS does address such issues by making observations, reports, suggestions or otherwise, the CLIENT shall not hold, or attempt to hold, SIEMENS liable or responsible on account thereof.

## Article 7 Changes and Delays

- 7.1 As the Work is performed, Applicable Law or conditions may change, or circumstances outside SIEMENS' reasonable control may develop, which would require SIEMENS to expend additional costs, effort or time to complete the Work, in which case SIEMENS will notify the CLIENT and subject to Client's agreement, an equitable adjustment will be made to SIEMENS' compensation and the time for performance. In the event such changes require the Work to be suspended or terminated, SIEMENS shall be compensated for Work previously performed and for costs reasonably incurred in connection with the suspension or termination.
- 7.2 Either party may request additions, deletions, modifications or changes to the Work. Any such requests shall only become effective upon execution of a written agreement by authorized representatives of both Parties.
- 7.3 SIEMENS may, in its sole discretion, substitute alternative parts, goods or equipment in the performance of the Work, provided that any such substitution shall be of an equal or better quality.
- 7.4 SIEMENS shall not be responsible for loss, delay, injury, damage or failure of performance that may be caused by circumstances beyond its control, including but not restricted to acts or omissions by the CLIENT or its employees, agents or contractors, Acts of God, war, civil commotion, acts or omissions of government authorities, fire, theft, corrosion, flood, water damage, lightning, freeze-ups, strikes, lockouts, differences with workmen, riots, explosions, quarantine restrictions, delays in transportation, or shortage of vehicles, fuel, labor or materials. In the event of such delay or failure, the time for performance shall be extended by a period equal to the time lost plus a reasonable recovery period and the compensation shall be equitably adjusted to compensate for additional costs SIEMENS incurs due to such delay. If any such delay exceeds sixty (60) days, SIEMENS may terminate this Agreement upon three (3) days notice to the CLIENT and the CLIENT shall promptly pay SIEMENS for the allocable portion of the Work completed, for any costs and expenses of termination, and for any loss or damage incurred with respect to materials, equipment, tools and machinery, including reasonable overhead and profit.

Article 8
Compensation

- 8.1 The aggregate amount paid by CLIENT provides for and is solely in consideration of the Scope of Work and Services described in Exhibit A, and is detailed in Exhibit B.
- 8.2 SIEMENS will invoice the CLIENT in accordance with the schedules set forth in Exhibit B. Unless otherwise agreed in writing, invoices are due and payable upon receipt by the CLIENT. If the CLIENT disagrees with any portion of an invoice, it shall notify SIEMENS in writing of the amount in dispute and the reason for its disagreement within 21 days of receipt of the invoice, and shall pay the portion not in dispute.
- 8.3 SIEMENS may suspend or terminate the Work or Services at any time if payment is not received when due. In such event, SIEMENS shall be entitled to compensation for the Work or Services previously performed and for costs reasonably incurred in connection with the suspension or termination provided that Siemens was not in breach of any provision of this Agreement at the time of suspension or termination.
- 8.4 On amounts not paid within thirty (30) days of invoice date, the CLIENT shall pay interest from invoice date until payment is received at the lesser of 12% per annum or the maximum rate allowed by law. The CLIENT shall reimburse SIEMENS for SIEMENS' costs and expenses (including reasonable attorney and witness fees) incurred for collection under this Agreement.
- 8.5 Except to the extent expressly agreed herein, SIEMENS' fees do not include any taxes, excises, fees, duties or other government charges related to the Work or Services. The CLIENT shall pay such amounts or reimburse SIEMENS for any such amounts SIEMENS pays to the extent such charges are lawfully due and payable by CLIENT and have been paid or incurred by SIEMENS in furtherance thereof. If the CLIENT claims that the Work or Services is subject to a tax exemption or direct payment permit, it shall provide SIEMENS with a valid exemption certificate or permit and, unless specifically prohibited by law, shall indemnify, defend and hold SIEMENS harmless from any taxes, costs and penalties arising out of the use or acceptance of same.
- 8.6 All other work or services requested by the CLIENT, including but not limited to the following, shall be separately billed or surcharged on a time and materials basis:
  - (a) Emergency services, if inspection does not reveal any deficiency covered by the Scope of Work and Services, Exhibit A:
  - (b) Work and/or services performed at times other than during SIEMENS' normal working hours, unless otherwise agreed to in Exhibit A; or
  - (c) Work and/or services performed on equipment not covered by the Scope of Work and Services, Exhibit A.

#### Article 9

#### **Acceptance**

- 9.1 When SIEMENS believes that all or an independent definable phase or portion of the Work is Substantially Complete, SIEMENS will submit a Certificate of Substantial Completion to the CLIENT which shall be subject to the following:
  - (a) If the CLIENT concurs that the described portion of the Work as performed is Substantially Complete, the CLIENT will sign the Certificate of Substantial Completion and return it to SIEMENS;
  - (b) A Certificate of Substantial Completion may include, as an attachment to it, an Outstanding Items List prepared by SIEMENS;
  - (c) If the CLIENT does not concur that the Work is Substantially Complete, then, within five (5) business days of receiving the Certificate of Substantial Completion, the CLIENT shall notify SIEMENS in writing of the reasons it believes the Work is not Substantially Complete;
  - (d) If SIEMENS disagrees with the CLIENT as to whether the Work is Substantially Complete, SIEMENS shall notify the CLIENT in writing of a dispute and such dispute shall be resolved in accordance with Section 9.3 herein;
  - (e) If, within five (5) business days of receiving the Certificate of Substantial Completion the CLIENT fails to sign the Certificate, and within the same period the CLIENT's Representative does not deliver to SIEMENS a written notice of the reasons the CLIENT believes that the Work is not Substantially Complete, then in the mutual interests of the Project proceeding in a timely manner, the CLIENT will be deemed to have agreed to, signed and returned the Certificate of Substantial Completion.

- 9.2 After the CLIENT signs and returns, or is deemed to have signed and returned to SIEMENS all of the Certificates of Substantial Completion relating to the Work, and after SIEMENS corrects and completes all of the items on all of the Outstanding Items Lists, if any, SIEMENS will submit to the CLIENT a Certificate of Final Completion which shall be subject to the following:
  - (a) If the CLIENT concurs that all of the items on all of the Outstanding Items Lists have been completed or corrected, the CLIENT will indicate its final acceptance of the Work by signing the Certificate of Final Completion and returning it to SIEMENS;
  - (b) If the CLIENT does not concur that all of the items on all of the Outstanding Items Lists have been completed or corrected, then the CLIENT shall, within five (5) business days of receiving the Certificate of Final Completion, identify in writing the items that, it believes, were not completed or corrected;
  - (c) If SIEMENS disagrees that the items identified by the CLIENT have not been completed or corrected, SIEMENS shall notify the CLIENT in writing of a dispute and such dispute shall be resolved in accordance with section 9.3 herein:
  - (d) If, within five (5) business days of receiving a Certificate of Final Completion, the CLIENT fails to sign that Certificate, and, within the same period the CLIENT's Representative does not deliver to SIEMENS a written notice identifying the items on the Outstanding Items List(s) that, the CLIENT believes, were not completed or corrected, then the CLIENT will be deemed to have agreed to and signed and returned the Certificate of Final Completion.
- 9.3 Any disputes concerning the Substantial Completion or the Final Completion of the Work will be resolved by submitting the issue to a third party professional engineering firm and which is reasonably acceptable to both SIEMENS and the CLIENT. The determination of this firm with respect to Final Completion or Substantial Completion will be final and binding upon the Parties. SIEMENS and the CLIENT shall share equally the costs or fees for such firm in connection with such dispute resolution process.

#### Article 10

#### Insurance and Allocation of Risk

- 10.1 SIEMENS shall maintain, at SIEMENS' expense, the following insurances while performing the Work and shall add the CLIENT as an "Additional Insured" to each policy that is referenced in subsections (c) through and including (e) hereof:
  - (a) Workers' Compensation at the statutory amounts and limits as prescribed by Applicable Law.
  - (b) Employer's Liability insurance (and, where applicable, Stop Gap extended protection endorsement) limits of liability shall be:
    - \$1,000,000 per occurrence
    - \$1,000,000 Disease Policy
    - \$1,000,000 Each Employee
  - (c) SIEMENS shall carry, in the Occurrence Coverage Form, Comprehensive General Liability or Commercial General Liability, insurance covering SIEMENS' operations and providing insurance for bodily injury and property damage with limits of liability stated below and including coverage for:
    - Products and Completed Operations
    - Contractual Liability insuring the obligations assumed
       by SIEMENS in this Agreement
    - Broad Form Property Damage (including Completed Operations)
    - Explosion, Collapse and Underground Hazards
    - Personal Injury Liability:
      - Limits of liability shall be \$1,000,000 per occurrence/aggregate
  - (d) SIEMENS shall carry Automobile Liability Insurance in the Occurrence Coverage Form covering all owned, hired and non-owned automobiles and trucks used by or on behalf of SIEMENS providing insurance for bodily injury liability and property damage liability for the limits of:
    - \$1,000,000 per occurrence/aggregate
  - (e) SIEMENS shall carry Excess Liability Insurance in the Occurrence Coverage Form with limits of:

- \$5,000,000 per occurrence/aggregate
- 10.2 The CLIENT will either maintain at its own expense, or self-insure for the equivalent risks, property insurance written on a builder's "all-risk" or equivalent policy form in an amount no less than the Price identified in Exhibit B, Article 1.1, plus the value of subsequent modifications and cost of materials supplied or installed by others, on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by SIEMENS, until final payment has been made to SIEMENS or no person or entity other than the CLIENT has an insurable interest in the property, whichever is later. The policy form shall include without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and start-up, rebuilding and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for SIEMENS' services and expenses required as result of such insured loss. If the insurance requires deductibles or retentions, the CLIENT shall pay costs not covered because of such deductibles or retentions. This insurance shall cover portions of the Work off the Facility, and also portions of the Work in transit. Partial occupancy or use shall not commence unless the insurance company providing this insurance has consented to such partial occupancy or use by endorsement for otherwise. The CLIENT shall purchase and maintain boiler and machinery insurance which shall specifically cover such insured objects during installation and until Acceptance by the CLIENT. The insurance required by this section shall include the interests of the CLIENT, SIEMENS, subcontractor and sub-subcontractor in the Work. SIEMENS shall be included as an additional insured on each such insurance coverage. The CLIENT and SIEMENS waive all rights against each other and any of their subcontractors, sub-subcontractors, agents and employees for damages caused by fire or other causes of loss to the extent covered by the insurance required by this section and for any other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the CLIENT as fiduciary. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. Insurance certificates shall be furnished upon request.
- 10.3 Title and risk of loss of materials and Equipment furnished by SIEMENS shall pass to the CLIENT upon their delivery to the Facility, and the CLIENT shall be responsible for protecting them against theft and damage.
- 10.4 SIEMENS will indemnify the CLIENT from and against losses, claims, expenses and damages (including reasonable attorney's fees) for personal injury or physical damage to property (collectively "Damages"). Such indemnification shall be solely to the extent the Damages are caused by or arise directly from SIEMENS or its employees', consultants' or agents' negligent acts or omissions or willful misconduct in connection with SIEMENS' performance of the Work or Services. SIEMENS' obligations under this indemnity shall not extend to Damages arising out of or in any way attributable to the negligence of the CLIENT or its agents, contractors or employees. SIEMENS reserves the right to control the defense and settlement of any claim for which SIEMENS has an obligation to indemnify hereunder. UNLESS CONTRARY TO APPLICABLE LAW, IN NO EVENT SHALL THE CLIENT OR SIEMENS BE LIABLE UNDER THIS INDEMNITY OR OTHERWISE UNDER THIS AGREEMENT FOR SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING COMMERCIAL LOSS, LOSS OF USE, OR LOST PROFITS, HOWEVER CAUSED, EVEN IF SIEMENS OR THE CLIENT HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND, IN ANY EVENT, UNLESS CONTRARY TO APPLICABLE LAW, SIEMENS' AGGREGATE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES OR EXPENSES ARISING OUT OF THIS AGREEMENT, OR OUT OF ANY GOODS OR SERVICES FURNISHED UNDER THIS AGREEMENT, WHETHER BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, AGENCY, WARRANTY, TRESPASS, INDEMNITY OR ANY OTHER THEORY OF LIABILITY, SHALL BE LIMITED TO THE LESSER OF \$1,500,000 OR THE TOTAL COMPENSATION RECEIVED BY SIEMENS FROM THE CLIENT UNDER THIS AGREEMENT. The preceding limit shall not apply to the CLIENT's remedy under the Performance Guarantee as such is limited by Section 4.8.

#### 10.5 As to Patents and Copyrights:

(a) SIEMENS will, at its own expense, defend or at its option settle any suit or proceeding brought against the CLIENT in so far as it is based on an allegation that any Work (including parts thereof), or use thereof for its intended purpose, constitutes an infringement of any United States patent or copyright, if SIEMENS is promptly provided notice and given authority, information, and assistance in a timely manner for the defense of said suit or proceeding. SIEMENS will pay the damages and costs awarded in any suit or proceeding so defended.

SIEMENS will not be responsible for any settlement of such suit or proceeding made without its prior written consent. In case the Work, or any part thereof, as a result of any suit or proceeding so defended is held to constitute infringement or its use by the CLIENT is enjoined, SIEMENS will, at its option and its own expense, either: (i) procure for the CLIENT the right to continue using said Work; (ii) replace it with substantially equivalent non-infringing Work; or (iii) modify the Work so it becomes non-infringing.

- (b) SIEMENS will have no duty or obligation to the CLIENT under Section 10.5(a) to the extent that the Work is: (i) supplied according to the CLIENT's design or instructions, wherein compliance therewith has caused SIEMENS to deviate from its normal course of performance; (ii) modified by the CLIENT or its contractors after delivery; or, (iii) combined by the CLIENT or its contractors with items not furnished hereunder, and by reason of said design, instruction, modification, or combination, a suit is brought against the CLIENT. If by reason of such design, instruction, modification or combination, a suit or proceeding is brought against SIEMENS, unless expressly prohibited by law, the CLIENT shall protect SIEMENS in the same manner and to the same extent that SIEMENS has agreed to protect the CLIENT under the provisions of Section 10.5(a) above.
- (c) THIS SECTION 10.5 IS AN EXCLUSIVE STATEMENT OF ALL THE DUTIES OF THE PARTIES RELATING TO PATENTS AND COPYRIGHTS, AND DIRECT OR CONTRIBUTORY PATENT OR COPYRIGHT AND OF ALL THE REMEDIES OF THE CLIENT RELATING TO ANY CLAIMS, SUITS, OR PROCEEDINGS INVOLVING PATENTS AND COPYRIGHTS. Compliance with Section 10.5 as provided herein shall constitute fulfillment of all liabilities of the Parties under the Agreement with respect to the intellectual property indemnification.
- 10.6 The Parties acknowledge that the price for which SIEMENS has agreed to perform the Work and obligations under this Agreement was calculated based upon the foregoing allocations of risk, and that each Party has expressly relied on and would not have entered into this Agreement but for such allocations of risk.

#### Article 11

#### **Hazardous Materials Provisions**

- 11.1 The Work does not include directly or indirectly performing or arranging for the detection, testing, handling, storage, removal, treatment, transportation, disposal, monitoring, abatement or remediation of any contamination of any Facility at which Work is performed and any soil or groundwater at the Facility by petroleum or petroleum products (collectively called "Oil"), asbestos, PCBs or hazardous, toxic, radioactive or infectious substances, including any substances regulated under RCRA, CERCLA or any other Applicable Law (collectively called "Hazardous Materials"), including without limitation: ionization smoke detectors, ballasts, mercury bulb thermostats, used oil, contaminated filters, contaminated absorbents, and refrigerant. Except as expressly disclosed pursuant to Section 11.2, the CLIENT represents and warrants that, to the best of its knowledge following due inquiry, there are no Hazardous Materials or Oil present where the Work is to be performed. SIEMENS will notify the CLIENT immediately if it discovers or reasonably suspects the presence of any previously undisclosed Oil or Hazardous Material. All Services have been priced and agreed to by SIEMENS in reliance on the CLIENT's representations as set forth in this Article. The discovery or reasonable suspicion of Hazardous Materials or hazardous conditions at a Facility where SIEMENS is to perform Work, or of contamination of the Facility by Oil or Hazardous Materials not previously disclosed pursuant to Section 11.2, shall entitle SIEMENS to suspend the Work immediately, subject to mutual agreement of terms and conditions applicable to any further Work, or to terminate the Work and to be paid for Work previously performed.
- 11.2 The CLIENT warrants that, prior to the execution of the Agreement, it notified SIEMENS in writing of any and all Oil or Hazardous Materials, to the best of its knowledge following due inquiry, known to be present, potentially present or likely to become present at the Facility and provided a copy of any Facility safety policies and information, including but not limited to lock-out and tag procedures, chemical hygiene plan, material safety data sheets, and other items covered or required to be disclosed or maintained by Applicable Law.
- 11.3 Regardless of whether Oil or Hazardous Material was disclosed pursuant to Section 11.2, the CLIENT shall be solely responsible for properly testing, abating, encapsulating, removing, disposing, remedying or neutralizing such Oil or Hazardous Materials, and for the costs thereof. Even if an appropriate change order has been entered into pursuant to Section 11.1, SIEMENS shall have the right to stop the Work until the Facility is free from Oil or Hazardous Materials. In such event, SIEMENS will receive an equitable extension of time to complete the Work, and compensation for delays caused by Oil or Hazardous Materials remediation. In no event shall SIEMENS be required or construed to take title, ownership or responsibility for such Oil or Hazardous Materials. The CLIENT shall sign any required waste manifests in

- conformance with all government regulations, listing the CLIENT as the generator of the waste. If someone other than the CLIENT is the generator of the waste, the CLIENT shall arrange for such other person to sign such manifests.
- 11.4 Except where expressly prohibited by Applicable Law and only to the extent permitted by law, for separate consideration of \$10 and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the CLIENT shall indemnify, defend and hold SIEMENS harmless from and against any damages, losses, costs, liabilities or expenses (including attorneys' fees) arising out of any Oil or Hazardous Materials or from the CLIENT's breach of, or failure to perform its obligations under this Article.
- 11.5 For purposes of this Article 11, in the context of the phrase "to the best of its knowledge following due inquiry"; "knowledge" means actual awareness of the facts by the CLIENT's directors, officers, employees or agents, or the presence of relevant information contained in the CLIENT's books or records; and, "due inquiry" means inquiry of those persons under the CLIENT's control who should have knowledge of the subject matter of such inquiry.

#### Article 12

#### **Miscellaneous Provisions**

- 12.1 Notices between the Parties shall be in writing and shall be hand-delivered or sent by certified mail, express courier, or acknowledged telefax properly addressed to the appropriate party. Any such notice shall be deemed to have been received when delivered in-person or when sent by telefax, or five (5) business days subsequent to deposit in the U.S. mails, or one (1) day after deposit with express courier.
- 12.2 Neither the CLIENT nor SIEMENS shall assign or transfer any rights or obligations under this Agreement, except that either party may assign this Agreement to its affiliates and SIEMENS may use subcontractors in the performance of the Work or Services. Nothing contained in this Agreement shall be construed to give any rights or benefits to anyone other than the CLIENT and SIEMENS without the express written consent of both Parties.
- 12.3 This Agreement shall be governed by and construed in accordance with the laws of the state or commonwealth within which the Facilities are located.
- 12.4 This Agreement and all provisions of this Agreement allocating responsibility or liability between the Parties shall survive the completion of the Work, the Services, and the termination of this Agreement.
- 12.5 Unless contrary to Applicable Law and with the exception of disputes arising under Article 4 or Article 9, all disputes not resolved by negotiation between the Parties shall be resolved in accordance with the Commercial Rules of the American Arbitration Association in effect at that time, except as modified herein. All disputes shall be decided by a single arbitrator. A decision shall be rendered by the arbitrator no later than nine months after the demand for arbitration is filed, and the arbitrator shall state in writing the factual and legal basis for the award. No discovery shall be permitted. The arbitrator shall issue a scheduling order that shall not be modified except by the mutual agreement of the Parties. Except as provided in Article 8.4, the arbitrator shall have no authority to award, and shall not award, attorneys' fees. Judgment may be entered upon the award in the highest state or federal court having jurisdiction over the matter.
- 12.6 SIEMENS' performance of the Work and Services is expressly conditioned on the Parties assenting to all of the terms of this Agreement, notwithstanding any different or additional terms contained in any writing at any time submitted or to be submitted by a Party to the other Party relating to the Work or Services, even if signed by the Parties, unless the written statement expressly indicates that such terms supersede the terms of this Agreement
- 12.7 Any provision of this Agreement found to be invalid, unlawful or unenforceable by a court of law shall be ineffective to the extent of such invalidity, and deemed severed herefrom, without invalidating the remainder of this Agreement. All other provisions hereof shall remain in full force and effect.
- 12.8 The waiver by a party of any breach by the other party of any term, covenant or condition hereof shall not operate as a waiver of any subsequent breach hereof. No waiver shall operate or be effective unless made in writing and executed by the party to be bound thereby.
- 12.9 In the event that Applicable Law or the CLIENT requires that SIEMENS procure a performance bond and/or a payment bond, SIEMENS shall provide a performance and payment bond in the amount of the Contract price defined in Exhibit B. The performance and payment bond will solely apply to the Work performed during the Construction Period and to the required statutory lien filing period thereafter. The performance and payment bond will not apply to any of the obligations included in the Performance Assurance, Exhibit C. Furthermore, the CLIENT's funding source may be named as "Co-Obligee" on the performance bond if so requested by the CLIENT.

#### Article 13

## **Maintenance Services Program**

- 13.1 If applicable, the scope of Services provided by SIEMENS for the Maintenance Services Program is stated in Exhibit A.
- 13.2 The CLIENT represents that all equipment not installed by SIEMENS under this Agreement and subject to a MSP is in satisfactory working condition. SIEMENS will have inspected all such equipment within the first thirty (30) days of MSP commencement or no later than the first scheduled inspection. Testing and inspection will not be deemed to be complete until all such equipment has been so tested and inspected.
- 13.3 If the equipment is altered or moved by any person, including the CLIENT, other than SIEMENS or a person authorized by SIEMENS, the CLIENT shall immediately notify SIEMENS in writing, and SIEMENS reserves the right to perform a reacceptance test on, or if necessary a re-commissioning of, the system at the CLIENT's expense.
- 13.4 If SIEMENS reasonably determines as a result of such inspection and/or testing that any equipment requires repair or replacement, the CLIENT will be so notified and shall take corrective action within thirty (30) days, or such equipment shall be removed from coverage hereunder without further action by the Parties. SIEMENS is not liable or responsible for the continued testing, maintenance, repair, replacement or operating capabilities of any portion of the equipment until it has been inspected and/or tested and has been, if necessary, restored to an acceptable initial condition at the CLIENT's sole expense. Any services provided by SIEMENS in the course of such restoration will be separately charged on a time and materials basis, and not included in fees paid hereunder. If individual items of equipment cannot, in SIEMENS' sole determination, be properly repaired or replaced due to age, obsolescence, lack of availability of refrigerant gas, halon gas, necessary parts, materials, compatibility or otherwise, or as a result of excessive wear or deterioration, SIEMENS may, within ten (10) days of such inspection, give written notice that it is withdrawing such items from coverage under the MSP and adjust the MSP payments due hereunder accordingly.
- 13.5 If the removal of equipment from coverage would compromise or impair the integrity of the Work, Services or compliance with law of any system, then SIEMENS will provide a written statement thereof for execution by the CLIENT. The CLIENT's failure to execute such statement within ten (10) days will void the MSP and release SIEMENS from any further obligations with respect to the MSP.
- 13.6 If the MSP scope of Services provides for equipment maintenance, repairs and/or replacements of equipment by SIEMENS, those Services are limited to restoring the proper working condition of such equipment. SIEMENS will not be obligated to provide replacement equipment that represents significant capital improvement compared to the original. Exchanged components become the property of SIEMENS, except Hazardous Materials, which under all circumstances remain the property and responsibility of the CLIENT.

## Article 1: Scope of Work

- **1.1 Description:** SIEMENS shall provide the following measures, which are further described in Section 1.2 (collectively, the "Work"):
  - Water Meter Replacement;
  - Advanced Meter Infrastructure (AMI);
  - Enhanced Water Management Dashboard;
  - WWTP Aeration System Improvements;
  - Digester MCC Replacement;
  - Digester Blower Replacement;
  - Main Lift Station Rehabilitation;
  - Gaseous Disinfection;
  - Digester / Thickener Rehabilitation;
  - RAS Pump Replacement;
  - WAS Flow Meter and Control Valve Replacement;

FIMs by Facility Names & Locations:

Infrastructure Improvements	Facility # 101 Waste Water Treatment Plant	Facility # 102 City Wide Improvements
Water Meter Replacement		X
Advanced Meter Infrastructure (AMI)		X
Enhanced Water Management Dashboard		X
Aeration System Improvements	X	
Digester MCC Replacement	X	
Digester Blower Replacement	X	
Mail Lift Station Rehabilitation	X	
Gaseous Disinfection Conversion	X	
Digester / Thickener Rehabilitation	X	
RAS Pump Replacement	X	
WAS Automation Replacement	X	

## 1.2 Specific Elements: The Work shall include the following:

### 1.2.1 Replacement of Water Meters with Advance Meter Infrastructure (AMI)

In accordance with the CLIENT's selection of meter manufacture, SIEMENS will install new Neptune water meters, and any required modifications to existing meter boxes, lids, etc. as outlined below. Meter quantities and types, as determined from CLIENT database on April 20, 2016 are listed in Table 1.1.

Table 1.1 – V	Vater M	leter Brea	kdown
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Qty	Size	Туре	Description
5400	3/4" SL	Neptune T-10 PD Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
2125	1"	Neptune T-10 PD Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
45	1.5"	Neptune T-10 PD Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
78	2"	Neptune T-10 PD Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
1	2"	Neptune HPT Turbine Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
5	2"	Neptune Compound Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
1	3"	Neptune HPT Turbine Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
6	3"	Neptune Compound Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
2	4"	Neptune HPT Turbine Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
17	4"	Neptune Compound Meter with R900i	Fixed Base Water Meter and Transmitter Replacement
4	6"	Neptune Compound Meter with R900i	Fixed Base Water Meter and Transmitter Replacement

SIEMENS shall also include the following items and/or services in locations where it determines that the existing equipment/infrastructure is insufficient for use in accordance with this Scope of Work and applicable specifications:

- Meter box and/or lid replacement for meters 2" and below;
- Dig up box for new box install;
- New meter lid:
- Dig up box and reposition for install;
- Cut concrete/asphalt to access meter within two feet of meter box;
- Replace curb stop;
- Repair line breaks within a 2 feet radius of meter;
- Strainers

It is understood by SIEMENS that the components of the AMI system will properly fit inside of CLIENT's meter pit environment where applicable unless lay-length or other rework is specifically stated in the scope of work. Any rework to ensure AMI components will properly fit in meter pit environment is the responsibility of SIEMENS.

Where applicable, SIEMENS will provide meter boxes and lids in accordance with the terms of this Agreement and will be of substantially similar material and quality as the current meter boxes and lids. Due to a significant number of small metal meter boxes, found during the meter testing phase, that were deemed too small to house the proposed meters, SIEMENS and the CLIENT have agreed to use a Dallas Specialties DS1200 meter boxes to replace existing metal meter box. The DS1200 will be also be used to replace existing damaged meter boxes where applicable. SIEMENS has included box replacements of up to 40% of total meters 2" and smaller population.

CLIENT shall be responsible for the testing and approval of all meter lids, meter boxes, and associated locking mechanisms installed during this project. SIEMENS shall not be required to correct and/or repair and deficiencies for meter lid characteristics that are unwanted or otherwise unexpected including specific gravity, propensity to float, load-bearing properties, impact bearing properties or the like. Any such deficiencies shall be corrected or repaired by CLIENT. Locking meter lids are not included as part of the scope of this project.

SIEMENS will install the meter quantities listed in Table 1.1. If any changes in water meter quantities are discovered prior to installation, SIEMENS reserves the right to develop and price these additional changes to the Scope of Work and will provide CLIENT with revised cost and savings calculations.

In order to verify meter quantities and to maintain system integrity for measurement and verification purposes, after substantial completion CLIENT shall allow SIEMENS reasonable access to its meter database as long as a performance assurance agreement exists between the CLIENT and SIEMENS. If the performance assurance agreement is cancelled by the CLIENT, the CLIENT reserves the right to rescind SIEMENS access to its water meter database.

SIEMENS will be responsible for line breaks within two (2) feet of the meter set, while the CLIENT will be responsible for line breaks outside of this area, unless the break results from the negligent acts of SIEMENS in which SIEMENS will be responsible for said repair.

The final reading of the old meter removed will be provided from the direct read dial face of the meter. If the reading is illegible due to dial face condition, SIEMENS will break the glass of the dial face to obtain the final reading.

Meter Access Procedure for the Project is outlined below:

- SIEMENS will attempt to access the meter a total of three (3) times with a minimum of 24 hours between each access attempt.
- On each of the three access attempts, SIEMENS will "tag" the door with information on how to contact SIEMENS to allow access to meter in order to perform work.
- Each attempt to access the meter will be documented with a date and time recorded electronically into the SIEMENS database
- After the third documented attempt, SIEMENS will submit inaccessible account to CLIENT for access assistance.
- CLIENT will take reasonable actions, including phone calls, PR announcements, and finally discontinuing water service, as a means to gain access to the inaccessible facility
- If the account remains inaccessible for a period not to exceed 15 business days following submission to CLIENT, the account will be deemed permanently inaccessible and removed from the project scope.

SIEMENS will coordinate closely and routinely with the CLIENT staff for scheduling and workflow as each route is installed. Install crews will document the customer account number, service address, serial number, size, and the final reading from the existing

register prior to removal; and will document the new meter serial number, new meter size, and GPS latitude and longitude. SIEMENS will also configure, program and verify communication of each new set of meters upon installation. Unless specified otherwise in this contract, GPS coordinates will typically be accurate within consumer grade equipment specifications or sub-meter accuracy, which is typically within 9 to 10 feet. As each route is completed, the commissioning and acceptance plan will be performed to verify proper performance.

All removed meters shall remain property of CLIENT, and will be placed in a storage location as mutually agreed between CLIENT and SIEMENS, at CLIENT'S sole risk. CLIENT shall provide bins/storage containers for removed meters and meters will be transferred into provided bins on a daily basis and stored on Client's property.

A successful and complete meter installation is defined as any meter installed to manufacturer specifications where the data has been accurately transferred into utility billing database and reads one or more times electronically on the reading network. At the point of a successful and complete meter installation, the installation labor warranty begins and system benefits may be realized.

Upon Substantial Completion of each route in CLIENT's system, SIEMENS shall notify CLIENT in writing and request a Certificate of Substantial Completion for that route in accordance with Article 9 of the Agreement.

#### **Exclusions:**

- Any existing leaks found prior to beginning the meter retrofit;
- Any leaks which occur outside of the 2' radius from the meter;
- Any repairs or upgrades to the existing system required by the applicable inspecting authority. In the event Siemens is required to perform such work, it shall be considered an extra and subject to additional compensation to Siemens.

### 1.2.2 Automatic Metering Infrastructure Upgrade

SIEMENS will provide all Equipment, material, and labor to install the following:

Install new Neptune ARB® Fixed Base R900i System and provide material and labor to make the system functional. The new fixed base system will include the following (see Table 1.2):

- Three (3) Neptune R4900 Gateways
- One (1) Monopole Installation;
- Neptune N Sight 5.0 Software;
- One (1) Trimble 1050b Handheld with Cradle;
- One (1) Belt clip Transceiver;
- One (1) Mobile MRX920 Mobile Data Collector;
- Training and Implementation;

Table 1.2 - Collector Locations

Name	Coordinates	Antenna Height (ft)	Description
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Central Water Tower	29.702299, -95.468326	130 ft.	Elevated Storage Tank
Feld Park Water Tower	29.711397, -95.457433	130 ft.	Elevated Storage Tank
Public Works Monopole	29.690508 , -95.450908	75 ft.	Monopole

For base station and new data collector sites, SIEMENS shall coordinate with installer and any utility companies as required prior to digging footings. CLIENT shall provide access for digging equipment and SIEMENS shall temporarily remove any fencing as required to provide adequate space to installation of base station.

All required electrical work, mass data transfer and system commissioning is included in this scope. Global positioning system coordinates will be provided for each data collector location. Unless specified otherwise in this contract, GPS coordinates will typically be accurate within consumer grade specifications or sub-meter accuracy, which is typically within 9 to 10 feet.

The parties acknowledge that once the Neptune Gateways are installed and communicating properly with AMI server, SIEMENS shall notify CLIENT in writing and request a Certificate of Substantial Completion for AMI infrastructure in accordance with Article 9 of the Agreement.

The parties acknowledge that if a meter or group of meters installed by SIEMENS has consistent communication problems with the data collectors installed by SIEMENS during the one-year warranty period, then SIEMENS shall be required to resolve the issue, including any costs or additional equipment required to ensure proper communication with data collectors.

The parties acknowledge that all meter data will be required to properly communicate with AMI system as well as CLIENT's billing software to ensure proper functionality of installed AMI system and water meters. However, Siemens will not be responsible for pre-existing defects or deficiencies in CLIENT'S computer network, billing software or system.

CLIENT acknowledges that Neptune will host all meter data on a cloud-based server and that this hosting service requires acceptance of Neptune's terms and conditions and an annual service fee to be paid to Neptune by CLIENT.

#### SIEMENS shall also include:

- Interface program to facilitate communication between Neptune ARB N\_Sight Software and CLIENT's Incode version 9 Billing System;
- All required integration and setup of data transfer;
- Turnkey AMI system start up/testing/commissioning;
- Neptune System Setup and Training
  - o Two days of hands-on training for CLIENT personnel;
  - o In-field shadow of SIEMENS personnel for troubleshooting training;
- Installation of backhaul communications;
- Electric power connection to data collectors.

#### **Exclusions:**

- Deficiencies in CLIENT'S existing billing system
- Any additional new customer accounts the CLIENT acquires;

- Any ongoing service fees charged by manufactures of software, meters, or AMI system;
- Any ongoing backhaul communication fees, such as monthly cellular fees;
- Any deficiencies in electrical system at sites chosen for collectors, including proper grounding.
- Any repairs or upgrades to the existing system required by the applicable inspecting authority. In the event Siemens is required to perform such work, it shall be considered an extra and subject to additional compensation to Siemens.

## 1.2.3 Enhanced Water Management Dashboard

SIEMENS will provide all labor, software, database integration, and training required to provide the CLIENT's water utility department with AquaHawk software or equivalent. This online water account dashboard is designed to report water usage on individual accounts, using a web based server that obtains daily consumption data via an export file from the AMI/billing system.

#### SIEMENS shall also include:

- All required integration and setup of data transfer;
- Initial setup and 1 day training;

CLIENT acknowledges that AquaHawk will host AquaHawk software on a cloud-based server and that this hosting service requires acceptance of the AquaHawk terms and conditions and an annual service fee to be paid to AquaHawk by CLIENT.

### **Exclusions:**

- Any ongoing service fees charged by manufacturer of customer dashboard software
- Any fees associated with adding additional accounts to dashboard software
- Any ongoing or post installation technical support or assistance beyond the initial training sessions for the dashboard software.

### 1.2.4 WWTP Aeration System Upgrades

SIEMENS will provide all equipment, material, and labor to upgrade the wastewater treatment plant aeration systems as defined below. The upgrades or replacements will encompass the aeration blower, piping, and diffuser systems.

### Replace Existing Blowers For Aeration Basin

- o Removal of two existing blowers. Provide as salvage to CLIENT.
- o Install two new Atlas Copco Turbo Blowers.
- Provide for blower pad modifications and additional discharge piping to accommodate additional pad height. Concrete pad TOC (Top of Outer Casing) elevation to be 53.36 inches. Existing building finished floor elevation is 50.16 inches.
- o Provide elevated platform around new Atlas Copco Turbo Blowers with access to all panel and doors.

- o Provide and install discharge piping from blower to proposed air piping air header (including installation of Atlas Copco valves on discharge line, and connection to main air header).
- o Install Blower Room Ventilation Fans:
  - Install two ventilation fans (aluminum, beehive ventilation box, 5000 scfm at ¼-inch static pressure) in blower room with integral louvers.
  - Cut out existing concrete masonry unit block in location of fan and install fan and frame.
- o Electrical Items of Work:
  - Blower Building Aeration Blowers No. 1 and 2
    - Demo existing above ground conduit and wire from MECC-1 to existing Blowers 1 and 2 (Closest to Aeration Basins)
    - Demo two (2) existing Blower Size 4 full voltage non-reversing buckets in MECC-1.
    - Demo two (2) existing Blower power factor correction capacitors.
    - Provide and install two (2) 400AF/3P/300AT feeder buckets with thermal magnetic breaker for proposed Aeration Blowers
    - Provide and install new conduit and wire from MECC-1 feeder buckets to proposed Aeration Blower locations.
    - Connect new blowers / local control panels.
    - Connect alarms.
  - Blower Building (Control Room) Atlas Copco ES Central Controller
    - Modify existing lighting panel circuits to accommodate new panel feeder breakers for new low voltage equipment.
    - Provide and install new 30AT 120V feeder breaker in lighting panel for LV power to Central Controller.
    - Install proposed ES Central Controller in Control Room.
    - Provide and install new conduit and power wire from LVP to ES Central Controller.
    - Provide and install new conduit and signal wire from ES Central Controller to new Aeration Blowers Nos. 1 and 2.
  - Modification of Existing Aeration Blower Controls
    - The ES Central Controller shall provide a lag call output to start an existing multi-stage blower in the event that the Atlas Copco Turbo blower does not have enough capacity to reach the target D.O. setpoint.
    - The controller shall provide a lag call output for each remaining blower and shall call additional lag blowers as needed.
    - Provide and install all necessary wiring, relays, and controls in MECC-1 to connect the start circuit of each existing multi-stage blower to the lag call outputs in the ES Central Controller.

- The existing multi-stage blowers that are selected will then run at full speed when called and the turbo blowers will trim speed to maintain the D.O. setpoint.
- Pre-Aeration Basin D.O. Controller
  - Install D.O. Controller and one (1) D.O. probe in downstream end of Pre-Aeration Basin.
  - Provide and install new conduit, signal wire, and duct bank (as necessary) from D.O. Controller to proposed ES Central Controller.
  - Provide and install new 20AT 120V feeder breaker in lighting panel for LV power to ALL proposed D.O. Controllers.
  - Provide and install new conduit, power wire, and duct bank (as necessary) from lighting panel LVP to Pre-Aeration D.O. Controller.
- Aeration Basin D.O. Controller
  - Install D.O. Controller and two (2) D.O. probes in the Aeration Basins.
  - Provide and install new conduit, signal wire, and duct bank (as necessary) from D.O. Controller to proposed ES Central Controller.
  - Provide and install new conduit, power wire, and duct bank (as necessary) from lighting panel LVP to D.O. Controller.
- Blower Building Vent Fans
  - Modify existing MECC-1 and provide and install two (2)
     FVNR type starter buckets and starter equipment in MECC-1 for estimated 5 HP motors for two fan units.
  - Starter buckets shall include Green "RUN" light, Elapsed Time Meter, and On/Off Switch.
  - Provide and install new conduit and power wire from MECC-1 to two ventilation fans in Blower Building.
- Aeration Basin CCB Flowmeter and Actuated Valve
  - Install one thermal mass flow meter and one electric actuated butterfly valve on a 6-inch air header to control and monitor air flow to the non-aeration basins and equipment (CCB, RAS box, and grit chamber).
  - Provide and install conduit, signal wiring, and duct bank from the flowmeter and actuated valve to the Atlas Copco ES Central Controller. The ES Central Controller shall be programmed to allow the user to set a CFM flow target to the non-aeration areas and modulate the valve as needed to reach the target.
  - Provide and install all necessary low voltage breakers in the MECC-1 lighting panel to power the flowmeter and motor operated valve.
  - Provide and install conduit, power wiring, and duct bank to connect the low voltage lighting panel to the flowmeter and motor operated valve.

- Blower Building (Control Room) Aeration Basin Blower Alarms
  - Provide and install a NEMA 3R Cellular Autodialer capable of interpreting alarms provided by the Blower ES Central Controller. Include all wiring, conduit, breakers, hardware, communications hardware, programming, testing, and startup. The cellular antenna shall be mounted to the exterior of the control room. The autodialer shall have a minimum of 16 discrete input channels available to read alarms provided by the Central Controller. Provide connection and programming for up to 16 alarms through discrete wiring or hi-level communication wiring.
    - o Provide for the following alarms to be wired to the autodialer:
      - Blower No. 1 General Alarm
      - Blower No. 2 General Alarm
      - Blower No. 1 Low Air Header Pressure Alarm
      - Blower No. 2 Low Air Header Pressure Alarm
      - Low D.O. Level
- Blower Building Aeration Blowers No. 1 and 2 Instrumentation
  - The following instrumentation will be shipped loose with the blowers and shall be installed as part of this scope:
    - o Blower No. 1 Flowmeter
    - o Blower No. 1 Air Header Pressure Switch
    - Blower No. 2 Flowmeter
    - o Blower No. 2 Air Header Pressure Switch
  - Provide and install all conduit, fittings, power wiring, and signal wiring to connect each instrument to the Atlas Copco ES Central Controller.

## • Replace underground air piping to Aeration Basin

- o Demolish existing air header installed inside buried concrete chase from Blower Building to Aeration Basin.
- o Install piping with expansion joints where deemed necessary.
- o Connect existing 4" CCB air line, 6" RAS box air line, and 6" grit removal air line on a single common 6" branch-off from the main air header in the concrete chase. Allow for a portion of the 6" common air line to be installed above ground for the proposed 6" flow control valve and thermal mass flow meter to be installed. Provide new manual butterfly valves on the 4" CCB air line, the 6" RAS box air line, and the 6" grit removal air line.
- Install 1-inch diameter threaded outlet with threaded plug on air lines to the CCB, RAS box, and grit removal chamber. Install 1-inch diameter outlet with threaded plug on all fine bubble aeration drop legs.
- o Install condensate drains at the end of the aeration pipe run serving each of the two aeration basins and the single pre-aeration basin.
- o Ensure piping material is of high quality and designed to withstand plant conditions for at least 15 years.

- o Provide new galvanized steel pipe and necessary galvanized steel supports from blower building to Aeration Basin and from Aeration Basin to Pre-Aeration Basin.
- o Cap existing air piping where piping is removed.
- o Remove and dispose of demolition spoils.

### • Replace Existing Pre-Aeration Basin Air Diffuser System

- o Clean, remove, and dispose of up to two (2) feet of accumulated solids and debris. Additional volumes of solids and debris will be removed at the rate of \$130 per cubic yard of material.
- o Remove and dispose of all air headers and laterals, valves, air drops.
- o Furnish and install a six inch (6") isolation butterfly valve on two (2) air drop legs. Fittings will be provided where necessary.
- o Install new Sanitaire Silver Series fine bubble diffusers and grids.

## • Replace Existing Aeration Basin Air Diffuser System

- o Clean, remove, and dispose of up to two (2) feet of accumulated solids and debris. Additional volumes of solids and debris will be removed at the rate of \$130 per cubic yard of material.
- o Remove and dispose of all air headers and laterals, valves, air drops.
- o Furnish and install a six-inch (6") isolation butterfly valve on four (4) air drop legs and a four-inch (4") isolation butterfly valve on two (2) drop legs. Fittings will be provided where necessary.
- o Install new Sanitaire Silver Series fine bubble diffusers and grids.

#### **Exclusions:**

- Does not include working on equipment while running, including aeration blowers and aeration basins:
- Does not include improvements for the MCC serving the aeration blowers, this MCC is located in the main building.
- Does not include tie in to any existing SCADA system that may be implemented during the SIEMENS construction period.
- SIEMENS will be responsible for the removal and disposal of up to two (2) feet of
  accumulated solids and debris in the pre-aeration and aeration basins. Any solids
  and debris needing removal in addition to the above stated volume of two (2)
  feet multiplied by the area of the basins will be removed and disposed of at the
  rate of \$130 per cubic yard.
- Does not include clearing of material and debris in current blower building. Material owned by CLIENT will need to be removed and enough space cleared for construction before installation of the blowers can begin.

## 1.2.5 WWTP Digester MECC Replacement

SIEMENS will provide all equipment, material, and labor to upgrade the MECC-4 serving the digester blowers and the belt press building as defined below:

• Demolish the existing MECC-4.

- Provide and install replacement motor control center "MECC-4" in a new outdoor rated, NEMA 4X Stainless Steel drop-over enclosure. MCC is to be installed on an elevated concrete slab/structure a minimum of 18" above the 100 year floodplain (estimated 4 feet above natural ground). MECC-4 shall also provide bucket space for future loads.
- Provide and install a canopy or overhang attached to the existing belt press building that extends out a minimum of four (4) feet in front of the face of MECC-
- Provide and install all conduit, wire, gutters, terminal boxes, and hardware to connect all existing pumps, motors, control panels, instrumentation, lighting, and receptacles to MECC-4.
- Splice and reconnect main feeder from MECC-1 to MECC-4 in gutter.
- Provide temporary backup power as needed to operate belt press, digester blowers, and all peripheral equipment fed by MECC-4.

#### **Exclusions:**

- Does not include working on equipment while running, including digester blowers, digester basins, and thickener;
- Does not include tie in to any existing SCADA system that may be implemented during the SIEMENS construction period.

## 1.2.6 WWTP Digester Blower Replacement

SIEMENS will provide all equipment, material, and labor to replace the two (2) existing multi-stage centrifugal blowers serving the digester mixing aeration process as defined below:

- Removal of two (2) existing blowers. Provide to CLIENT as salvage.
- Install two (2) new multi-stage centrifugal blowers.
- Provide for blower pad modifications if needed.
- Provide and install discharge piping from blower to existing main air header (including installation of valves on discharge line, and connection to main air header).
- Electrical Items of Work:
  - o Disconnect all conduit, wiring, and instrumentation from existing blowers to be removed.
  - o Reconnect all conduit, wiring, and instrumentation to new centrifugal blowers.
  - Install instrumentation furnished including 1 x Motor Current Transducer,
     2 x Blower Inboard/Outboard Bearing RTDs, and 2 x Blower
     Inboard/Outboard Bearing Vibration Sensors for each blower.
  - o Provide and install conduit and wiring to all instrumentation.
  - Replace MCC bucket overload devices for new blower FLA.
  - o Provide and install conduit and power wiring to connect two (2) blower local control panels. Includes installation of local control panels. Provide and install breakers and circuits as necessary in proposed MECC-4.

#### **Exclusions:**

- Does not include working on equipment while running, including digester blowers, digester basins, and thickener;
- Does not include tie in to any existing SCADA system that may be implemented during the SIEMENS construction period.

#### 1.2.7 WWTP Main Lift Station Rehabilitation

Except as otherwise expressly provided herein, SIEMENS will provide all equipment, material, and labor to upgrade and rehabilitate the main lift station located at the northeast corner of the wastewater treatment plant. The upgrades or replacements will encompass the wet/dry pit to wet pit conversion, wet pit wall rehabilitation, existing well pump, existing MECC.

- Furnish, install and operate temporary bypass pumps, plugs, HDPE pipe, and connection to Headworks, to allow onsite lift station to be taken out of service for the period required to complete the modifications described above.
- Demolish 6 existing vertical centrifugal pumps, line shaft, motors, suction and discharge piping and valves, stairs, hatches, wiring and controls. Demolish existing CMU/brick veneer building over wet well / dry pit.
- Repair corroded wet well concrete walls and top slab; provide a SewperCoat protective coating or equivalent.
- Cut two 4 ft. square openings in the existing wet well / dry pit divider wall. Core drill 3-inch diameter holes in divider walls to maintain air flow. All exposed rebar to be coated with SIKA Armatec 110 or equal.
- Cut five openings in the top slab for access hatches of sizes shown in lift station plan sheet. All exposed rebar to be coated with SIKA Armatec 110 or equal.
- Seal concrete joints in existing dry well so it becomes suitable as a long-term water-retaining structure. Apply a SewperCoat protective coating or equivalent on the walls and top slab.
- Furnish and install two submersible jockey pumps (Flygt NP 3153 LT  $3\sim413$  with 217 mm impeller) and three submersible pumps (Flygt NP 3202 LT  $3\sim615$  with 342 mm impeller).
- Furnish and install wet well accessories: pump base elbows, guide rails, ductile iron pipe risers, stainless steel supports, lift chains, floats, ultrasonic level transducer, cable holder, and pump hatches with safety grating.
- Furnish and install a 12-inch thick valve slab, pump discharge headers with air and vacuum valves, pressure gauges, air release valves, plug valves, hose station, cushioned swing check valves, concrete thrust blocks and adjustable steel pipe supports.
- Coat all piping in the wet well with a 100% high solids epoxy protective coating. Coat all non-submerged piping with a polyurethane protective coating.
- Relocate two existing air compressor/receivers to new electrical enclosure/building.
- Provide startup and testing for the station.
- Provide and install ductile iron discharge piping from individual pump headers to existing below-grade meter vault.
- Extend 8' wood fence around lift station to existing building.
- Electrical Items of Work:

#### o Lift Station:

- Demolish the existing MECC-2, VFDs, controls, control panel, lighting, receptacles, and all miscellaneous conduit, wire, and hardware in the existing lift station building (to be demolished).
- Provide and install replacement motor control center "MECC-2" in a new outdoor rated, walk-in enclosure or pre-fabricated building with air conditioning to house replacement motor control center with VFDs. Building is to be installed on an elevated concrete slab/structure a minimum of 18" above the 100 year floodplain (estimated 4 feet above natural ground).
- Provide and install all conduit, wire, terminal boxes, and hardware to connect new lift station pumps and instrumentation. Provide and install seven (7) terminal boxes for field connection to pumps and instrumentation, one (1) for each pump, one (1) for the transducer, and one (1) for the float system.
- Provide and install all conduit, wire, junction boxes, and hardware to connect relocated air compressors, solenoids, lighting, receptacles, and miscellaneous equipment to MECC-2.
- Provide and install all conduit, wire, and hardware to connect MECC-2 and all lift station instrumentation to the lift station control panel. Provide space in new MECC-2 for installation of control panel and controls. Control panel, controls, and instrumentation shall also be included with MECC-2. It is acceptable to provide the controls in a separate enclosure. Splice and reconnect main feeder from MECC-1 to MECC-2 in gutter.
- Provide and install a Cellular Autodialer located in the lift station control panel capable of interpreting alarms provided by the lift station controls. Include all wiring, conduit, breakers, hardware, communications hardware, programming, testing, and startup. The cellular antenna shall be mounted to the exterior of the MECC-2 building. The autodialer shall have a minimum of 16 discrete input channels available to read alarms provided by the lift station controls. Provide connection and programming for up to 16 alarms through discrete wiring or hi-level communication wiring. The alarms shall include the following:
  - Wet Well High Level
  - Lift Pump No. 1 Fail
  - Lift Pump No. 2 Fail
  - Lift Pump No. 3 Fail
  - Lift Pump No. 4 Fail
  - Lift Pump No. 5 Fail
  - Lift Station in Float Backup
  - Lift Station Transducer Failure
- Provide and install a rotating beacon located on the exterior of the new building. The beacon shall be wired to a "general" alarm output from the lift station control panel. Provide all conduit and wire necessary to connect the beacon to the control panel.
- o Headworks:

- Provide and install a NEMA 1 control panel located inside the new building that will control the existing fine screens and grit classifier system. Trace all field wiring from existing control panel and provide matching controls in new control panel for all existing instrumentation, pumps, motors, and field devices. Provide all programming, startup, and training on new control system.
- Provide and install all conduit, wire, gutters, junction boxes, and hardware to connect MECC-2 to the existing grit and fine screen systems.

#### **Exclusions:**

- Does not include working on equipment while equipment serving the main lift station pumps are running; including pumps, VFD, and air compressors.
- Does not include tie in to any existing SCADA system that may be implemented during the SIEMENS construction period.
- Any autodialer cellular fees incurred for operation of proposed alarm panel.

## 1.2.8 WWTP Gaseous Disinfection System Conversion

Except as otherwise expressly provided herein, SIEMENS will provide all equipment, material, and labor for conversion from the current chlorine disinfection system to a bleach disinfection system.

- Demolish existing ton container storage facilities for chlorine and sulfur dioxide.
- Retain existing super-structure and roof canopy.
- Furnish and install two (2) 1,400-gallon double-wall, HDPE chemical storage tanks for sodium hypochlorite and two (2) 400-gallon double-wall HDPE chemical storage tank for sodium bisulfite, provide fill stations for both chemicals with isolation valves, check valves, strainers, and quick-connect hose couplings.
- Extend existing concrete pad and canopy to the west of the chemical building to fit the two (2) sodium hypochlorite storage tanks.
- Demolish existing chlorinators and sulfonators in chemical feed rooms, along with water and chemical solution piping within the rooms.
- Furnish and install two sodium hypochlorite and two sodium bisulfite skid-mounted pump assemblies complete with peristaltic pumps, VFDs, pump controller, suction piping, calibration columns, backpressure valves, pulsation dampeners, pressure gages, pressure switches, diaphragm seals, diaphragm isolation valves, and hydrogen degassing valves and vents.
- Furnish and install 3/8" polytube in Sch 80 PVC piping with FRP supports inside the chemical rooms and from the chemical rooms out to the existing chemical injection locations. Connect to existing chemical diffusers.
- Provide startup and testing for the systems.
- Electrical Items of Work:
  - o Demolish all conduit, wire, and hardware to all existing feed equipment and instrumentation to be removed.
  - o Provide and install all conduit, wire, receptacles, and hardware to connect all peristaltic pumps, pump controller, alarm equipment, pressure switches, level equipment, and miscellaneous instrumentation.

- Provide and install a NEMA 4X flow signal enclosure capable of receiving one (1) existing effluent flow signal and splitting the signal for up to four (4) identical flow outputs to be wired to the proposed pumps.
- Extend the existing effluent flow signal wiring as necessary to the new flow signal enclosure. Provide and install all conduit and signal wiring to connect the flow signal enclosure to the proposed chemical feed pumps. Modify existing low voltage panel to add circuits as needed for the new flow signal enclosure.
- Modify existing low voltage panel to add circuits as needed for new pump equipment.
- Provide and install a NEMA 4X alarm panel that has as inputs all available alarms from the peristaltic pumps, pump controller, tank level equipment, leak detection equipment, and pressure switches and combines these alarm inputs to one output for connection to a new alarm rotating beacon.
- o Provide and install rotating alarm beacon on exterior of building and provide conduit and wire to connect alarm beacon to alarm panel.
- o Provide and install a Cellular Autodialer located in the alarm panel capable of interpreting alarms provided by the chemical feed equipment. Include all wiring, conduit, breakers, hardware, communications hardware, programming, testing, and startup. The cellular antenna shall be mounted to the exterior of the chemical building. The autodialer shall have a minimum of 16 discrete input channels available to read alarms provided by the chemical feed equipment. Provide connection and programming for up to 16 alarms through discrete wiring or hi-level communication wiring. The alarms shall include the following:
  - Chemical Pump Failure (All 4 Pumps)
  - Leak Detection (All 4 tanks)
  - Pressure Switch High Level (All 4 Pumps)
  - Tube Leak Detection (All 4 pumps)
- o Pressure switch alarm outputs shall be wired to power feed or start circuit to shut down pump on pressure increase.
- o Provide and install conduit, wire, and breakers in lighting panel for heat trace of sodium bisulfite tanks as required.
- o Install heat tracing and insulation for bisulfite tank and all bisulfite piping.
- o Install level and leak detection control panel rack.
- Provide and install all conduit, fittings, power wiring, and signal wiring to connect the control panel racks to the pump skid and alarm panel accordingly.

### **Exclusions:**

- Does not include working on equipment while equipment running;
- Any autodialer cellular fees incurred for operation of proposed alarm panel.

#### 1.2.9 Digester / Thickener Rehabilitation

Except as otherwise expressly provided herein, SIEMENS will provide all equipment, material, and labor for the rehabilitation work on the digester and thickener basins at the Bellaire Wastewater Treatment Plant.

- Provide surface prep for existing concrete wall surfaces in three digesters and two gravity thickeners. Provide environmental containment of blast material.
- Furnish and install cementitious mortar to repair concrete if needed.
- Furnish and install a 100% high solids epoxy protective coating on the concrete walls
- Repair and coat, or replace, existing 2 ft square sluice gate isolating Digester 2 from 3.

#### **Exclusions:**

• Does not include working on equipment while running, including digesters blower, digester aeration, thickeners;

## 1.2.10 WWTP Return Activated Sludge (RAS) Pump Replacement

Except as otherwise expressly provided herein, SIEMENS will provide all equipment, material, and labor for the installation of a return activated sludge (RAS) pump to replace one pump the CLIENT had previously demolished and removed.

- Remove one (1) existing RAS pump, line shaft, and motor, if necessary, and other miscellaneous equipment the CLIENT had abandoned in place. SIEMENS to return to CLIENT any material removed as salvage.
- Remove one (2) existing RAS pump, line shaft, and motor. SIEMENS to return to CLIENT any material removed as salvage.
- Furnish and install three (3) FLYGT dry/wet pit submersible RAS pump, or equal, to match existing pump function.
- Furnish and install all necessary piping and fitting modifications as required for new pump.
- Electrical Items of Work:
  - o Disconnect all conduit, wiring, and instrumentation from existing pump to be removed.
  - o Reconnect all conduit, wiring, and instrumentation to new pump.
  - o Furnish and install all other electrical or control modifications required for replacement of pump.

#### **Exclusions:**

- Does not include working on equipment while running, including RAS pumps and associated electrical and control equipment;
- Does not include tie in to any existing SCADA system that may be implemented during the SIEMENS construction period.

## 1.2.11 WWTP Waste Activated Sludge Control Valve and Flow Meter Replacement

Except as otherwise expressly provided herein, SIEMENS will provide all equipment, material, and labor for the replacement of the currently non-functioning waste activated sludge (WAS) control valve and flow meter.

- Demolish one existing WAS magnetic flow meter and two electric actuated plug valves.
- Furnish and install one WAS magnetic flow meter and two electric actuated plug valves.
- Modify existing ductile iron piping as needed.
- Furnish and install protective coating on proposing piping and valves.
- Electrical Items of Work:
  - o Furnish and install one programmable logic controller (PLC) based NEMA 4X local control panel to control WAS wasting operation.
  - o The control operation of the WAS valve shall be the following:
    - The CLIENT operator shall enter desired total daily flow amount to be wasted as a setpoint. The PLC will close the valves when the total daily amount is reached as read from the flowmeter and will keep them closed until the 24 hour/daily timer is reset. While the total daily flow has not been reached, the PLC shall open and close the valve based on a time interval and duration of multiple daily waste cycles as set by the user on the Human Machine Interface (HMI).
    - An HMI shall be provided for setpoint input by the CLIENT operator and shall also show on the screen the Valve Open/Close status, Valve Alarms, Flow Rate, Total Daily Flow (Reset to Zero every 24 hours), Timer Status, Number of Intervals
    - Provide and install all necessary conduit, power wire, and breakers to power the PLC control panel.
    - Provide and install all necessary conduit, power wire, and signal wire to connect the PLC control panel to each valve and flow meter.

#### **Exclusions:**

- Does not include working on equipment while running, including the RAS pump that the WAS control valve is diverting off and associated electrical and control equipment;
- Does not include tie in to any existing SCADA system that may be implemented during the SIEMENS construction period.

### 1.3 Technical Specifications, Drawings, and Exhibits:

- All electrical work to comply with applicable NEC guidelines;
- All relevant product datasheets, O&M manuals, wiring diagrams, and manufacturer's warranties to be supplied to CLIENT;
- All relevant drawings generated for the WWTP during the design process will be supplied to CLIENT;

### 1.4 CLIENT's Responsibilities:

- Provide a designated representative to interface with SIEMENS on all issues related to the project;
- Provide for timely review of project schedules and submittals, typically a 5 business day approval turn-around unless otherwise specified;
- Provide access to buildings, with 3 business day advance notice of work schedules, including coordination with building occupants and stakeholders, provide escorts as required in secure areas;
- Provide for timely review and approval of completed work;
- Provide assistance for electrical utility shutdowns of sections of the facilities that may be required. SIEMENS intends to minimize disturbances and will coordinate with site management personnel to implement project with reasonable disturbances.
- Provide remote access to CLIENT's water meter database to allow SIEMENS, and/or its subcontractors, to monitor system functionality and consumption history.
- During implementation of water meters, CLIENT will be required to upload meter data file(s) provided by SIEMENS in a timely fashion, at least once a week.

## **Article 2: FIM Work Implementation Period**

- 2.1 Commencement of Work: SIEMENS shall commence the Work 60 calendar days from the Notice to Proceed Date, and shall perform the Work diligently and shall complete the Work no later than 450 calendar days from the day of commencement.
- 2.2 *Milestones*: Specific scheduling milestones and coordination requirements will be defined in the project schedule to be provided at Commencement of Work.

## Article 3: Scope of Services-Performance Assurance Services Program

- 3.1 The Performance Assurance Services Program (PASP) shall be performed during the Performance Guarantee Period unless terminated in accordance with terms and conditions of Article 4 of the Performance Contracting Agreement.
- 3.2 Siemens will provide, as a part of the Performance Assurance Services Program, the following services and deliverables as described in the Performance Assurance, Exhibit C of this contract but not limited to:
- 3.2.1 One annual inspection of facilities and infrastructure associated with the scope of work of this contract. An annual inspection report will be included with the Annual Performance Assurance Report.
- 3.2.2 One Annual Performance Assurance Report for all FIMs contributing to the savings achieved for the applicable Annual Period. Except as otherwise provided, energy savings will be calculated for each month of each Annual Period.
- 3.3 The Annual Performance Assurance Report will be provided within 90 calendar days of the annual anniversary of the Guarantee Date.

## Article 4: Scope of Maintenance Services Technical Support Program

4.1 CLIENT has elected to self-implement maintenance. Therefore, SIEMENS shall not perform any on-going maintenance services, although the Parties may negotiate a separate agreement for such services at a later date. CLIENT agrees that it will maintain the equipment per manufacturer specifications and that it will operate the Equipment in accordance with the Contracted Baseline described in Article 7 of Exhibit C. If CLIENT fails to properly maintain or operate the Equipment, SIEMENS shall have the right to modify the Performance Guarantee pursuant to Article 4 of the Agreement.

By signing below, this Exhibit is attached to and made a part of the Agreement between SIEMENS and the CLIENT.

<b>CLIENT:</b> Signature: Printed Name: Title: Date:	City of Bellaire, TX	SIEMENS: _ Signature: _ Printed Name: _ Title: _ Date:	Siemens Industry, Inc.	
Signature: Printed Name: Title: Date:				_

Exhibit B – Payment Schedules City of Bellaire, Texas

## **Article 1: Payment for Scope of Work**

- 1.1 **Price:** As full consideration of the Work as described in Exhibit A, Article 1: Scope of Work, the CLIENT shall pay to SIEMENS \$12,781,805.00 (plus taxes, if applicable).
- 1.2 CLIENT represents and warrants that it has sufficient funding to pay for all sums set forth in this Exhibit B. CLIENT further represents and warrants that it shall do all acts required of it to ensure funding is timely secured and segregated to ensure timely payment to SIEMENS for its services under this Agreement. CLIENT shall issue a Notice to Proceed to SIEMENS upon receipt of funding. In the event that a notice to proceed is not issued within ninety (90) days of the execution of this Agreement, Siemens shall be entitled to terminate this Agreement. In the event that Siemens terminates the Agreement as described in this paragraph, CLIENT shall be obligated to reimburse SIEMENS for all for the Work performed through the date of termination.
- 1.3 **Timely Payments:** The CLIENT agrees to pay SIEMENS monthly pursuant to SIEMENS payment requests. The monthly payments shall be based upon the applicable percentage of work completed through the date indicated on SIEMENS' written payment request. Other than the Mobilization and Audit Payment set forth below, Table B.1 table represents an anticipated schedule of progress payments. CLIENT agrees to pay the Mobilization and Audit payment within 45 days of Notice to Proceed of this Agreement. CLIENT agrees to pay all invoices submitted by SIEMENS per Article 8 of the Agreement.

Table B.1 - FIM Work Payment Schedule Sample

Project Phase	Payments (\$)	Payments (%)	Schedule
Audit & Mobilization	\$ 511,272.20	4.00%	Month 1
Progress Payment #1	\$ 255,636.10	2.00%	Month 2
Progress Payment #2	\$ 1,917,270.75	15.00%	Month 3
Progress Payment #3	\$ 766,908.30	6.00%	Month 4
Progress Payment #4	\$ 1,278,180.50	10.00%	Month 5
Progress Payment #5	\$ 383,454.15	3.00%	Month 6
Progress Payment #6	\$ 639,090.25	5.00%	Month 7
Progress Payment #7	\$ 894,726.35	7.00%	Month 8
Progress Payment #8	\$ 1,022,544.40	8.00%	Month 9
Progress Payment #9	\$ 1,022,544.40	8.00%	Month 10
Progress Payment #10	\$ 1,278,180.50	10.00%	Month 11
Progress Payment #11	\$ 894,726.35	7.00%	Month 12
Progress Payment #12	\$ 639,090.25	5.00%	Month 13
Progress Payment #13	\$ 639,090.25	5.00%	Month 14
Retainage & Final Payment	\$ 639,090.25	5.00%	End of Project
PROJECT TOTAL:	\$ 12,781,805.00	100%	

Article 1 of Exhibit B is attached to and made a part of the Agreement between SIEMENS and the CLIENT.

Page 1 of 3

Exhibit B – Payment Schedules City of Bellaire, Texas

CLIENT: Signature:	City of Bellaire, Texas	<b>SIEMENS:</b> Signature:	Siemens Industry, Inc.
Printed Name:		Printed Name:	
Title:		Title:	
Date:		Date:	
		Signature:	
		Printed Name:	
		Title:	
		Date:	

### Article 2: Payment for Performance Assurance Services Program (PASP)

- 2.1 **Price:** As full consideration of the Services as described in Exhibit A, Article 3, the CLIENT shall pay to SIEMENS the amounts identified in Table B.2 plus taxes, if applicable, on the dates identified therein. CLIENT will be billed the annual amount in the first month of the PASP period.
- 2.2 **Performance Assurance Services Program Term:** The term of the PASP shall commence on the Guarantee Date and shall extend for either: (a) the term of the Performance Guarantee Period where multi-year obligations are allowed; or (b) for twelve (12) month periods corresponding to the term of each Annual Period.
- 2.3 Automatic Renewal: Where the PASP term is limited to an Annual Period, the PASP shall automatically renew for successive Annual Periods beginning on the anniversary date of Guarantee Date. Either party may request to amend the PASP at the end of an Annual Period by giving the other party at least sixty (60) days prior written notice of such amendments and such amendment shall be mutually negotiated by the Parties and effective upon a written amendment signed by both Parties prior to commencement of the next Annual Period. Each automatic renewal shall be and remain subject to the terms and conditions of this Agreement. SIEMENS obligations under the Performance Guarantee are dependent upon and subject to the express condition that the CLIENT maintains the PASP during the entire Performance Guarantee Period.
- 2.4 **Termination**: See Section 4.7 of the Agreement.

**Table B.2 – Performance Assurance Program Payment Schedule** 

Date	Annual Payments (\$)	Notes
Year 1	\$47,505	Year 1 Measurement & Verification
Year 2	\$48,930	Year 2 Measurement & Verification
Year 3	\$50,400	Year 3 Measurement & Verification
Year 4	\$51,910	Year 4 Measurement & Verification
Year 5	\$53,470	Year 5 Measurement & Verification
Year 6	\$59,000	Year 6 Measurement & Verification
Year 7	\$60,700	Year 7 Measurement & Verification
Year 8	\$62,515	Year 8 Measurement & Verification
Year 9	\$64,390	Year 9 Measurement & Verification
Year 10	\$72,950	Year 10 Measurement & Verification
Year 11	\$75,145	Year 11 Measurement & Verification
Year 12	\$77,400	Year 12 Measurement & Verification
Year 13	\$79,720	Year 13 Measurement & Verification

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Siemens Industry, Inc., Building Technologies Division

Exhibit B - Payment Schedules

# Exhibit B – Payment Schedules City of Bellaire, Texas

Year 14	\$82,110	Year 14 Measurement & Verification
Year 15	\$84,600	Year 15 Measurement & Verification
Year 16	\$93,060	Year 16 Measurement & Verification
Year 17	\$95,852	Year 17 Measurement & Verification
Year 18	\$100,644	Year 18 Measurement & Verification
Year 19	\$105,677	Year 19 Measurement & Verification
Year 20	\$116,244	Year 20 Measurement & Verification

Article 2 of Exhibit B is attached to and made a part of the Agreement between SIEMENS and the CLIENT.

CLIENT: Signature:	City of Bellaire, Texas	<b>SIEMENS:</b> Signature:	Siemens Industry, Inc.
Printed Name:		Printed Name:	
Title:		Title:	
Date:		Date:	
		Signature:	
		Printed Name:	
		Title:	
		Date:	

## **Article 3: Payment for Maintenance Services Program (MSP)**

3.1 **Not Applicable:** Per exhibit A, Article 4, a Maintenance Service Program, (MSP) is not included in the scope of this agreement. If the Parties later agree, SIEMENS may perform maintenance services for additional fees on a Time and Materials basis or as established in a separate maintenance agreement.

Article 3 of Exhibit B is attached to and made a part of the Agreement between SIEMENS and the CLIENT.

CLIENT: Signature:	City of Bellaire, Texas	<b>SIEMENS:</b> Signature:	Siemens Industry, Inc.
Printed Name:		Printed Name:	
Title:		Title:	
Date:		Date:	
		Signature:	
		Printed Name:	
		Title:	
		Date:	

## City of Bellaire, TX

The following Articles and Tables are hereby included and made part of this Exhibit C:

## **Article 1: Summary of Articles and Total Guaranteed Savings**

Article 1	Summary of Articles and Total Guaranteed Savings
Article 2	Measurement and Verification Options
Article 3	Performance Guarantee Period Responsibilities of CLIENT
Article 4	Measurement and Verification Plan
Article 5	Baseline Data
Article 6	Utility Rate Structures and Escalation Rates
Article 7	Contracted Baseline Data
Attachment 1	Water Meter Annual Revenue Calculations
Attachment 2	Water Meter Account List
Attachment 3	Water Meter Baseline Consumption Data
Attachment 4	Water Meter Baseline Test Results
Attachment 5	Water Meter Manufacturer's Warranty

Table 1.1 - Total Guaranteed Savings (Units)

Electric Energy Saved Electric Power Increased Billal					
Performance Period	(kWh)	Demand Saved	Water and Sewer		
		(kVA, 12 month sum) <sup>1</sup>	(hundred gallon) <sup>2</sup>		
Construction	0	0	0		
Annual Period 1	604,333	0	1,010,474		
Annual Period 2	604,333	800	1,058,753		
Annual Period 3	604,333	800	1,101,791		
Annual Period 4	604,333	800	1,148,032		
Annual Period 5	604,333	800	1,194,279		
Annual Period 6	604,333	800	1,173,354		
Annual Period 7	604,333	800	1,193,488		
Annual Period 8	604,333	800	1,213,706		
Annual Period 9	604,333	800	1,234,008		
Annual Period 10	604,333	800	1,254,395		
Annual Period 11	604,333	800	1,274,865		
Annual Period 12	604,333	800	1,295,418		
Annual Period 13	604,333	800	1,275,926		
Annual Period 14	604,333	800	1,295,129		
Annual Period 15	604,333	800	1,314,409		
Annual Period 16	604,334	800	1,333,766		
Annual Period 17	604,334	800	1,353,199		
Annual Period 18	604,334	800	1,372,708		
Annual Period 19	604,334	800	1,392,292		
Annual Period 20	604,334	800	1,411,953		
Total	12,086,680	15,200	24,901,945		

<sup>1.</sup> Demand savings are not guaranteed in Period 1 Annual Savings due to the ratchet clause in Centerpoint Electric Rate Structure. If the construction period aligns such that Demand reductions are realized, Siemens will report the actual reductions on the year one PASP report. Demand Savings are included for Periods 2-20.

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Siemens Industry, Inc., Building Technologies Division Exhibit C – Performance Assurance

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<sup>2.</sup> Increased billable water and sewer volumes from annual period 16 onward are stipulated values and verified under M&V Option 'E' during years 16-20.

## City of Bellaire, TX

- 1.1 Table 1.1 above shows the Annual Total Guaranteed Savings in units for each year of the Performance Guarantee Period. In order to achieve these unit savings, the CLIENT must operate the Facility in accordance with the Contracted Baselines identified in Article 7. 2.
- 1.2 Client represents and warrants that it is paying Siemens with available capital funds pursuant to Texas Local Government Code 302.004(a-1). Accordingly, Client acknowledges that the costs of the project will not be covered solely out of the savings realized by Client under the Agreement. Client has requested Siemens to install certain measures that are related to, connected with or otherwise ancillary to the FIM's as set forth in Exhibit A. Exhibit A depicts all items to be installed by Siemens.

Table 1.2 - Total Guaranteed Savings and Operational Savings

Table 1.2 – Total Guaranteed Savings and Operational Savings					
<b>Performance Period</b>	Energy/Utility	Billable Water/Sewer	Operational Savings		
	Savings (\$)	Increase (\$) <sup>2</sup>	(\$)		
Construction	0	0	0		
Annual Period 1 <sup>1</sup>	36,720	491,733	126,800		
Annual Period 2	42,729	523,007	130,604		
Annual Period 3	44,010	552,523	134,522		
Annual Period 4	45,331	584,410	138,558		
Annual Period 5	46,691	617,133	142,715		
Annual Period 6	48,091	615,366	146,996		
Annual Period 7	49,534	635,333	151,406		
Annual Period 8	51,020	655,806	155,948		
Annual Period 9	52,551	676,796	160,626		
Annual Period 10	54,127	698,315	165,445		
Annual Period 11	55,751	720,375	170,409		
Annual Period 12	57,424	742,988	175,521		
Annual Period 13	59,146	742,888	180,786		
Annual Period 14	60,921	765,412	186,210		
Annual Period 15	62,748	788,492	191,796		
Annual Period 16	64,631	812,137	197,550		
Annual Period 17	66,570	836,363	203,477		
Annual Period 18	68,567	861,180	209,581		
Annual Period 19	70,624	886,602	215,869		
Annual Period 20	72,743	912,641	222,345		
Total	1,109,929	14,119,500	3,407,163		

<sup>1.</sup> Demand savings are not guaranteed in Period 1 Annual Savings due to the ratchet clause in Centerpoint Electric Rate Structure. If the construction period aligns such that Demand reductions are realized, Siemens will report the actual reductions on the year one PASP report. Demand Savings are included for Periods 2-20.

- 1.3 Table 1.2 shows the CLIENT'S guaranteed cost Savings for each Annual Period that are extrapolated from the guaranteed energy/utility unit Savings shown in Table 1.1 by multiplying the energy/utility Savings by the Baseline energy/utility rates including the stipulated Escalation Rates found in Article 6.
- 1.4 SIEMENS cannot and does not predict fluctuations in utility rates or the cost of energy. Therefore, the CLIENT and SIEMENS agree that the energy/utility cost Savings for each

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Siemens Industry, Inc., Building Technologies Division Exhibit C – Performance Assurance

v20160804

<sup>2.</sup> Increased billable water and sewer revenue increases from annual period 16 onward are stipulated values and verified under M&V Option 'E' during years 16-20.

## City of Bellaire, TX

Annual Period will be calculated by multiplying the verified units of energy/utility Savings by the Annual Period's stipulated energy/utility rate and Escalation Rates and not the Annual Period's actual utility rate.

- 1.5 It is the CLIENT's responsibility to bill and collect for all increased meter accuracies. Should the CLIENT decide to forgive any increased accuracy impact outlined in this contract, it is at their sole discretion and shall not impact the benefit described herein.
- 1.6 The determination of energy/utility Savings will follow current best practice, as defined in the IPMVP, or the FEMP Guidelines where required, unless otherwise agreed to by the Parties.
- 1.7 The Performance Guarantee does not operate to guarantee the Savings per-FIM. Rather, the calculation of Savings is based on aggregate performance of all of the FIMs contained in the Project. The projected value of such aggregate performance is contained in Table 1.2 above representing the Total Guaranteed Savings as monetized.

City of Bellaire, TX

## Article 2: Measurement and Verification ("M&V") Options

2.1 There are five options to measure and verify energy/utility Savings: Option A - Retrofit Isolation: Key Parameter Measurement; Option B - Retrofit Isolation: All Parameter Measurement; Option C - Whole Facility; and, Option D - Calibrated Simulation. Options A through and including D are part of the IPMVP. Option E-Stipulated is based on industry accepted engineering standards and is the Option used for purposes of calculating Operational Savings.

Option A - Retrofit Isolation, Key Parameter Measurement: Savings are determined by field measurement of the key performance parameter(s) which define the energy use of the FIM's affected system(s) and/or the success of the Project. Measurement frequency ranges from short-term to continuous, depending on the expected variations in the measured parameter and the length of the reporting period. Parameters not selected for field measurement are estimated. Estimates can be based on historical data, manufacturer's specifications, or engineering judgment. Documentation of the source or justification of the estimated parameter is required. The plausible savings error arising from estimation rather than measurement is evaluated. If applicable, the predetermined schedule for data collection, evaluation, and reporting is defined in Exhibit A, Article 3-Performance Assurance Services Program.

**Option B - Retrofit Isolation, All Parameter Measurement:** Savings are determined by field measurement of the energy use of the FIM-affected system. Measurement frequency ranges from short-term to continuous, depending on the expected variations in the savings and the length of the reporting period. If applicable, the predetermined schedule for data collection, evaluation, and reporting is defined in Exhibit A, Article 3-Performance Assurance Services Program.

**Option C - Whole Facility:** Savings are determined by measuring energy use at the whole Facility or sub-Facility level. Continuous measurements of the entire Facility's energy use are taken throughout the reporting period. If applicable, the predetermined schedule for data collection, evaluation, and reporting is defined in Exhibit A, Article 3-Performance Assurance Services Program.

**Option D - Calibrated Simulation:** Savings are determined through simulation of the energy use of the whole Facility, or of a sub-Facility. Simulation routines are demonstrated to adequately model actual energy performance measured in the Facility. This Option usually requires considerable skill in calibrated simulation. If applicable, the predetermined schedule for data collection, evaluation, and reporting is defined in Exhibit A, Article 3-Performance Assurance Services Program.

**Option E - Stipulated:** This Option is the method of measurement and verification applicable to FIMS consisting either of Operational Savings or where the end use capacity or operational efficiency; demand, energy consumption or power level; or manufacturer's measurements, industry standard efficiencies or operating hours are known in advance, and used in a calculation or analysis method that will stipulate the outcome. Both CLIENT and SIEMENS agree to the stipulated inputs and outcome(s) of the analysis methodology. Based on the established analytical methodology the Savings stipulated will be achieved upon completion of the FIM and

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no further measurements or calculations will be performed during the Performance Guarantee Period. If applicable, the methodology and calculations to establish Savings value will be defined in Section 4.6 of this Exhibit C.

2.2 Table 2.1 below summarizes the first Annual Period's Guaranteed Savings (See Article 1, Tables 1.1 and 1.2) utilizing the applicable Measurement and Verification Options as applied to the referenced FIMs valued pursuant to the agreed upon amounts identified in Article 6 hereof.

Table 2.1 – Savings for First Annual Period by M&V Option

	Energy/Utility Savings \$ M&V Options				Operational Savings \$	Total Savings \$		
FIM	A Retrofit Isolation: Key Parameter Measurement	B Retrofit Isolation: All Parameter Measurement	C Whole Facility	D Calibrated Simulation	E Stipulated	Total Energy/Utility Savings	E Stipulated	
Water Meter / AMI	\$491,733	\$0	\$0	\$0	\$0	\$491,733	\$76,800	\$568,533
WWTP Aeration System Improvements	\$35,459	\$0	\$0	\$0	\$0	\$35,459	\$15,000	\$50,459
WWTP Digester Upgrades	\$1,261	\$0	\$0	\$0	\$0	\$1,261	\$12,500	\$13,761
WWTP Main Lift Station Rehabilitation	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000	\$10,000
WWTP RAS Pump Replacement & WAS Controls	\$0	\$0	\$0	\$0	\$0	\$0	\$12,500	\$12,500
TOTAL	\$528,453	\$0	\$0	\$0	\$0	\$528,453	\$126,800	\$655,253

2.3 Table 2.2 identifies the source of Operational Savings defined and quantified by the Parties. The Parties affirm that such amounts are Stipulated Savings for purposes of calculating Annual Realized Savings and acknowledge that the Guaranteed Savings identified herein have been based on CLIENT'S affirmation. **OPERATIONAL SAVINGS SHALL NOT BE MEASURED OR MONITORED DURING THE PERFORMANCE GUARANTEE PERIOD.** SIEMENS has explained to the CLIENT and the CLIENT has satisfied itself as to how Operational Savings are incorporated into the Annual Realized Savings.

**Table 2.2 - Source of Operational Savings** 

rable 2.2 boares of o belational barrings						
FIM	Description	First Year Savings	# of Annual Periods Savings Are Applied	Annual Period Savings Begin		
Water Meter / AMI	Cancellation of 3 <sup>rd</sup> party Meter Reading Contract = Cost Reduction	\$76,800	20	1		

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FIM	Description	First Year Savings	# of Annual Periods Savings Are Applied	Annual Period Savings Begin
System Improvements	Reduction in maintenance labor and replacement materials due to aeration system rehabilitation and new blowers.	\$15,000	20	1
WW IP Digester	Reduction in maintenance labor and replacement materials due to digester upgrades, new blowers, and new MECC equipment	\$12,500	20	1
Station Rehabilitation	Reduction in maintenance labor and replacement materials due to pump & motor upgrades, new piping, new controls, and new MECC equipment.	\$10,000	20	1
Replacements & WAS	Reduction in maintenance labor and replacement materials due to pump & motor upgrades, new controls and new valves.	\$12,500	20	1
Total		\$126,800		

## 2.4 The Escalation Rate applicable to the Operational Savings is 3.0%.

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## Article 3: Performance Guarantee Period Responsibilities of the CLIENT

In addition to the CLIENT'S responsibilities under Article 6 of the Agreement, this Article details the responsibilities of the CLIENT in connection with the management and administration of the Performance Guarantee.

- 3.1 The CLIENT will provide a representative at each Facility to coordinate work and provide the required data described below.
- 3.2 The CLIENT will provide SIEMENS with accurate Facility operating information (as defined below and Article 7 of this Exhibit C) during each Annual Period, as soon as such information becomes available to the CLIENT.
  - (a) Any Material Change to energy consuming or regulating equipment, operating schedules, business/services conducted occupancy, or hours of operation.
  - (b) Any malfunctions, failures and related changes in energy consuming or regulating equipment. Any damage to, destruction of, or condemnation of the Work.
  - (c) Executed preventive maintenance and repair records.
  - (d) Energy usage and cost.
  - (e) Annually provide copies of all water, sewer, and electric rate schedules used for billing during the previous 12 month period if changed from the previous year.
  - (f) Annually provide monthly number of water meter accounts.

In order to verify meter quantities and to verify system integrity for measurement and verification purposes, after substantial completion CLIENT shall allow SIEMENS reasonable access to its meter database as long as a performance assurance agreement exists between the CLIENT and SIEMENS. If the performance assurance agreement is cancelled by the CLIENT, the CLIENT reserves the right to rescind SIEMENS access to its water meter database. No changes shall be made to the database by SIEMENS.

Additionally, CLIENT must annually provide Siemens with a list of all water accounts in the system. The list must be in electronic format and include the following (Privacy limitations apply within local, state and federal and the information shall only be used for the sole purpose of this agreement):

- Monthly Metering Dates (specific 12 month period requested by Siemens)
- Monthly Billing Dates (specific 12 month period requested by Siemens)
- Monthly Billed Water (specific 12 month period requested by Siemens)
- Meter Serial Number stamped on "Brass Body"
- Meter Installation Date
- Meter Size (3/4, 1", 2" etc.)
- Last Meter Reading
- Last Meter Read Date
- Meter Read Units (kgal, hgal, gallons etc)
- Multiplier on Readings (x10, x100, x1000, etc.)
- Meter Manufacturer Brand
- Meter Type (PD / Turbine /Compound)
- Transceiver Number
- Account Number

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- Name of Account Holder
- Account Service Address
- Account Type (irrigation etc.)
- Account Type (Residential, Commercial etc.)
- Account Status (Active / Inactive etc.)
- Sewer Charges Apply (Y/N)
- Water Rate Code
- Sewer Rate Code
- Billed Dollar Amount for Water (specific 12 month period requested by Siemens)
- Billed Dollar Amount for Sewer (specific 12 month period requested by Siemens)
- Billed Consumption Amount for Water (specific 12 month period requested by Siemens)
- Billed Consumption Amount for Sewer (specific 12 month period requested by Siemens)
- 3.3 The manufacturer's warranties are passed on to the CLIENT. See Attachment 5- Water Meter Manufacturer's Warranty, for the manufacturer's water meter warranty.
- 3.4 CLIENT understands that maintenance of the water meters is crucial to maintaining system performance and shall be responsible for water meters which exceed the warranty limits shown in Attachment 5. Replacement, repair, testing and return to service or continuation of use of water meters are potential valid approaches; however, SIEMENS will remove these meters from the potential test list.
- 3.5 A baseline adjustment will be made to the Siemens guarantee if it is found that installed equipment are not properly maintained per manufacturer's requirements as defined in the manufactures operations and maintenance manuals.
- 3.6 CLIENT shall be responsible for maintaining the water meter database to include but not limited to meter replacements, meter repairs, meter disconnects, new meter installs, and all associated changes in regards to the water meter infrastructure.
- 3.7 CLIENT will maintain water quality levels on an annual basis equal to or greater than standards outlined by Texas Commission on Environmental Quality and provide SIEMENS a copy of annual water ratings.
- 3.8 If applicable, the CLIENT will provide SIEMENS with copies of utility bills within thirty (30) days of receipt by the CLIENT or provide access to utility vendor information to allow SIEMENS to include a utility bill analysis in the Annual Performance Assurance Report. The utility bill analysis does not take the place of the Measurement and Verification Plan identified in Article 4 of this Exhibit C and is not used to measure the Project's performance.
- 3.9 CLIENT will annually facilitate and coordinate utility meter testing including providing a listing of all meters installed in the system, providing access, notification and scheduling of meter replacements as deemed necessary by the CLIENT.

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## Article 4: Measurement and Verification ("M&V") Plan

The following information is applicable to this Agreement:

Article 4.1 General Overview

Article 4.2 Option A - Retrofit Isolation: Key Parameter Measurement

#### 4.1 General Overview -

The purpose of the M&V Plan is to identify the methods, measurements, procedures and tools that will be used to verify the Savings for each FIM which has energy/utility Savings. Savings are determined by comparing prior usage, consumption accuracy or efficiencies (defined as the "Baseline") against the post-FIM implementation usage, consumption, accuracy or efficiencies. The Baseline usage, consumption, accuracy or efficiencies are described in this Exhibit C, Article 5. The post-FIM implementation usage, consumption, accuracy or efficiencies is defined as the Contracted Baseline and are described in this Exhibit C, Article 7.

## 4.2 Option A - Retrofit Isolation: Key Parameter Measurement

## 4.2.1 Water Meter Replacement

### Description

The underlying premise of the Performance Guarantee and the M&V process is that SIEMENS expects a new, positive displacement, residential water meter to mechanically wear in response to two primary factors: the amount of cumulative water and age. The meters with greater amounts of cumulative water measured at any given time are likely to be less accurate than meters with lower accumulated reading meters due to increased wear accompanying the increased amount of measured water. Secondly, age can be a contributing factor in meter accuracy. In the M&V phase, the bulk of the meters will be the same age. Thus targeting high cumulative flow meters each year as the sampling approach for the total population of meters provides at least three levels of benefit: first, the meters with the highest cumulative flow are likely to be the meters closest to falling out of warranty so these are the best candidates for replacement; second, the meters with high cumulative flow are expected to be the lowest accuracy meters so if they pass the quarantee threshold, there is little doubt that the overall system meets the quarantee; and thirdly, replacement of the lowest accuracy meters with new calibrated meters provides an improvement to the overall system accuracy. This methodology is further discussed in the Calculations section below.

Apparent water losses are non-physical losses that occur in utility operations due to meter inaccuracies and systematic data handling errors in billing systems; thus minimizing this apparent water loss yields an increase in billable water. External influences may affect the predicted increase in billable water and the associated revenue. These influences may come from reductions in water and sewer rates or reductions in overall consumption relative to the Baseline Period. Mandatory water use restrictions, drought conditions, and change of customer or business type are other factors beyond SIEMENS control that may affect the realized increase in billable water.

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Variables such as decreases in water rates, reduction in overall customer consumption, or weather conditions may affect the amount of increased billable water and associated revenue through no fault of SIEMENS or the Project, thus SIEMENS GUARANTEES THE PERFORMANCE OF SIEMENS-INSTALLED WATER METER ACCURACIES PRESENTED IN ARTICLES 5 AND 7.

#### Calculations

Accuracy testing will be performed annually for the length of the PASP term on a target sampling of meters to provide assurance that the overall meter system is maintaining the desired level of accuracy. The meter information will be tested to American Water Works Association (AWWA) standards and the sampling approach provides a high confidence level that the system is maintaining the desired accuracies.

SIEMENS will remove and replace a sample of meters from each of the following groups for accuracy testing. This sample of meters is selected based upon the group of meter sizes and types listed below:

- 3/4" positive displacement meters;
- 1" positive displacement meters;
- 1.5" positive displacement meters;
- 2" positive displacement meters;

Meters to be tested will be determined by registered volumetric readings. For the first five years, meters with registered volume flow closest to, but less than, the manufacturer's warranty new meter volume flow limit, will be tested. For the following ten years a random sampling will be conducted to determine the meters to be tested. Given this selection process, the resultant accuracies are theoretically the worst amongst the population of meters while the full warranty is in effect and representative of the system thereafter. Therefore, a regression will be created to extrapolate the meter accuracy for each individual meter in the associated usage group population.

For each group of meters tested, a best fit linear regression equation for accuracy will be calculated based upon the cumulative flow through each meter. A y-intercept point of the regression line will be defined as a new meter with an accuracy of 100% and a flow of zero (0) gallons. That is to say, a water meter is 100% accurate until the commencement of flow. The straight-line regression is used to interpolate the accuracy of each individual meter within the usage group based upon the cumulative flow through the meter. The arithmetic average of the entire testable meter population will define the annual post-installation accuracy.

The accuracy tests are to be based on AWWA standards for testing residential water meters per AWWA Manual M6 fifth edition. The formulation for that testing is as follows:

For a true test of a water meter at all flow rates, AWWA standards specify first testing low, medium, and high flow rates and then calculating the aggregate meter efficiency by weighted formula. For PD meters, the three test points (High, Med, and Low flow) are weighted 15%, 70%, and 15% respectively. The formula for meter accuracy is as follows:

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(15% x Measured Accuracy @ High flow)

- + (70% x Measured Accuracy @ Medium flow)
- + (15% x Measured Accuracy @ Low flow)

Average Weighted Accuracy of the Meter\*

(\*reference: AWWA Meter Manual M6, Fifth Edition; pg 54, "Meter Testing")

The positive displacement (PD) meters will be bench tested in a laboratory which requires they be pulled and replaced with new meters each time tested. All tested meters that pass the accuracy limits for warranty purposes will be returned to the CLIENT for reuse. For meters that are outside the acceptable meter performance parameters as determined by the meter manufacturer warranty, SIEMENS will return the meters for repair or replacement under warranty and ultimately return to the CLIENT's inventory.

The quantity of meters to be tested will be selected based upon a confidence and precision level of 80% and 20% respectively. The sampling guidelines of Table 4.1 will be used to select the appropriate number of meters to be tested.

**Table 4.1- Sampling Guidelines** 

C (. 1	0.00/
Confidence	80%
Precision	20%
Population	Number of Samples
1	1
2	2
3	3
4	3
5-6	4
7-9	5
10-13	6
14-19	7
20-29	8
30-49	9
50-110	10
>110	11

The calculation of total additional water billed resulting from the meter retrofit project will be based on the ratio of the tested accuracy of the new meters and the average accuracy of the old meter population less 1. The accuracy ratio less 100% is multiplied by the Baseline annual cumulative water registered for the system or meter size grouping (Table 4.2), as applicable. The result is the amount of increased billable water for the system or that meter group. This process is repeated for each meter group in the baseline listing, if applicable. The sum of these amounts of increased billable water is the total amount of increased billable water for guarantee. This calculated amount of increased billable water guaranteed. If the calculated amount is higher than the guaranteed accuracy, then the Performance Guarantee is deemed achieved for that Annual Period.

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Baseline consumption will be established based on the most recent available consumption data, from Feb 2015 – Jan 2016. This baseline consumption is used as an assumed flow condition, since total quantity of flow is beyond SIEMENS control. SIEMENS will guarantee meter accuracy, and then apply the measured accuracy to the baseline data to determine if the quarantee has been met, and the extent of shortfall, if any.

Both water and sewage revenue associated with the increased billed water calculated will be included in the revenue reconciliation and are considered part of the Performance Guarantee. This approach ensures the CLIENT that the projected performance will be maintained throughout the Performance Guarantee Period. From a calculation perspective, the estimated billable water increase and associated value is found from:

$$MeteredWaterIncrease = \sum_{i=1}^{n} \left( \frac{\eta_{post,i}}{\eta_{base,i}} - 100\% \right) \times Water_{base-billed,i}$$

$$MeteredWaterIncrease \$ = \sum_{i=1}^{n} \left[ MeteredWaterIncrease_{i} \times \left( \$Water_{i} + \$Sewer_{i} \right) \right]$$

#### Where:

 $\eta_{\text{post},i}$  = arithmetic average tested meter accuracy for group i  $\eta_{\text{base},i}$  = arithmetic average baseline meter accuracy for group I from Table 4.2 Waterbase-billed,I = the baseline annual cumulative water registered for group i, kgal MeteredWaterIncrease = total increased billable water, kgal \$Wateri = Cost per kGal of water sold to customers in group i from Article 6 \$Seweri = Cost per kGal of sewerage sold to customers in group i from Article 6 MeteredWaterIncrease\$ = estimated total increased billable water revenue

If the average of the meters tested within any Annual Period is above the guaranteed accuracy listed in Table 7.1 – Water Meter Accuracy, the meter accuracy will be deemed acceptable. In the event that the average tested meter accuracy is below the guaranteed accuracy, SIEMENS will perform the calculation procedure identified in this Section 4.2.1 to identify the average system or subsystem accuracy. If the weighted average accuracy within any Annual Period is above the guaranteed accuracy listed in Table 7.1 – Water Meter Accuracy, the meter accuracy will be deemed acceptable. In the event that the average system accuracy is below the guaranteed accuracy, SIEMENS will conduct a review of the test data. Any test meter that tests below the manufacturer's accuracy guarantee will be repaired or replaced through the manufacturer's warranty process. Additional rounds of testing at SIEMENS' expense may be conducted to determine if the increased precision and accuracy of the sample affects the resultant system accuracy.

If the additional testing is performed and SIEMENS determines that the results do not prove to be equal or greater than the guaranteed accuracy, SIEMENS may choose one of two courses of action:

1. Perform a meter replacement program on the population of meters that are not meeting the guaranteed accuracy, or;

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2. Discontinue the testing and accept the financial responsibility as calculated in the Annual Performance Assurance Report. The revenue calculation will be based on the difference between the guaranteed accuracy as defined in Table 7.1 – Water Meter Accuracy and the average accuracy for that Annual Period as further defined in this Section 4.2.1. The revenue calculation will be based on the dollar rate schedule contained in the Baseline data listed below in Table 6.1.3 – Water/Sewer rate structures.

Population, installed meters and the interaction of the two are the key indicators that the capability of the water system to sell water is maintained.

Population: 17,849\*

\*As of 2013, data provided by United States Census Bureau

If the population increases, it is reasonable to assume that the water consumption may increase. Alternately, if the population decreases, it is reasonable to assume the district water consumption may decrease through no fault of SIEMENS.

Installed meters: 7,684\*

\*Refer to Exhibit A for Quantities by Size

If the number of installed meters increases, it is reasonable to assume that the water consumption may increase. Alternately, if the meter population decreases, it is reasonable to assume the district water consumption may decrease at no fault of SIEMENS.

The amount of annual rainfall can affect the overall consumption by the residents, by changing the amount of irrigation required to keep their lawns healthy. For the Baseline Period the amount of precipitation was:

Baseline (Feb 2015 to Jan 2016) Actual Precipitation = 69.02 inches for Houston, TX. \*Source: NOAA.gov for Houston, TX,

The 30 year average annual rainfall for CLIENT'S location is approximately 49.77 inches, based on data provided by the National Oceanic and Atmospheric Administration (NOAA). If the rainfall increases, there may be less water use for irrigation; conversely if it is a particularly dry year, there may be an increase in irrigation. As a result of any water restrictions imposed by the CLIENT or its water authority, there may be less water use for irrigation, even though the lack of rain and higher temperatures may trend otherwise.

The population and the number of installed meters are key indicators of the capability of the system to provide water. However, if one is reduced and the other increases, a method to evaluate whether the system's capability has increased or decreased may be required. SIEMENS will use Table 4.2 to evaluate whether the system capacity has effectively increased or decreased.

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The basis of the calculation is that meter size is an indication of cross sectional flow area. If the flow area is greater, then it is reasonable to assume that more flow can be provided than through smaller meters.

The potential for sufficient increased revenues for the CLIENT from water and sewer charges will be confirmed to meet or exceed the Baseline revenues by verifying that the meter size calculation as presented in Table 4.2 for any Annual Period is greater than or equal to the Baseline Period. If any of these factors are not maintained, the actual volume of the water sold cannot be tied to accuracy improvements and any comparison to actual sold water is not valid.

Table 4.2 - Evaluation of Change in System Capacity

Size	Base Year Number of Meters	Base Year Calculation	Completed Calculation	Post Installation Year Number of Meters	Post Year Calculation	Post Calculation
0.625	2673	0.625 x 0.625 x 2673 =	1044.141	AAA	0.625 x 0.625 x AAA =	0.390625 x A
0.75	2727	0.75 x 0.75 x 2727 =	1533.938	ВВВ	0.75 x 0.75 x BBB =	0.562 x BBE
1	2125	1 x 1 x2125 =	2125	CCC	1 x 1 x CCC =	1 x CCC
1.5	45	1.5 x 1.5 x 45 =	101.25	DDD	1.5 x 1.5 x DDD =	2.25 x DDD
2	84	2 x 2 x 84 =	336	EEE	2 x 2 x EEE =	4 x EEE
TOTALS	7654		5140.328125	SUM(AAA:EEE)		SUM

IF SUM > 5140.328125 then the system capacity is assumed greater or equal to the base year.

- 4.2.1.1 Parameters to be maintained during the Performance Guarantee Period are:
  - (a) Water quality at or above average quality over the most recent 12 month period;
  - (b) Source of water supply at or above average quality water over the most recent 12 month period from previous source of water supply used;
  - (c) Water distribution integrity at or above Baseline maintenance levels; and,
  - (d) Meter/AMI system compatibility with the new system.
- 4.2.1.2 The meter performance Baseline used for ongoing comparison of future meter test results is as follows:
  - (a) Baseline Period (full 12 months) = Feb 2015 to Jan 2016

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<sup>\*</sup>The sum of meters may not match the actual scope of work, this is because the quantity provided in the table above are the basis of savings calculations. Actual quantity of meters to be replaced/retrofitted is greater than the Base Year Number of meters.

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- (b) Specific meter accounts included in the baseline are attached in Attachment 2 Water Meter Account List.
- (c) The baseline meter testing data are included as Attachment 4- Water Meter Baseline Test Results.
- (d) Details of water consumed for a consecutive 12 month period of each tested meter account, and a grand total of water consumed by these accounts is included is detailed in Article 5. Baseline account meters are 5/8", 3/4", 1", 1.5", and 2" in size. These Baseline accounts remain fixed and are the basis for comparison throughout the Performance Guarantee Period. After implementation of the project is completed and the sizes for each meter are verified, the baseline and projected consumption increases will be reconciled.
- (e) The water district's water and sewer billing rate schedules in force at the beginning of installation are used for revenue calculations and are documented in Article 6. This will be the basis used for any financial calculations henceforth, not a water billing rate schedule from any other year.
- (f) Total population (people) in the water service area at the beginning of this guarantee period was 17,849 based on estimates for 2013 based on the United States Census Bureau.
- 4.2.1.3 The Baseline Period is chosen using the most recent 12 months of continuous data available for each account through the existing utility billing system at the start of the detailed audit. The baseline period use for establishing baseline consumption is from February 2015 to January 2016.
- 4.2.1.4 Baseline number of meters and sizes is documented as part of the Baseline. This is to assure that variances in installed meter counts and associated meter sizes are not inconsistent with the Baseline. SIEMENS does not assume responsibility for loss of water consumption within the water district due to declines in installed capability to supply water.
- 4.2.1.5 Baseline period population (people) is documented as part of the Baseline. This is to assure that variances in population increases or declines are not considered in the Baseline. SIEMENS does not assume responsibility for loss of water consumption within the water district due to population declines.
- 4.2.1.6 Meter testing was performed on a representative sampling of meters to provide the premeasurement system average level of accuracy for all meters. The meters were tested to AWWA standards and the sampling approach provides a high confidence level that the meters are indeed inefficient with comparison to new meter accuracies.

The CLIENT provided a complete account download of historical data for each metered account including monthly consumption, meter size, meter installation data, meter serial number, billed charges, account number, account ID, etc.

Based on AWWA guidelines for meter sampling and testing, a random sample of the meters were selected, removed from service, delivered to a third-party testing facility with the results presented in Attachment 4 - Water Meter Baseline Test Results. The

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accuracy tests are to be based on AWWA standards for testing residential water meters per AWWA Manual M6. For a true test of a water meter at all flow rates, AWWA standards recommend first testing low, medium, and high flow rates and then calculating the aggregate meter Accuracy by weighted formula. The three test points (High, Med, and Low flow) are weighted 15%, 70%, and 15% for PD meters. The formula for PD meter accuracy is as follow:

(15% x Measured Accuracy @ High flow) + (70% x Measured Accuracy @ Medium flow) + (15% x Measured Accuracy @ Low flow) Average Weighted Accuracy of the Meter\*

(\*reference: AWWA Meter Manual M6, Fifth Edition; pg 54, "Meter Testing")

- 4.2.1.7 New meter accuracy is based upon the manufacturer warranty. For positive displacement (PD) meters of 1" and smaller, the meter accuracy is guaranteed for the first five (5) Annual Periods. After Annual Period 5, it is assumed that the meter accuracy will decline at a fixed percentage for the remainder of its service life to approximate the ongoing loss of accuracy of the meter as it ages. For 1 ½" and 2" meters, the meter accuracy is guarantee for the first two (2) Annual Periods. After Annual Period 2, it is assumed that the meter accuracy will decline at a fixed percentage for the remainder of its service life to approximate the ongoing loss of accuracy of the meter as it ages. Articles 5 and 7 show the estimated accuracies of the meters throughout Performance Guarantee Period.
- 4.2.2 Blower and Aeration Efficiency Improvements

#### Description

The energy savings generated by this FIM are realized by displacing the use of two (2) 100 hp multi-stage centrifugal blowers with two (2) high efficiency magnetic bearing turbo blowers with integrated motors. One new blower will be sufficient to fulfill the aeration requirements of the system for the majority of the year, while the other will act as a secondary for instances where extra aeration is required. The coarse bubble diffusers in the pre-aeration basin will be replaced with fine bubble diffusers while the existing fine bubble diffusers in the aeration basin will be removed and replaced with brand new equipment. Dissolved oxygen level will be used to control the volume of air produced by the aeration blowers. In order to verify the energy savings, the pre-retrofit kW will be compared to the post-retrofit kW. The kWh savings will be calculated from the kW measurements as well as operating hours. The savings will be tabulated on a monthly basis and reported annually.

#### Measurement or Reference Tables

#### **Pre-Retrofit Measurements**

- 1. Aeration blower kW measurements (one out of four blowers was in inoperable condition during period of measurement):
  - Average kW for measured period

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- Blower 3: 50.15 kW
- Blower 2/4: 71.55 kW, blower 2 and 4 alternated in operation during the measurement period and never operated at the same time.

#### Post-Retrofit Measurements

- 1. Aeration blower kW measured over the post-retrofit period
- 2. Automatic control override status
- 3. Post-retrofit annual hours of operation

## Stipulated

- 1. Pre-retrofit annual hours of operation = 8760 hours
- 2. Maximum dissolved oxygen level setpoint = 2.0 mg/l
- 3. Estimated theoretical blower turndown at design point = 66.3%

#### Calculations

$$kW_{saved} = \left[ \left( \frac{\sum_{i=1}^{n-pre} kW_{pre}}{n-pre} \right) - \left( \frac{\sum_{i=1}^{n-post} kW_{post}}{n-post} \right) \right]$$

 $kWh_{saved} = kW_{saved} \times [hours of operation]$ 

$$Utility\ Cost_{saved}\ =\ \left(kW_{Saved}\ \times 12\ \times\ \left(\$/_{kW}\right)_{contract}\right)\ +\ \left(kWh_{saved}\ \times\ \left(\$/_{kWh}\right)_{contract}\right)$$

#### Where,

n-pre = number of periods in baseline year (366)

n-post = number of aeration blower kW measurements (from cellular logger)

kW<sub>pre</sub> = pre-retrofit aeration blower measured kW draw

kWpost = post-retrofit aeration blower measured kW draw

kW<sub>saved</sub> = total demand savings

kWh<sub>pre</sub> = sum of pre-retrofit blower energy consumption

kWh<sub>post</sub> = sum of post-retrofit blower energy consumption

kWh<sub>saved</sub> = total consumption energy savings

Utility Costsaved = calculated utility savings for this FIM

\$/kWcontract = kW unit cost from contract

\$/kWh<sub>contract</sub> = kWh unit cost from contract

#### Responsibility for SIEMENS and CLIENT:

The CLIENT will notify SIEMENS of any problems with the equipment installed by SIEMENS and provide the necessary access to the affected equipment and systems. SIEMENS shall then determine the best course of action to ensure correct operation and to maintain the Performance Guarantee. Unintended changes in operation of systems associated with the FIMs by the CLIENT may require Baseline adjustments.

## Baseline Adjustments:

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Changes in equipment operation due to fluctuating weather conditions, extended or contracted operating schedules, population changes, or changes in functionality; may change power and energy consumption and require adjustments to the pre-retrofit Baseline models. The Annual Performance Assurance Report will document changes in conditions that may affect Savings persistence.

## **Specifications on Measurement Tools:**

• Cellular Power Logger

### 4.2.3 WWTP Digester Blower Replacement

### Description:

Replacement of the two (2) old 100 hp digester blowers with two (2) new 125 hp digester blowers with the same duty conditions. Verification of the electric savings shall be based on the blower's estimated pre-retrofit motor efficiency estimate, the post-retrofit motor efficiency as stated by the equipment manufacturer, the estimated percent loading on the motor equipment, and the annual operating hours as measured in the baseline condition.

#### Measurement or Reference Tables:

#### Pre-retrofit measurements:

• Digester blower kW measurements

#### Post-retrofit measurements:

- Digester blower kW measurements
- Post-retrofit annual operating hours

#### Stipulated

- Motor efficiency of existing blower = 90% efficient
- Motor efficiency of new blower = 95% (manufacturer datasheet)
- Pre-retrofit annual operating hours of each unit = 8760 hours

### <u>Calculations:</u>

The following calculations will be performed to determine the annual demand and electrical energy reduction. Pre-retrofit standard operating procedure is to have only one blower in operation at a time and the post-retrofit operating procedure is assumed to be the same.

Formulas for Demand Savings (kW) Savings:

 $kW_{pre}$  = average of measured kW over the pre-retrofit measurement period  $kW_{post}$  = average of measured kW over the post-retrofit measurement period  $kW_{saved}$  =  $kW_{pre}$  -  $kW_{post}$ 

Formulas for Electrical (kWh) Savings:

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```
kWh_{pre} = kW_{pre} * Pre-retrofit Operating Hours

kWh_{pre} = kW_{post} * Post-retrofit Operating Hours

kWh_{saved} = kWh_{pre} - kWh_{post}
```

Formulas for Utility Cost (\$) Savings:

Total Utility  $Savings = [(kWh)_{saved} * (\$/kWh)_{contract}] + [(kW)_{saved} * (\$/kW)_{contract} * 12 (months per year that kW is billed)]$ 

#### Where:

- kW<sub>Pre</sub> = Pre-retrofit motor power demand
- kW<sub>Post</sub> = Post-retrofit motor power demand
- kW<sub>saved</sub> = Resulting electrical demand savings
- Operating Hours = stipulated operating hours
- kWh<sub>Pre</sub> = Pre-retrofit motor electrical consumption
- kWh<sub>Post</sub> = Post-retrofit motor electrical consumption
- kWh<sub>saved</sub> = Resulting electrical consumption savings
- \$/kWh<sub>contract</sub> = Cost of electrical energy consumption based on relevant rate tables in Article and stipulated escalations
- \$/kW<sub>contract</sub> = Cost of electrical power demand based on the relevant rate tables in Article 6 and stipulated escalations

### Responsibility for SIEMENS and CLIENT:

The CLIENT will notify SIEMENS of any problems with the equipment installed by SIEMENS and provide the necessary access to the affected equipment and systems. SIEMENS shall then determine the best course of action to ensure correct operation and to maintain the Performance Guarantee. Unintended changes in operation of systems associated with the FIMs by the CLIENT may require Baseline adjustments.

#### Baseline Adjustments:

Changes in equipment operation due to fluctuating weather conditions, extended or contracted operating schedules, population changes, or changes in functionality; may change power and energy consumption and require adjustments to the pre-retrofit Baseline models. The Annual Performance Assurance Report will document changes in conditions that may affect Savings persistence.

### Specifications on Measurement Tools:

• Cellular Power Logger

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## **Article 5: Baseline Data**

5.1 The year selected as the Baseline Period for the Water Meter/AMI FIM starts February 2015 and ends January 2016. Table 5.1 outlines the water volumes metered during this Baseline Period for each billing tier. This Baseline Period's water consumption will be used as the reference for comparing the calculated metered water volumes during the Performance Guarantee Period in order to determine the Annual Realized Savings.

Ta	Table 5.1 – Baseline Metered Water Volume for Each Billing Tier								
TIER NUMBER	TIER NAME	V <sub>Pre</sub> [kgal] Metered Data @ current accuracy							
1	Water - Residential - 5/8" - Tier 1	502,616							
2	Water - Residential - 5/8" - Tier 2	754,815							
3	Water - Residential - 5/8" - Tier 3	313,437							
4	Water - Residential - 3/4" - Tier 1	491,231							
5	Water - Residential - 3/4" - Tier 2	1,110,835							
6	Water - Residential - 3/4" - Tier 3	729,545							
7	Water - Residential - 1" - Tier 1	394,765							
8	Water - Residential - 1" - Tier 2	1,031,179							
9	Water - Residential - 1" - Tier 3	1,068,777							
10	Water - Residential - 1.5" - Tier 1	940							
11	Water - Residential - 1.5" - Tier 2	2,381							
12	Water - Residential - 1.5" - Tier 3	2,201							
13	Water - Residential - 2" - Tier 1	1,112							
14	Water - Residential - 2" - Tier 2	2,011							
15	Water - Residential - 2" - Tier 3	332							
16	Non-Residential - 5/8" - Tier 1	52,656							
17	Non-Residential - 5/8" - Tier 2	472							
18	Non-Residential - 3/4" - Tier 1	37,164							
19	Non-Residential - 3/4" - Tier 2	0							
20	Non-Residential - 1" - Tier 1	169,409							
21	Non-Residential - 1" - Tier 2	47,859							
22	Non-Residential - 1.5" - Tier 1	31,129							
23	Non-Residential - 1.5" - Tier 2	12,049							
24	Non-Residential - 2" - Tier 1	208,128							
25	Non-Residential - 2" - Tier 2	123,723							
26	Sprinkler - 5/8" - Tier 1	155,872							
27	Sprinkler - 5/8" - Tier 2	735							
28	Sprinkler - 3/4" - Tier 1	547,510							
29	Sprinkler - 3/4" - Tier 2	7,658							
30	Sprinkler - 1" - Tier 1	361,839							
31	Sprinkler - 1" - Tier 2	10,306							
32	Sprinkler - 1.5" - Tier 1	59,202							

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TIER NUMBER	TIER NAME	V <sub>Pre</sub> [kgal] Metered Data @ current accuracy
33	Sprinkler - 1.5" - Tier 2	56,519
34	Sprinkler - 2" - Tier 1	79,576
35	Sprinkler - 2" - Tier 2	81,807

Note: Column  $V_{\text{pre}}$  is baseline data for baseline time period at current accuracies listed in Table 5.2.

As previously mentioned, the calculation of total additional water billed resulting from the meter retrofit FIM will be based on a comparison between the average efficiency of the old meter population (those meters in the Baseline) and the tested efficiency of the new meters. The increase in efficiency (differential meter efficiency) is multiplied by the Baseline annual cumulative water for the system or meter size grouping, as applicable. The result is the amount of recaptured water for the system or that meter group. The table above shows the results of the Baseline analysis and shows the amount of recaptured water for the system associated with the given meter sizes and classifications.

This process is repeated for each meter group in the Baseline listing, if applicable. The sum of these amounts of reclaimed water is the total amount of unbilled water under the Performance Guarantee.

The water meter Baseline accuracy for each year of the Performance Guarantee Period is defined in Table 5.2 while the aggregate Baseline accuracy for all meters tested is shown in Equation 5.1.

Table 5.2 - Existing Meter Accuracy From Test Data

Item	Description	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1	Water - Residential - 5/8" - Tier 1	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%
2	Water - Residential - 5/8" - Tier 2	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%
3	Water - Residential - 5/8" - Tier 3	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%
4	Water - Residential - 3/4" - Tier 1	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
5	Water - Residential - 3/4" - Tier 2	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
6	Water - Residential - 3/4" - Tier 3	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
7	Water - Residential - 1" - Tier 1	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
8	Water - Residential - 1" - Tier 2	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
9	Water - Residential - 1" - Tier 3	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
10	Water - Residential - 1.5" - Tier 1	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
11	Water - Residential - 1.5" - Tier 2	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
12	Water - Residential - 1.5" - Tier 3	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
13	Water - Residential - 2" - Tier 1	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%
14	Water - Residential - 2" - Tier 2	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%
15	Water - Residential - 2" - Tier 3	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%
16	Non-Residential - 5/8" - Tier 1	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%

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Item	Description	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
17	Non-Residential - 5/8" - Tier 2	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%
18	Non-Residential - 3/4" - Tier 1	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
19	Non-Residential - 3/4" - Tier 2	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
20	Non-Residential - 1" - Tier 1	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
21	Non-Residential - 1" - Tier 2	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
22	Non-Residential - 1.5" - Tier 1	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
23	Non-Residential - 1.5" - Tier 2	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
24	Non-Residential - 2" - Tier 1	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%
25	Non-Residential - 2" - Tier 2	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%
26	Sprinkler - 5/8" - Tier 1	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%
27	Sprinkler - 5/8" - Tier 2	76.00%	76.00%	75.50%	75.00%	74.50%	74.00%	73.50%	73.00%
28	Sprinkler - 3/4" - Tier 1	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
29	Sprinkler - 3/4" - Tier 2	94.40%	94.40%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%
30	Sprinkler - 1" - Tier 1	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
31	Sprinkler - 1" - Tier 2	87.70%	87.70%	87.20%	86.70%	86.20%	85.70%	85.20%	84.70%
32	Sprinkler - 1.5" - Tier 1	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
33	Sprinkler - 1.5" - Tier 2	96.80%	96.80%	96.30%	95.80%	95.30%	94.80%	94.30%	93.80%
34	Sprinkler - 2" - Tier 1	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%
35	Sprinkler - 2" - Tier 2	93.90%	93.90%	93.40%	92.90%	92.40%	91.90%	91.40%	90.90%

Item	Description	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
1	Water - Residential - 5/8" - Tier 1	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
2	Water - Residential - 5/8" - Tier 2	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
3	Water - Residential - 5/8" - Tier 3	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
4	Water - Residential - 3/4" - Tier 1	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%
5	Water - Residential - 3/4" - Tier 2	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%
6	Water - Residential - 3/4" - Tier 3	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%
7	Water - Residential - 1" - Tier 1	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
8	Water - Residential - 1" - Tier 2	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
9	Water - Residential - 1" - Tier 3	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
10	Water - Residential - 1.5" - Tier 1	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
11	Water - Residential - 1.5" - Tier 2	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
12	Water - Residential - 1.5" - Tier 3	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
13	Water - Residential - 2" - Tier 1	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%
14	Water - Residential - 2" - Tier 2	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%
15	Water - Residential - 2" - Tier 3	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%
16	Non-Residential - 5/8" - Tier 1	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
17	Non-Residential - 5/8" - Tier 2	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
18	Non-Residential - 3/4" - Tier 1	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%

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Item	Description	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
19	Non-Residential - 3/4" - Tier 2	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%
20	Non-Residential - 1" - Tier 1	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
21	Non-Residential - 1" - Tier 2	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
22	Non-Residential - 1.5" - Tier 1	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
23	Non-Residential - 1.5" - Tier 2	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
24	Non-Residential - 2" - Tier 1	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%
25	Non-Residential - 2" - Tier 2	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%
26	Sprinkler - 5/8" - Tier 1	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
27	Sprinkler - 5/8" - Tier 2	72.50%	72.00%	71.50%	71.00%	70.50%	70.00%	69.50%	69.00%
28	Sprinkler - 3/4" - Tier 1	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%
29	Sprinkler - 3/4" - Tier 2	90.90%	90.40%	89.90%	89.40%	88.90%	88.40%	87.90%	87.40%
30	Sprinkler - 1" - Tier 1	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
31	Sprinkler - 1" - Tier 2	84.20%	83.70%	83.20%	82.70%	82.20%	81.70%	81.20%	80.70%
32	Sprinkler - 1.5" - Tier 1	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
33	Sprinkler - 1.5" - Tier 2	93.30%	92.80%	92.30%	91.80%	91.30%	0.00%	0.00%	0.00%
34	Sprinkler - 2" - Tier 1	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%
35	Sprinkler - 2" - Tier 2	90.40%	89.90%	89.40%	88.90%	88.40%	0.00%	0.00%	0.00%

Item	Description	Year 16	Year 17	Year 18	Year 19	Year 20
1	Water - Residential - 5/8" - Tier 1	68.50%	68.00%	67.50%	67.00%	66.50%
2	Water - Residential - 5/8" - Tier 2	68.50%	68.00%	67.50%	67.00%	66.50%
3	Water - Residential - 5/8" - Tier 3	68.50%	68.00%	67.50%	67.00%	66.50%
4	Water - Residential - 3/4" - Tier 1	86.90%	86.40%	85.90%	85.40%	84.90%
5	Water - Residential - 3/4" - Tier 2	86.90%	86.40%	85.90%	85.40%	84.90%
6	Water - Residential - 3/4" - Tier 3	86.90%	86.40%	85.90%	85.40%	84.90%
7	Water - Residential - 1" - Tier 1	80.20%	79.70%	79.20%	78.70%	78.20%
8	Water - Residential - 1" - Tier 2	80.20%	79.70%	79.20%	78.70%	78.20%
9	Water - Residential - 1" - Tier 3	80.20%	79.70%	79.20%	78.70%	78.20%
10	Water - Residential - 1.5" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
11	Water - Residential - 1.5" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
12	Water - Residential - 1.5" - Tier 3	0.00%	0.00%	0.00%	0.00%	0.00%
13	Water - Residential - 2" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
14	Water - Residential - 2" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
15	Water - Residential - 2" - Tier 3	0.00%	0.00%	0.00%	0.00%	0.00%
16	Non-Residential - 5/8" - Tier 1	68.50%	68.00%	67.50%	67.00%	66.50%
17	Non-Residential - 5/8" - Tier 2	68.50%	68.00%	67.50%	67.00%	66.50%
18	Non-Residential - 3/4" - Tier 1	86.90%	86.40%	85.90%	85.40%	84.90%
19	Non-Residential - 3/4" - Tier 2	86.90%	86.40%	85.90%	85.40%	84.90%
20	Non-Residential - 1" - Tier 1	80.20%	79.70%	79.20%	78.70%	78.20%

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Item	Description	Year 16	Year 17	Year 18	Year 19	Year 20
21	Non-Residential - 1" - Tier 2	80.20%	79.70%	79.20%	78.70%	78.20%
22	Non-Residential - 1.5" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
23	Non-Residential - 1.5" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
24	Non-Residential - 2" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
25	Non-Residential - 2" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
26	Sprinkler - 5/8" - Tier 1	68.50%	68.00%	67.50%	67.00%	66.50%
27	Sprinkler - 5/8" - Tier 2	68.50%	68.00%	67.50%	67.00%	66.50%
28	Sprinkler - 3/4" - Tier 1	86.90%	86.40%	85.90%	85.40%	84.90%
29	Sprinkler - 3/4" - Tier 2	86.90%	86.40%	85.90%	85.40%	84.90%
30	Sprinkler - 1" - Tier 1	80.20%	79.70%	79.20%	78.70%	78.20%
31	Sprinkler - 1" - Tier 2	80.20%	79.70%	79.20%	78.70%	78.20%
32	Sprinkler - 1.5" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
33	Sprinkler - 1.5" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
34	Sprinkler - 2" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
35	Sprinkler - 2" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%

Table 5.3 shows the Baseline Utility demand and consumption for the following FIMs: WWTP Aeration System Improvements, and WWTP Digester replacements. The baseline used for WWTP FIMs

Table 5.3 – Baseline Utility Consumption for Non Water Meter FIMs

FIM	Electrical Consumption (kWh)	Electrical Demand (kW)
WWTP Aeration System	2,374,560	4,626
WWTP Digester Blowers	414,918	48.8

5.2 The operating practices during the Baseline Period determine the utility consumption shown in Table 5.1 and 5.3. This data indicates the operating characteristics that were in effect during the Baseline Period. The Guaranteed Savings provided under this Agreement are based on the efficiencies gained by implementing the Work and implementing the Contracted Baseline in Article 7 of this Exhibit C.

Changes in equipment operation due to fluctuating weather conditions, extended or contracted operating schedules, population changes, or changes in functionality; may change power and energy consumption and require adjustments to the pre-retrofit Baseline models. The Annual Performance Assurance Report will document changes in conditions that may affect Savings persistence.

5.3 Applicable codes - Federal, State, County or Municipal codes or regulations are applicable to the use and operation of the Facility. SIEMENS will maintain the current level of Facility compliance relative to applicable codes. Unless specifically set forth in the Scope

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Siemens Industry, Inc., Building Technologies Division Exhibit C – Performance Assurance

## City of Bellaire, TX

- of Work and Services, Exhibit A, nothing herein should be construed as to require SIEMENS to provide additional work or services in the event that the current applicable code or regulation is modified.
- 5.3.1 Current code compliance (identify the applicable code citation): SIEMENS will comply with applicable electrical codes.
- 5.3.2 Code changes: In the event code changes are made after execution of the Agreement, SIEMENS reserves the right to adjust its pricing to accommodate the new code requirements. Alternatively, the CLIENT may waive new code compliance so that no adjustment to the pricing is necessary.

City of Bellaire, TX

## **Article 6: Utility Rate Structures and Escalation Rates**

6.1 Utility costs used for Savings calculations will be based on the utility rates and rate escalation percentages, as provided in the table(s) below.

A one and a half percent (1.5%) escalation rate will be applied to the water rates while a three percent (3%) escalation rate will be applied annually to the electric utility rate.

Table 6.1.1 shows the water and sewer rates that are applicable to this project.

Table 6.1.1 – Water and Sewer Rate Structure

	Rate Increase Percentage	2015	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Item	Description	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1	Water - Residential - 5/8" - Tier 1	\$0.390	\$0.396	\$0.402	\$0.408	\$0.414	\$0.420	\$0.426	\$0.433
2	Water - Residential - 5/8" - Tier 2	\$0.490	\$0.497	\$0.505	\$0.512	\$0.520	\$0.528	\$0.536	\$0.544
3	Water - Residential - 5/8" - Tier 3	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
4	Water - Residential - 3/4" - Tier 1	\$0.390	\$0.396	\$0.402	\$0.408	\$0.414	\$0.420	\$0.426	\$0.433
5	Water - Residential - 3/4" - Tier 2	\$0.490	\$0.497	\$0.505	\$0.512	\$0.520	\$0.528	\$0.536	\$0.544
6	Water - Residential - 3/4" - Tier 3	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
7	Water - Residential - 1" - Tier 1	\$0.390	\$0.396	\$0.402	\$0.408	\$0.414	\$0.420	\$0.426	\$0.433
8	Water - Residential - 1" - Tier 2	\$0.490	\$0.497	\$0.505	\$0.512	\$0.520	\$0.528	\$0.536	\$0.544
9	Water - Residential - 1" - Tier 3	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
10	Water - Residential - 1.5" - Tier 1	\$0.390	\$0.396	\$0.402	\$0.408	\$0.414	\$0.420	\$0.426	\$0.433
11	Water - Residential - 1.5" - Tier 2	\$0.490	\$0.497	\$0.505	\$0.512	\$0.520	\$0.528	\$0.536	\$0.544
12	Water - Residential - 1.5" - Tier 3	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
13	Water - Residential - 2" - Tier 1	\$0.390	\$0.396	\$0.402	\$0.408	\$0.414	\$0.420	\$0.426	\$0.433
14	Water - Residential - 2" - Tier 2	\$0.490	\$0.497	\$0.505	\$0.512	\$0.520	\$0.528	\$0.536	\$0.544
15	Water - Residential - 2" - Tier 3	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
16	Non-Residential - 5/8" - Tier 1	\$0.515	\$0.523	\$0.531	\$0.539	\$0.547	\$0.555	\$0.563	\$0.572
17	Non-Residential - 5/8" - Tier 2	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
18	Non-Residential - 3/4" - Tier 1	\$0.515	\$0.523	\$0.531	\$0.539	\$0.547	\$0.555	\$0.563	\$0.572
19	Non-Residential - 3/4" - Tier 2	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
20	Non-Residential - 1" - Tier 1	\$0.515	\$0.523	\$0.531	\$0.539	\$0.547	\$0.555	\$0.563	\$0.572
21	Non-Residential - 1" - Tier 2	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
22	Non-Residential - 1.5" - Tier 1	\$0.515	\$0.523	\$0.531	\$0.539	\$0.547	\$0.555	\$0.563	\$0.572
23	Non-Residential - 1.5" - Tier 2	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
24	Non-Residential - 2" - Tier 1	\$0.515	\$0.523	\$0.531	\$0.539	\$0.547	\$0.555	\$0.563	\$0.572
25	Non-Residential - 2" - Tier 2	\$0.590	\$0.599	\$0.608	\$0.617	\$0.626	\$0.636	\$0.645	\$0.655
26	Sprinkler - 5/8" - Tier 1	\$0.350	\$0.355	\$0.361	\$0.366	\$0.371	\$0.377	\$0.383	\$0.388
27	Sprinkler - 5/8" - Tier 2	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.437	\$0.444
28	Sprinkler - 3/4" - Tier 1	\$0.350	\$0.355	\$0.361	\$0.366	\$0.371	\$0.377	\$0.383	\$0.388

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# City of Bellaire, TX

	Rate Increase Percentage	2015	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Item	Description	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
29	Sprinkler - 3/4" - Tier 2	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.437	\$0.444
30	Sprinkler - 1" - Tier 1	\$0.350	\$0.355	\$0.361	\$0.366	\$0.371	\$0.377	\$0.383	\$0.388
31	Sprinkler - 1" - Tier 2	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.437	\$0.444
32	Sprinkler - 1.5" - Tier 1	\$0.350	\$0.355	\$0.361	\$0.366	\$0.371	\$0.377	\$0.383	\$0.388
33	Sprinkler - 1.5" - Tier 2	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.437	\$0.444
34	Sprinkler - 2" - Tier 1	\$0.350	\$0.355	\$0.361	\$0.366	\$0.371	\$0.377	\$0.383	\$0.388
35	Sprinkler - 2" - Tier 2	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.437	\$0.444

	Rate Increase Percentage	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Item	Description	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
1	Water - Residential - 5/8" - Tier 1	\$0.439	\$0.446	\$0.453	\$0.459	\$0.466	\$0.473	\$0.480	\$0.488
2	Water - Residential - 5/8" - Tier 2	\$0.552	\$0.560	\$0.569	\$0.577	\$0.586	\$0.595	\$0.604	\$0.613
3	Water - Residential - 5/8" - Tier 3	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
4	Water - Residential - 3/4" - Tier 1	\$0.439	\$0.446	\$0.453	\$0.459	\$0.466	\$0.473	\$0.480	\$0.488
5	Water - Residential - 3/4" - Tier 2	\$0.552	\$0.560	\$0.569	\$0.577	\$0.586	\$0.595	\$0.604	\$0.613
6	Water - Residential - 3/4" - Tier 3	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
7	Water - Residential - 1" - Tier 1	\$0.439	\$0.446	\$0.453	\$0.459	\$0.466	\$0.473	\$0.480	\$0.488
8	Water - Residential - 1" - Tier 2	\$0.552	\$0.560	\$0.569	\$0.577	\$0.586	\$0.595	\$0.604	\$0.613
9	Water - Residential - 1" - Tier 3	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
10	Water - Residential - 1.5" - Tier 1	\$0.439	\$0.446	\$0.453	\$0.459	\$0.466	\$0.473	\$0.480	\$0.488
11	Water - Residential - 1.5" - Tier 2	\$0.552	\$0.560	\$0.569	\$0.577	\$0.586	\$0.595	\$0.604	\$0.613
12	Water - Residential - 1.5" - Tier 3	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
13	Water - Residential - 2" - Tier 1	\$0.439	\$0.446	\$0.453	\$0.459	\$0.466	\$0.473	\$0.480	\$0.488
14	Water - Residential - 2" - Tier 2	\$0.552	\$0.560	\$0.569	\$0.577	\$0.586	\$0.595	\$0.604	\$0.613
15	Water - Residential - 2" - Tier 3	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
16	Non-Residential - 5/8" - Tier 1	\$0.580	\$0.589	\$0.598	\$0.607	\$0.616	\$0.625	\$0.634	\$0.644
17	Non-Residential - 5/8" - Tier 2	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
18	Non-Residential - 3/4" - Tier 1	\$0.580	\$0.589	\$0.598	\$0.607	\$0.616	\$0.625	\$0.634	\$0.644
19	Non-Residential - 3/4" - Tier 2	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
20	Non-Residential - 1" - Tier 1	\$0.580	\$0.589	\$0.598	\$0.607	\$0.616	\$0.625	\$0.634	\$0.644
21	Non-Residential - 1" - Tier 2	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
22	Non-Residential - 1.5" - Tier 1	\$0.580	\$0.589	\$0.598	\$0.607	\$0.616	\$0.625	\$0.634	\$0.644
23	Non-Residential - 1.5" - Tier 2	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
24	Non-Residential - 2" - Tier 1	\$0.580	\$0.589	\$0.598	\$0.607	\$0.616	\$0.625	\$0.634	\$0.644
25	Non-Residential - 2" - Tier 2	\$0.665	\$0.675	\$0.685	\$0.695	\$0.705	\$0.716	\$0.727	\$0.738
26	Sprinkler - 5/8" - Tier 1	\$0.394	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.438
27	Sprinkler - 5/8" - Tier 2	\$0.451	\$0.457	\$0.464	\$0.471	\$0.478	\$0.485	\$0.493	\$0.500
28	Sprinkler - 3/4" - Tier 1	\$0.394	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.438

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# City of Bellaire, TX

	Rate Increase Percentage	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Item	Description	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
29	Sprinkler - 3/4" - Tier 2	\$0.451	\$0.457	\$0.464	\$0.471	\$0.478	\$0.485	\$0.493	\$0.500
30	Sprinkler - 1" - Tier 1	\$0.394	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.438
31	Sprinkler - 1" - Tier 2	\$0.451	\$0.457	\$0.464	\$0.471	\$0.478	\$0.485	\$0.493	\$0.500
32	Sprinkler - 1.5" - Tier 1	\$0.394	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.438
33	Sprinkler - 1.5" - Tier 2	\$0.451	\$0.457	\$0.464	\$0.471	\$0.478	\$0.485	\$0.493	\$0.500
34	Sprinkler - 2" - Tier 1	\$0.394	\$0.400	\$0.406	\$0.412	\$0.418	\$0.425	\$0.431	\$0.438
35	Sprinkler - 2" - Tier 2	\$0.451	\$0.457	\$0.464	\$0.471	\$0.478	\$0.485	\$0.493	\$0.500

	Rate Increase Percentage	1.5%	1.5%	1.5%	1.5%	1.5%
Item	Description	Year 16	Year 17	Year 18	Year 19	Year 20
1	Water - Residential - 5/8" - Tier 1	\$0.495	\$0.502	\$0.510	\$0.518	\$0.525
2	Water - Residential - 5/8" - Tier 2	\$0.622	\$0.631	\$0.641	\$0.650	\$0.660
3	Water - Residential - 5/8" - Tier 3	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
4	Water - Residential - 3/4" - Tier 1	\$0.495	\$0.502	\$0.510	\$0.518	\$0.525
5	Water - Residential - 3/4" - Tier 2	\$0.622	\$0.631	\$0.641	\$0.650	\$0.660
6	Water - Residential - 3/4" - Tier 3	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
7	Water - Residential - 1" - Tier 1	\$0.495	\$0.502	\$0.510	\$0.518	\$0.525
8	Water - Residential - 1" - Tier 2	\$0.622	\$0.631	\$0.641	\$0.650	\$0.660
9	Water - Residential - 1" - Tier 3	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
10	Water - Residential - 1.5" - Tier 1	\$0.495	\$0.502	\$0.510	\$0.518	\$0.525
11	Water - Residential - 1.5" - Tier 2	\$0.622	\$0.631	\$0.641	\$0.650	\$0.660
12	Water - Residential - 1.5" - Tier 3	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
13	Water - Residential - 2" - Tier 1	\$0.495	\$0.502	\$0.510	\$0.518	\$0.525
14	Water - Residential - 2" - Tier 2	\$0.622	\$0.631	\$0.641	\$0.650	\$0.660
15	Water - Residential - 2" - Tier 3	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
16	Non-Residential - 5/8" - Tier 1	\$0.654	\$0.663	\$0.673	\$0.683	\$0.694
17	Non-Residential - 5/8" - Tier 2	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
18	Non-Residential - 3/4" - Tier 1	\$0.654	\$0.663	\$0.673	\$0.683	\$0.694
19	Non-Residential - 3/4" - Tier 2	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
20	Non-Residential - 1" - Tier 1	\$0.654	\$0.663	\$0.673	\$0.683	\$0.694
21	Non-Residential - 1" - Tier 2	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
22	Non-Residential - 1.5" - Tier 1	\$0.654	\$0.663	\$0.673	\$0.683	\$0.694
23	Non-Residential - 1.5" - Tier 2	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
24	Non-Residential - 2" - Tier 1	\$0.654	\$0.663	\$0.673	\$0.683	\$0.694
25	Non-Residential - 2" - Tier 2	\$0.749	\$0.760	\$0.771	\$0.783	\$0.795
26	Sprinkler - 5/8" - Tier 1	\$0.444	\$0.451	\$0.458	\$0.464	\$0.471
27	Sprinkler - 5/8" - Tier 2	\$0.508	\$0.515	\$0.523	\$0.531	\$0.539
28	Sprinkler - 3/4" - Tier 1	\$0.444	\$0.451	\$0.458	\$0.464	\$0.471

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## City of Bellaire, TX

	Rate Increase Percentage	1.5%	1.5%	1.5%	1.5%	1.5%
Item	Description	Year 16	Year 17	Year 18	Year 19	Year 20
29	Sprinkler - 3/4" - Tier 2	\$0.508	\$0.515	\$0.523	\$0.531	\$0.539
30	Sprinkler - 1" - Tier 1	\$0.444	\$0.451	\$0.458	\$0.464	\$0.471
31	Sprinkler - 1" - Tier 2	\$0.508	\$0.515	\$0.523	\$0.531	\$0.539
32	Sprinkler - 1.5" - Tier 1	\$0.444	\$0.451	\$0.458	\$0.464	\$0.471
33	Sprinkler - 1.5" - Tier 2	\$0.508	\$0.515	\$0.523	\$0.531	\$0.539
34	Sprinkler - 2" - Tier 1	\$0.444	\$0.451	\$0.458	\$0.464	\$0.471
35	Sprinkler - 2" - Tier 2	\$0.508	\$0.515	\$0.523	\$0.531	\$0.539

## NAME OF ELECTRIC UTILITY:

- Unregulated Retail Electric Provider: Texas General Land Office
- Regulated Transmission and Distribution Service Provider: Centerpoint Energy

## TABLE 6.1.2 - SUMMARY OF APPLICABLE TDSP RATE CODES

Rate Class/Code	Rate Description	\$/kWh1	\$/kVA
360	Secondary Service 51 KVA or Greater / LF > 10%	\$0.06076	\$5.93628

The \$/kWh component includes the fixed REP contracted rate of \$0.05147.

### TABLE 6.1.3 - SUMMARY OF APPLICABLE ELECTRIC BILLING ACCOUNTS

ESI ID	Rate Class/Code	\$/kWh	\$/kVA	Function
1008901024900592470112	360	\$0.06076	\$5.93628	WWTP

City of Bellaire, TX

## **Article 7: Contracted Baseline Data**

7.1 The following tables details the water meter and electrical operating parameters that are required to be implemented on the Guarantee Date or on such time as agreed upon by the Parties. This specific configuration of facility operating parameters is the Contracted Baseline. The failure of the CLIENT to maintain the Contracted Baseline may result in a Material Change which may require a modification of the Performance Guarantee pursuant to Article 4 of the Agreement.

Table 7.1 – Proposed Water Meter Accuracy

Item	Description	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1	Water - Residential - 5/8" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
2	Water - Residential - 5/8" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
3	Water - Residential - 5/8" - Tier 3	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
4	Water - Residential - 3/4" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
5	Water - Residential - 3/4" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
6	Water - Residential - 3/4" - Tier 3	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
7	Water - Residential - 1" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
8	Water - Residential - 1" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
9	Water - Residential - 1" - Tier 3	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
10	Water - Residential - 1.5" - Tier 1	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
11	Water - Residential - 1.5" - Tier 2	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
12	Water - Residential - 1.5" - Tier 3	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
13	Water - Residential - 2" - Tier 1	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
14	Water - Residential - 2" - Tier 2	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
15	Water - Residential - 2" - Tier 3	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
16	Non-Residential - 5/8" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
17	Non-Residential - 5/8" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
18	Non-Residential - 3/4" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
19	Non-Residential - 3/4" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
20	Non-Residential - 1" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
21	Non-Residential - 1" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
22	Non-Residential - 1.5" - Tier 1	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
23	Non-Residential - 1.5" - Tier 2	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
24	Non-Residential - 2" - Tier 1	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
25	Non-Residential - 2" - Tier 2	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
26	Sprinkler - 5/8" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
27	Sprinkler - 5/8" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
28	Sprinkler - 3/4" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
29	Sprinkler - 3/4" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
30	Sprinkler - 1" - Tier 1	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%
31	Sprinkler - 1" - Tier 2	97.98%	97.98%	97.98%	97.98%	97.98%	97.98%	97.23%	96.93%

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# City of Bellaire, TX

Item	Description	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
32	Sprinkler - 1.5" - Tier 1	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
33	Sprinkler - 1.5" - Tier 2	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
34	Sprinkler - 2" - Tier 1	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%
35	Sprinkler - 2" - Tier 2	97.98%	97.98%	97.98%	97.23%	96.93%	96.64%	96.35%	96.06%

Item	Description	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
1	Water - Residential - 5/8" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
2	Water - Residential - 5/8" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
3	Water - Residential - 5/8" - Tier 3	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
4	Water - Residential - 3/4" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
5	Water - Residential - 3/4" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
6	Water - Residential - 3/4" - Tier 3	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
7	Water - Residential - 1" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
8	Water - Residential - 1" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
9	Water - Residential - 1" - Tier 3	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
10	Water - Residential - 1.5" - Tier 1	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
11	Water - Residential - 1.5" - Tier 2	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
12	Water - Residential - 1.5" - Tier 3	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
13	Water - Residential - 2" - Tier 1	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
14	Water - Residential - 2" - Tier 2	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
15	Water - Residential - 2" - Tier 3	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
16	Non-Residential - 5/8" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
17	Non-Residential - 5/8" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
18	Non-Residential - 3/4" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
19	Non-Residential - 3/4" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
20	Non-Residential - 1" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
21	Non-Residential - 1" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
22	Non-Residential - 1.5" - Tier 1	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
23	Non-Residential - 1.5" - Tier 2	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
24	Non-Residential - 2" - Tier 1	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
25	Non-Residential - 2" - Tier 2	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
26	Sprinkler - 5/8" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
27	Sprinkler - 5/8" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
28	Sprinkler - 3/4" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
29	Sprinkler - 3/4" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
30	Sprinkler - 1" - Tier 1	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
31	Sprinkler - 1" - Tier 2	96.64%	96.35%	96.06%	95.78%	95.49%	95.20%	94.92%	94.63%
32	Sprinkler - 1.5" - Tier 1	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
33	Sprinkler - 1.5" - Tier 2	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%
34	Sprinkler - 2" - Tier 1	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%

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## City of Bellaire, TX

Item	Description	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
35	Sprinkler - 2" - Tier 2	95.78%	95.49%	95.20%	94.92%	94.63%	0.00%	0.00%	0.00%

Item	Description	Year 16	Year 17	Year 18	Year 19	Year 20
1	Water - Residential - 5/8" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
2	Water - Residential - 5/8" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
3	Water - Residential - 5/8" - Tier 3	94.35%	94.06%	93.78%	93.50%	93.22%
4	Water - Residential - 3/4" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
5	Water - Residential - 3/4" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
6	Water - Residential - 3/4" - Tier 3	94.35%	94.06%	93.78%	93.50%	93.22%
7	Water - Residential - 1" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
8	Water - Residential - 1" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
9	Water - Residential - 1" - Tier 3	94.35%	94.06%	93.78%	93.50%	93.22%
10	Water - Residential - 1.5" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
11	Water - Residential - 1.5" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
12	Water - Residential - 1.5" - Tier 3	0.00%	0.00%	0.00%	0.00%	0.00%
13	Water - Residential - 2" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
14	Water - Residential - 2" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
15	Water - Residential - 2" - Tier 3	0.00%	0.00%	0.00%	0.00%	0.00%
16	Non-Residential - 5/8" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
17	Non-Residential - 5/8" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
18	Non-Residential - 3/4" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
19	Non-Residential - 3/4" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
20	Non-Residential - 1" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
21	Non-Residential - 1" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
22	Non-Residential - 1.5" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
23	Non-Residential - 1.5" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
24	Non-Residential - 2" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
25	Non-Residential - 2" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
26	Sprinkler - 5/8" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
27	Sprinkler - 5/8" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
28	Sprinkler - 3/4" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
29	Sprinkler - 3/4" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
30	Sprinkler - 1" - Tier 1	94.35%	94.06%	93.78%	93.50%	93.22%
31	Sprinkler - 1" - Tier 2	94.35%	94.06%	93.78%	93.50%	93.22%
32	Sprinkler - 1.5" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
33	Sprinkler - 1.5" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%
34	Sprinkler - 2" - Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%
35	Sprinkler - 2" - Tier 2	0.00%	0.00%	0.00%	0.00%	0.00%

The manufacturer's warranty based on repaired meter accuracy expires in year 15. Therefore the accuracies stated in Table 7.1 for year 16 through year 20 are stipulated values that estimate

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## City of Bellaire, TX

repaired meter accuracy in those years. Since SIEMENS cannot be certain of degradation from year 16 onwards, consumption and revenue increases calculated for years 16 through 20 are therefore stipulated and measured using M&V Option E.

Table 7.2 - Contracted Baseline Utility Consumption for Non Water Meter FIMs

FIM	Electrical Consumption (kWh)	Electrical Demand (kW)
WWTP Aeration System	1,790,973	3,829
WWTP Digester Blowers	394,172	46.8

This Exhibit C is attached to and made a part of the Agreement between SIEMENS and the CLIENT. BY SIGNING BELOW, THE PARTIES CONFIRM THAT THEY HAVE REVIEWED THE INCLUDED MEASUREMENT AND VERIFICATION OPTIONS AND THEIR APPLICATION TO BE USED IN CALCULATING SAVINGS UNDER THE AGREEMENT.

CLIENT:	City of Bellaire, Texas	SIEMENS:	Siemens Industry, Inc.
Signature:		Signature:	
Printed Name:		Printed Name:	
Title:		Title:	
Date:		Date:	

Year 1 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		l Consumption acrease (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	76.00%	502,616	97.98%	647,945	145,329	\$	57,528.39	
2	Water - Residential - 5/8" - Tier 2	993,178	76.00%	754,815	97.98%	973,066	218,251	\$	108,547.03	
3	Water - Residential - 5/8" - Tier 3	412,417	76.00%	313,437	97.98%	404,066	90,629	\$	54,272.97	
4	Water - Residential - 3/4" - Tier 1	520,372	94.40%	491,231	97.98%	509,834	18,603	\$	7,364.11	
5	Water - Residential - 3/4" - Tier 2	1,176,732	94.40%	1,110,835	97.98%	1,152,903	42,068	\$	20,922.60	
6	Water - Residential - 3/4" - Tier 3	772,823	94.40%	729,545	97.98%	757,173	27,628	\$	16,545.28	
7	Water - Residential - 1" - Tier 1	450,131	87.70%	394,765	97.98%	441,016	46,251	\$	18,308.45	
8	Water - Residential - 1" - Tier 2	1,175,803	87.70%	1,031,179	97.98%	1,151,993	120,814	\$	60,086.71	
9	Water - Residential - 1" - Tier 3	1,218,674	87.70%	1,068,777	97.98%	1,193,996	125,219	\$	74,987.24	
10	Water - Residential - 1.5" - Tier 1	971	96.80%	940	97.98%	951	11	\$	4.52	
11	Water - Residential - 1.5" - Tier 2	2,460	96.80%	2,381	97.98%	2,410	29	\$	14.37	
12	Water - Residential - 1.5" - Tier 3	2,274	96.80%	2,201	97.98%	2,228	27	\$	16.00	
13	Water - Residential - 2" - Tier 1	1,184	93.90%	1,112	97.98%	1,160	48	\$	19.10	
14	Water - Residential - 2" - Tier 2	2,142	93.90%	2,011	97.98%	2,098	87	\$	43.40	
15	Water - Residential - 2" - Tier 3	354	93.90%	332	97.98%	346	14	\$	8.63	
16	Non-Residential - 5/8" - Tier 1	69,284	76.00%	52,656	97.98%	67,881	15,225	\$	7,958.60	
17	Non-Residential - 5/8" - Tier 2	621	76.00%	472	97.98%	608	136	\$	81.73	
18	Non-Residential - 3/4" - Tier 1	39,369	94.40%	37,164	97.98%	38,571	1,407	\$	735.70	
19	Non-Residential - 3/4" - Tier 2	0	94.40%	0	97.98%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	87.70%	169,409	97.98%	189,257	19,848	\$	10,375.09	
21	Non-Residential - 1" - Tier 2	54,571	87.70%	47,859	97.98%	53,466	5,607	\$	3,357.87	
22	Non-Residential - 1.5" - Tier 1	32,158	96.80%	31,129	97.98%	31,507	378	\$	197.52	
23	Non-Residential - 1.5" - Tier 2	12,447	96.80%	12,049	97.98%	12,195	146	\$	87.59	
24	Non-Residential - 2" - Tier 1	221,649	93.90%	208,128	97.98%	217,160	9,032	\$	4,721.35	
25	Non-Residential - 2" - Tier 2	131,760	93.90%	123,723	97.98%	129,092	5,369	\$	3,215.37	
26	Sprinkler - 5/8" - Tier 1	205,095	76.00%	155,872	97.98%	200,942	45,070	\$	16,010.96	
27	Sprinkler - 5/8" - Tier 2	967	76.00%	735	97.98%	948	213	\$	86.28	
28	Sprinkler - 3/4" - Tier 1	579,989	94.40%	547,510	97.98%	568,245	20,735	\$	7,365.97	
29	Sprinkler - 3/4" - Tier 2	8,112	94.40%	7,658	97.98%	7,948	290	\$	117.75	
30	Sprinkler - 1" - Tier 1	412,587	87.70%	361,839	97.98%	404,232	42,393	\$	15,060.23	
31	Sprinkler - 1" - Tier 2	11,751	87.70%	10,306	97.98%	11,513	1,207	\$	490.23	
32	Sprinkler - 1.5" - Tier 1	61,159	96.80%	59,202	97.98%	59,921	719	\$	255.29	
33	Sprinkler - 1.5" - Tier 2	58,387	96.80%	56,519	97.98%	57,205	686	\$	278.54	
34	Sprinkler - 2" - Tier 1	84,745	93.90%	79,576	97.98%	83,029	3,453	\$	1,226.81	
35	Sprinkler - 2" - Tier 2	87,121	93.90%	81,807	97.98%	85,357	3,550	\$	1,441.38	
	TOTALS	9,655,794		8,449,790		9,460,264	1,010,474	\$	491,733.07	

Year 2 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		al Consumption (ncrease (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	75.50%	499,309	97.98%	647,945	148,635	\$	59,719.91	
2	Water - Residential - 5/8" - Tier 2	993,178	75.50%	749,849	97.98%	973,066	223,217	\$	112,682.06	
3	Water - Residential - 5/8" - Tier 3	412,417	75.50%	311,375	97.98%	404,066	92,691	\$	56,340.47	
4	Water - Residential - 3/4" - Tier 1	520,372	93.90%	488,629	97.98%	509,834	21,205	\$	8,519.97	
5	Water - Residential - 3/4" - Tier 2	1,176,732	93.90%	1,104,951	97.98%	1,152,903	47,952	\$	24,206.57	
6	Water - Residential - 3/4" - Tier 3	772,823	93.90%	725,681	97.98%	757,173	31,493	\$	19,142.20	
7	Water - Residential - 1" - Tier 1	450,131	87.20%	392,514	97.98%	441,016	48,502	\$	19,487.36	
8	Water - Residential - 1" - Tier 2	1,175,803	87.20%	1,025,300	97.98%	1,151,993	126,693	\$	63,955.80	
9	Water - Residential - 1" - Tier 3	1,218,674	87.20%	1,062,684	97.98%	1,193,996	131,312	\$	79,815.80	
10	Water - Residential - 1.5" - Tier 1	971	96.30%	935	97.98%	951	16	\$	6.54	
11	Water - Residential - 1.5" - Tier 2	2,460	96.30%	2,369	97.98%	2,410	41	\$	20.80	
12	Water - Residential - 1.5" - Tier 3	2,274	96.30%	2,190	97.98%	2,228	38	\$	23.15	
13	Water - Residential - 2" - Tier 1	1,184	93.40%	1,106	97.98%	1,160	54	\$	21.77	
14	Water - Residential - 2" - Tier 2	2,142	93.40%	2,000	97.98%	2,098	98	\$	49.46	
15	Water - Residential - 2" - Tier 3	354	93.40%	330	97.98%	346	16	\$	9.83	
16	Non-Residential - 5/8" - Tier 1	69,284	75.50%	52,310	97.98%	67,881	15,572	\$	8,261.77	
17	Non-Residential - 5/8" - Tier 2	621	75.50%	469	97.98%	608	140	\$	84.84	
18	Non-Residential - 3/4" - Tier 1	39,369	93.90%	36,967	97.98%	38,571	1,604	\$	851.17	
19	Non-Residential - 3/4" - Tier 2	0	93.90%	0	97.98%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	87.20%	168,443	97.98%	189,257	20,814	\$	11,043.16	
21	Non-Residential - 1" - Tier 2	54,571	87.20%	47,586	97.98%	53,466	5,880	\$	3,574.09	
22	Non-Residential - 1.5" - Tier 1	32,158	96.30%	30,968	97.98%	31,507	539	\$	285.79	
23	Non-Residential - 1.5" - Tier 2	12,447	96.30%	11,987	97.98%	12,195	208	\$	126.73	
24	Non-Residential - 2" - Tier 1	221,649	93.40%	207,020	97.98%	217,160	10,140	\$	5,380.16	
25	Non-Residential - 2" - Tier 2	131,760	93.40%	123,064	97.98%	129,092	6,028	\$	3,664.04	
26	Sprinkler - 5/8" - Tier 1	205,095	75.50%	154,847	97.98%	200,942	46,095	\$	16,620.89	
27	Sprinkler - 5/8" - Tier 2	967	75.50%	730	97.98%	948	217	\$	89.57	
28	Sprinkler - 3/4" - Tier 1	579,989	93.90%	544,610	97.98%	568,245	23,635	\$	8,522.12	
29	Sprinkler - 3/4" - Tier 2	8,112	93.90%	7,617	97.98%	7,948	331	\$	136.23	
30	Sprinkler - 1" - Tier 1	412,587	87.20%	359,776	97.98%	404,232	44,456	\$	16,029.99	
31	Sprinkler - 1" - Tier 2	11,751	87.20%	10,247	97.98%	11,513	1,266	\$	521.79	
32	Sprinkler - 1.5" - Tier 1	61,159	96.30%	58,896	97.98%	59,921	1,024	\$	369.38	
33	Sprinkler - 1.5" - Tier 2	58,387	96.30%	56,227	97.98%	57,205	978	\$	403.02	
34	Sprinkler - 2" - Tier 1	84,745	93.40%	79,152	97.98%	83,029	3,877	\$	1,398.00	
35	Sprinkler - 2" - Tier 2	87,121	93.40%	81,371	97.98%	85,357	3,986	\$	1,642.51	
	TOTALS	9,655,794		8,401,511		9,460,264	1,058,753	\$	523,006.95	

Year 3 - Annual Revenue Calculations											
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		al Consumption ncrease (\$)		
1	Water - Residential - 5/8" - Tier 1	661,337	75.00%	496,003	97.98%	647,945	151,942	\$	61,964.22		
2	Water - Residential - 5/8" - Tier 2	993,178	75.00%	744,883	97.98%	973,066	228,183	\$	116,916.73		
3	Water - Residential - 5/8" - Tier 3	412,417	75.00%	309,313	97.98%	404,066	94,753	\$	58,457.78		
4	Water - Residential - 3/4" - Tier 1	520,372	93.40%	486,027	97.98%	509,834	23,807	\$	9,708.85		
5	Water - Residential - 3/4" - Tier 2	1,176,732	93.40%	1,099,068	97.98%	1,152,903	53,835	\$	27,584.36		
6	Water - Residential - 3/4" - Tier 3	772,823	93.40%	721,817	97.98%	757,173	35,357	\$	21,813.30		
7	Water - Residential - 1" - Tier 1	450,131	86.70%	390,264	97.98%	441,016	50,752	\$	20,697.52		
8	Water - Residential - 1" - Tier 2	1,175,803	86.70%	1,019,421	97.98%	1,151,993	132,572	\$	67,927.44		
9	Water - Residential - 1" - Tier 3	1,218,674	86.70%	1,056,590	97.98%	1,193,996	137,405	\$	84,772.34		
10	Water - Residential - 1.5" - Tier 1	971	95.80%	930	97.23%	944	14	\$	5.64		
11	Water - Residential - 1.5" - Tier 2	2,460	95.80%	2,356	97.23%	2,391	35	\$	17.96		
12	Water - Residential - 1.5" - Tier 3	2,274	95.80%	2,178	97.23%	2,211	32	\$	19.99		
13	Water - Residential - 2" - Tier 1	1,184	92.90%	1,100	97.23%	1,151	51	\$	20.89		
14	Water - Residential - 2" - Tier 2	2,142	92.90%	1,990	97.23%	2,082	93	\$	47.46		
15	Water - Residential - 2" - Tier 3	354	92.90%	328	97.23%	344	15	\$	9.43		
16	Non-Residential - 5/8" - Tier 1	69,284	75.00%	51,963	97.98%	67,881	15,918	\$	8,572.26		
17	Non-Residential - 5/8" - Tier 2	621	75.00%	466	97.98%	608	143	\$	88.03		
18	Non-Residential - 3/4" - Tier 1	39,369	93.40%	36,770	97.98%	38,571	1,801	\$	969.94		
19	Non-Residential - 3/4" - Tier 2	0	93.40%	0	97.98%	0	0	\$	-		
20	Non-Residential - 1" - Tier 1	193,169	86.70%	167,477	97.98%	189,257	21,780	\$	11,728.94		
21	Non-Residential - 1" - Tier 2	54,571	86.70%	47,313	97.98%	53,466	6,153	\$	3,796.04		
22	Non-Residential - 1.5" - Tier 1	32,158	95.80%	30,807	97.23%	31,266	458	\$	246.78		
23	Non-Residential - 1.5" - Tier 2	12,447	95.80%	11,925	97.23%	12,102	177	\$	109.43		
24	Non-Residential - 2" - Tier 1	221,649	92.90%	205,912	97.23%	215,498	9,586	\$	5,162.46		
25	Non-Residential - 2" - Tier 2	131,760	92.90%	122,405	97.23%	128,104	5,699	\$	3,515.78		
26	Sprinkler - 5/8" - Tier 1	205,095	75.00%	153,821	97.98%	200,942	47,121	\$	17,245.52		
27	Sprinkler - 5/8" - Tier 2	967	75.00%	725	97.98%	948	222	\$	92.94		
28	Sprinkler - 3/4" - Tier 1	579,989	93.40%	541,710	97.98%	568,245	26,535	\$	9,711.30		
29	Sprinkler - 3/4" - Tier 2	8,112	93.40%	7,577	97.98%	7,948	371	\$	155.24		
30	Sprinkler - 1" - Tier 1	412,587	86.70%	357,713	97.98%	404,232	46,519	\$	17,025.45		
31	Sprinkler - 1" - Tier 2	11,751	86.70%	10,188	97.98%	11,513	1,325	\$	554.20		
32	Sprinkler - 1.5" - Tier 1	61,159	95.80%	58,590	97.23%	59,462	872	\$	318.96		
33	Sprinkler - 1.5" - Tier 2	58,387	95.80%	55,935	97.23%	56,767	832	\$	348.01		
34	Sprinkler - 2" - Tier 1	84,745	92.90%	78,729	97.23%	82,394	3,665	\$	1,341.43		
35	Sprinkler - 2" - Tier 2	87,121	92.90%	80,936	97.23%	84,704	3,768	\$	1,576.05		
	TOTALS	1,641,676		1,468,330		1,605,258	1,101,791	\$	552,522.65		

Year 5 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		aal Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	74.50%	492,696	97.98%	647,945	155,249	\$	64,262.42	
2	Water - Residential - 5/8" - Tier 2	993,178	74.50%	739,917	97.98%	973,066	233,148	\$	121,253.08	
3	Water - Residential - 5/8" - Tier 3	412,417	74.50%	307,251	97.98%	404,066	96,815	\$	60,625.94	
4	Water - Residential - 3/4" - Tier 1	520,372	92.90%	483,425	97.98%	509,834	26,409	\$	10,931.47	
5	Water - Residential - 3/4" - Tier 2	1,176,732	92.90%	1,093,184	97.98%	1,152,903	59,719	\$	31,058.03	
6	Water - Residential - 3/4" - Tier 3	772,823	92.90%	717,953	97.98%	757,173	39,221	\$	24,560.22	
7	Water - Residential - 1" - Tier 1	450,131	86.20%	388,013	97.98%	441,016	53,003	\$	21,939.60	
8	Water - Residential - 1" - Tier 2	1,175,803	86.20%	1,013,542	97.98%	1,151,993	138,451	\$	72,003.84	
9	Water - Residential - 1" - Tier 3	1,218,674	86.20%	1,050,497	97.98%	1,193,996	143,499	\$	89,859.63	
10	Water - Residential - 1.5" - Tier 1	971	95.30%	925	96.93%	941	16	\$	6.57	
11	Water - Residential - 1.5" - Tier 2	2,460	95.30%	2,344	96.93%	2,384	40	\$	20.89	
12	Water - Residential - 1.5" - Tier 3	2,274	95.30%	2,167	96.93%	2,204	37	\$	23.26	
13	Water - Residential - 2" - Tier 1	1,184	92.40%	1,094	96.93%	1,148	54	\$	22.22	
14	Water - Residential - 2" - Tier 2	2,142	92.40%	1,979	96.93%	2,076	97	\$	50.49	
15	Water - Residential - 2" - Tier 3	354	92.40%	327	96.93%	343	16	\$	10.04	
16	Non-Residential - 5/8" - Tier 1	69,284	74.50%	51,617	97.98%	67,881	16,264	\$	8,890.19	
17	Non-Residential - 5/8" - Tier 2	621	74.50%	463	97.98%	608	146	\$	91.30	
18	Non-Residential - 3/4" - Tier 1	39,369	92.90%	36,573	97.98%	38,571	1,998	\$	1,092.09	
19	Non-Residential - 3/4" - Tier 2	0	92.90%	0	97.98%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	86.20%	166,511	97.98%	189,257	22,746	\$	12,432.81	
21	Non-Residential - 1" - Tier 2	54,571	86.20%	47,040	97.98%	53,466	6,426	\$	4,023.84	
22	Non-Residential - 1.5" - Tier 1	32,158	95.30%	30,647	96.93%	31,172	525	\$	287.10	
23	Non-Residential - 1.5" - Tier 2	12,447	95.30%	11,862	96.93%	12,066	203	\$	127.31	
24	Non-Residential - 2" - Tier 1	221,649	92.40%	204,803	96.93%	214,851	10,048	\$	5,492.29	
25	Non-Residential - 2" - Tier 2	131,760	92.40%	121,747	96.93%	127,720	5,973	\$	3,740.40	
26	Sprinkler - 5/8" - Tier 1	205,095	74.50%	152,796	97.98%	200,942	48,146	\$	17,885.14	
27	Sprinkler - 5/8" - Tier 2	967	74.50%	720	97.98%	948	227	\$	96.38	
28	Sprinkler - 3/4" - Tier 1	579,989	92.90%	538,810	97.98%	568,245	29,434	\$	10,934.23	
29	Sprinkler - 3/4" - Tier 2	8,112	92.90%	7,536	97.98%	7,948	412	\$	174.78	
30	Sprinkler - 1" - Tier 1	412,587	86.20%	355,650	97.98%	404,232	48,582	\$	18,047.16	
31	Sprinkler - 1" - Tier 2	11,751	86.20%	10,130	97.98%	11,513	1,384	\$	587.46	
32	Sprinkler - 1.5" - Tier 1	61,159	95.30%	58,285	96.93%	59,284	999	\$	371.08	
33	Sprinkler - 1.5" - Tier 2	58,387	95.30%	55,643	96.93%	56,597	954	\$	404.87	
34	Sprinkler - 2" - Tier 1	84,745	92.40%	78,305	96.93%	82,147	3,842	\$	1,427.14	
35	Sprinkler - 2" - Tier 2	87,121	92.40%	80,500	96.93%	84,450	3,949	\$	1,676.74	
	TOTALS	1,641,676		1,460,122		1,604,024	1,148,032	\$	584,410.00	

Year 5 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Ann	ual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	74.00%	489,389	97.98%	647,945	158,556	\$	66,615.63	
2	Water - Residential - 5/8" - Tier 2	993,178	74.00%	734,951	97.98%	973,066	238,114	\$	125,693.22	
3	Water - Residential - 5/8" - Tier 3	412,417	74.00%	305,189	97.98%	404,066	98,877	\$	62,845.98	
4	Water - Residential - 3/4" - Tier 1	520,372	92.40%	480,824	97.98%	509,834	29,011	\$	12,188.59	
5	Water - Residential - 3/4" - Tier 2	1,176,732	92.40%	1,087,300	97.98%	1,152,903	65,603	\$	34,629.70	
6	Water - Residential - 3/4" - Tier 3	772,823	92.40%	714,089	97.98%	757,173	43,085	\$	27,384.65	
7	Water - Residential - 1" - Tier 1	450,131	85.70%	385,762	97.98%	441,016	55,254	\$	23,214.29	
8	Water - Residential - 1" - Tier 2	1,175,803	85.70%	1,007,663	97.98%	1,151,993	144,330	\$	76,187.24	
9	Water - Residential - 1" - Tier 3	1,218,674	85.70%	1,044,404	97.98%	1,193,996	149,592	\$	95,080.45	
10	Water - Residential - 1.5" - Tier 1	971	94.80%	921	96.64%	938	18	\$	7.52	
11	Water - Residential - 1.5" - Tier 2	2,460	94.80%	2,332	96.64%	2,377	45	\$	23.92	
12	Water - Residential - 1.5" - Tier 3	2,274	94.80%	2,156	96.64%	2,197	42	\$	26.63	
13	Water - Residential - 2" - Tier 1	1,184	91.90%	1,088	96.64%	1,144	56	\$	23.60	
14	Water - Residential - 2" - Tier 2	2,142	91.90%	1,968	96.64%	2,070	102	\$	53.61	
15	Water - Residential - 2" - Tier 3	354	91.90%	325	96.64%	342	17	\$	10.66	
16	Non-Residential - 5/8" - Tier 1	69,284	74.00%	51,270	97.98%	67,881	16,611	\$	9,215.74	
17	Non-Residential - 5/8" - Tier 2	621	74.00%	460	97.98%	608	149	\$	94.64	
18	Non-Residential - 3/4" - Tier 1	39,369	92.40%	36,377	97.98%	38,571	2,195	\$	1,217.68	
19	Non-Residential - 3/4" - Tier 2	0	92.40%	0	97.98%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	85.70%	165,546	97.98%	189,257	23,711	\$	13,155.15	
21	Non-Residential - 1" - Tier 2	54,571	85.70%	46,768	97.98%	53,466	6,699	\$	4,257.63	
22	Non-Residential - 1.5" - Tier 1	32,158	94.80%	30,486	96.64%	31,078	593	\$	328.73	
23	Non-Residential - 1.5" - Tier 2	12,447	94.80%	11,800	96.64%	12,029	229	\$	145.77	
24	Non-Residential - 2" - Tier 1	221,649	91.90%	203,695	96.64%	214,207	10,512	\$	5,831.93	
25	Non-Residential - 2" - Tier 2	131,760	91.90%	121,088	96.64%	127,337	6,249	\$	3,971.70	
26	Sprinkler - 5/8" - Tier 1	205,095	74.00%	151,770	97.98%	200,942	49,171	\$	18,540.07	
27	Sprinkler - 5/8" - Tier 2	967	74.00%	716	97.98%	948	232	\$	99.91	
28	Sprinkler - 3/4" - Tier 1	579,989	92.40%	535,910	97.98%	568,245	32,334	\$	12,191.67	
29	Sprinkler - 3/4" - Tier 2	8,112	92.40%	7,496	97.98%	7,948	452	\$	194.89	
30	Sprinkler - 1" - Tier 1	412,587	85.70%	353,587	97.98%	404,232	50,645	\$	19,095.70	
31	Sprinkler - 1" - Tier 2	11,751	85.70%	10,071	97.98%	11,513	1,442	\$	621.59	
32	Sprinkler - 1.5" - Tier 1	61,159	94.80%	57,979	96.64%	59,106	1,127	\$	424.89	
33	Sprinkler - 1.5" - Tier 2	58,387	94.80%	55,351	96.64%	56,427	1,076	\$	463.58	
34	Sprinkler - 2" - Tier 1	84,745	91.90%	77,881	96.64%	81,900	4,019	\$	1,515.39	
35	Sprinkler - 2" - Tier 2	87,121	91.90%	80,065	96.64%	84,196	4,132	\$	1,780.43	
	TOTALS	9,655,794		8,256,674		9,450,953	1,194,279	\$	617,132.76	

Year 6 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		ual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	73.50%	486,083	97.23%	642,985	156,902	\$	66,909.81	
2	Water - Residential - 5/8" - Tier 2	993,178	73.50%	729,986	97.23%	965,617	235,631	\$	126,248.28	
3	Water - Residential - 5/8" - Tier 3	412,417	73.50%	303,127	97.23%	400,973	97,846	\$	63,123.51	
4	Water - Residential - 3/4" - Tier 1	520,372	91.90%	478,222	97.23%	505,932	27,710	\$	11,816.65	
5	Water - Residential - 3/4" - Tier 2	1,176,732	91.90%	1,081,417	97.23%	1,144,078	62,661	\$	33,572.95	
6	Water - Residential - 3/4" - Tier 3	772,823	91.90%	710,224	97.23%	751,377	41,153	\$	26,548.99	
7	Water - Residential - 1" - Tier 1	450,131	85.20%	383,512	97.23%	437,640	54,128	\$	23,082.61	
8	Water - Residential - 1" - Tier 2	1,175,803	85.20%	1,001,784	97.23%	1,143,174	141,390	\$	75,755.10	
9	Water - Residential - 1" - Tier 3	1,218,674	85.20%	1,038,310	97.23%	1,184,856	146,546	\$	94,541.14	
10	Water - Residential - 1.5" - Tier 1	971	94.30%	916	96.35%	936	20	\$	8.50	
11	Water - Residential - 1.5" - Tier 2	2,460	94.30%	2,320	96.35%	2,370	50	\$	27.05	
12	Water - Residential - 1.5" - Tier 3	2,274	94.30%	2,144	96.35%	2,191	47	\$	30.11	
13	Water - Residential - 2" - Tier 1	1,184	91.40%	1,082	96.35%	1,141	59	\$	25.01	
14	Water - Residential - 2" - Tier 2	2,142	91.40%	1,957	96.35%	2,064	106	\$	56.83	
15	Water - Residential - 2" - Tier 3	354	91.40%	323	96.35%	341	18	\$	11.30	
16	Non-Residential - 5/8" - Tier 1	69,284	73.50%	50,924	97.23%	67,362	16,438	\$	9,256.44	
17	Non-Residential - 5/8" - Tier 2	621	73.50%	456	97.23%	604	147	\$	95.06	
18	Non-Residential - 3/4" - Tier 1	39,369	91.90%	36,180	97.23%	38,276	2,096	\$	1,180.52	
19	Non-Residential - 3/4" - Tier 2	0	91.90%	0	97.23%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	85.20%	164,580	97.23%	187,808	23,229	\$	13,080.53	
21	Non-Residential - 1" - Tier 2	54,571	85.20%	46,495	97.23%	53,057	6,562	\$	4,233.48	
22	Non-Residential - 1.5" - Tier 1	32,158	94.30%	30,325	96.35%	30,985	660	\$	371.70	
23	Non-Residential - 1.5" - Tier 2	12,447	94.30%	11,738	96.35%	11,993	255	\$	164.83	
24	Non-Residential - 2" - Tier 1	221,649	91.40%	202,587	96.35%	213,564	10,977	\$	6,181.61	
25	Non-Residential - 2" - Tier 2	131,760	91.40%	120,429	96.35%	126,955	6,526	\$	4,209.85	
26	Sprinkler - 5/8" - Tier 1	205,095	73.50%	150,745	97.23%	199,403	48,659	\$	18,621.94	
27	Sprinkler - 5/8" - Tier 2	967	73.50%	711	97.23%	940	229	\$	100.35	
28	Sprinkler - 3/4" - Tier 1	579,989	91.90%	533,010	97.23%	563,895	30,884	\$	11,819.63	
29	Sprinkler - 3/4" - Tier 2	8,112	91.90%	7,455	97.23%	7,887	432	\$	188.94	
30	Sprinkler - 1" - Tier 1	412,587	85.20%	351,524	97.23%	401,138	49,614	\$	18,987.39	
31	Sprinkler - 1" - Tier 2	11,751	85.20%	10,012	97.23%	11,425	1,413	\$	618.06	
32	Sprinkler - 1.5" - Tier 1	61,159	94.30%	57,673	96.35%	58,928	1,255	\$	480.43	
33	Sprinkler - 1.5" - Tier 2	58,387	94.30%	55,059	96.35%	56,258	1,198	\$	524.18	
34	Sprinkler - 2" - Tier 1	84,745	91.40%	77,457	96.35%	81,654	4,197	\$	1,606.25	
35	Sprinkler - 2" - Tier 2	87,121	91.40%	79,629	96.35%	83,944	4,315	\$	1,887.18	
	TOTALS	9,655,794		8,208,395		9,381,749	1,173,354	\$	615,366.22	

		Year 7	- Annual Reven	ue Calculations				
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	al Consumption Increase (\$)
1	Water - Residential - 5/8" - Tier 1	661,337	73.00%	482,776	96.93%	641,056	158,280	\$ 68,509.79
2	Water - Residential - 5/8" - Tier 2	993,178	73.00%	725,020	96.93%	962,720	237,700	\$ 129,267.20
3	Water - Residential - 5/8" - Tier 3	412,417	73.00%	301,064	96.93%	399,770	98,705	\$ 64,632.96
4	Water - Residential - 3/4" - Tier 1	520,372	91.40%	475,620	96.93%	504,414	28,794	\$ 12,463.12
5	Water - Residential - 3/4" - Tier 2	1,176,732	91.40%	1,075,533	96.93%	1,140,645	65,112	\$ 35,409.69
6	Water - Residential - 3/4" - Tier 3	772,823	91.40%	706,360	96.93%	749,123	42,763	\$ 28,001.45
7	Water - Residential - 1" - Tier 1	450,131	84.70%	381,261	96.93%	436,327	55,066	\$ 23,834.74
8	Water - Residential - 1" - Tier 2	1,175,803	84.70%	995,905	96.93%	1,139,745	143,840	\$ 78,223.52
9	Water - Residential - 1" - Tier 3	1,218,674	84.70%	1,032,217	96.93%	1,181,301	149,084	\$ 97,621.69
10	Water - Residential - 1.5" - Tier 1	971	93.80%	911	96.06%	933	22	\$ 9.51
11	Water - Residential - 1.5" - Tier 2	2,460	93.80%	2,307	96.06%	2,363	56	\$ 30.28
12	Water - Residential - 1.5" - Tier 3	2,274	93.80%	2,133	96.06%	2,184	51	\$ 33.70
13	Water - Residential - 2" - Tier 1	1,184	90.90%	1,076	96.06%	1,138	61	\$ 26.47
14	Water - Residential - 2" - Tier 2	2,142	90.90%	1,947	96.06%	2,057	111	\$ 60.14
15	Water - Residential - 2" - Tier 3	354	90.90%	321	96.06%	340	18	\$ 11.95
16	Non-Residential - 5/8" - Tier 1	69,284	73.00%	50,577	96.93%	67,159	16,582	\$ 9,477.78
17	Non-Residential - 5/8" - Tier 2	621	73.00%	453	96.93%	602	149	\$ 97.33
18	Non-Residential - 3/4" - Tier 1	39,369	91.40%	35,983	96.93%	38,161	2,178	\$ 1,245.11
19	Non-Residential - 3/4" - Tier 2	0	91.40%	0	96.93%	0	0	\$ -
20	Non-Residential - 1" - Tier 1	193,169	84.70%	163,614	96.93%	187,245	23,631	\$ 13,506.75
21	Non-Residential - 1" - Tier 2	54,571	84.70%	46,222	96.93%	52,898	6,676	\$ 4,371.42
22	Non-Residential - 1.5" - Tier 1	32,158	93.80%	30,164	96.06%	30,892	728	\$ 416.05
23	Non-Residential - 1.5" - Tier 2	12,447	93.80%	11,676	96.06%	11,957	282	\$ 184.49
24	Non-Residential - 2" - Tier 1	221,649	90.90%	201,479	96.06%	212,923	11,445	\$ 6,541.57
25	Non-Residential - 2" - Tier 2	131,760	90.90%	119,770	96.06%	126,574	6,803	\$ 4,454.99
26	Sprinkler - 5/8" - Tier 1	205,095	73.00%	149,719	96.93%	198,805	49,086	\$ 19,067.24
27	Sprinkler - 5/8" - Tier 2	967	73.00%	706	96.93%	937	231	\$ 102.75
28	Sprinkler - 3/4" - Tier 1	579,989	91.40%	530,110	96.93%	562,203	32,093	\$ 12,466.27
29	Sprinkler - 3/4" - Tier 2	8,112	91.40%	7,415	96.93%	7,864	449	\$ 199.27
30	Sprinkler - 1" - Tier 1	412,587	84.70%	349,461	96.93%	399,935	50,473	\$ 19,606.07
31	Sprinkler - 1" - Tier 2	11,751	84.70%	9,953	96.93%	11,391	1,438	\$ 638.20
32	Sprinkler - 1.5" - Tier 1	61,159	93.80%	57,367	96.06%	58,752	1,384	\$ 537.75
33	Sprinkler - 1.5" - Tier 2	58,387	93.80%	54,767	96.06%	56,089	1,322	\$ 586.72
34	Sprinkler - 2" - Tier 1	84,745	90.90%	77,034	96.06%	81,410	4,376	\$ 1,699.79
35	Sprinkler - 2" - Tier 2	87,121	90.90%	79,193	96.06%	83,692	4,499	\$ 1,997.08
	TOTALS	9,655,794		8,160,116		9,353,604	1,193,488	\$ 635,332.87

Year 8 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		ual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	72.50%	479,469	96.64%	639,133	159,663	\$	70,145.26	
2	Water - Residential - 5/8" - Tier 2	993,178	72.50%	720,054	96.64%	959,832	239,778	\$	132,353.08	
3	Water - Residential - 5/8" - Tier 3	412,417	72.50%	299,002	96.64%	398,570	99,568	\$	66,175.88	
4	Water - Residential - 3/4" - Tier 1	520,372	90.90%	473,018	96.64%	502,900	29,882	\$	13,128.33	
5	Water - Residential - 3/4" - Tier 2	1,176,732	90.90%	1,069,649	96.64%	1,137,224	67,574	\$	37,299.66	
6	Water - Residential - 3/4" - Tier 3	772,823	90.90%	702,496	96.64%	746,876	44,380	\$	29,496.01	
7	Water - Residential - 1" - Tier 1	450,131	84.20%	379,010	96.64%	435,018	56,008	\$	24,605.97	
8	Water - Residential - 1" - Tier 2	1,175,803	84.20%	990,026	96.64%	1,136,325	146,300	\$	80,754.63	
9	Water - Residential - 1" - Tier 3	1,218,674	84.20%	1,026,123	96.64%	1,177,757	151,634	\$	100,780.47	
10	Water - Residential - 1.5" - Tier 1	971	93.30%	906	95.78%	930	24	\$	10.56	
11	Water - Residential - 1.5" - Tier 2	2,460	93.30%	2,295	95.78%	2,356	61	\$	33.61	
12	Water - Residential - 1.5" - Tier 3	2,274	93.30%	2,121	95.78%	2,178	56	\$	37.41	
13	Water - Residential - 2" - Tier 1	1,184	90.40%	1,071	95.78%	1,134	64	\$	27.97	
14	Water - Residential - 2" - Tier 2	2,142	90.40%	1,936	95.78%	2,051	115	\$	63.54	
15	Water - Residential - 2" - Tier 3	354	90.40%	320	95.78%	339	19	\$	12.63	
16	Non-Residential - 5/8" - Tier 1	69,284	72.50%	50,231	96.64%	66,958	16,727	\$	9,704.04	
17	Non-Residential - 5/8" - Tier 2	621	72.50%	450	96.64%	600	150	\$	99.65	
18	Non-Residential - 3/4" - Tier 1	39,369	90.90%	35,786	96.64%	38,047	2,261	\$	1,311.56	
19	Non-Residential - 3/4" - Tier 2	0	90.90%	0	96.64%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	84.20%	162,648	96.64%	186,683	24,035	\$	13,943.79	
21	Non-Residential - 1" - Tier 2	54,571	84.20%	45,949	96.64%	52,739	6,790	\$	4,512.87	
22	Non-Residential - 1.5" - Tier 1	32,158	93.30%	30,003	95.78%	30,799	796	\$	461.81	
23	Non-Residential - 1.5" - Tier 2	12,447	93.30%	11,613	95.78%	11,921	308	\$	204.78	
24	Non-Residential - 2" - Tier 1	221,649	90.40%	200,370	95.78%	212,285	11,914	\$	6,912.05	
25	Non-Residential - 2" - Tier 2	131,760	90.40%	119,111	95.78%	126,194	7,083	\$	4,707.30	
26	Sprinkler - 5/8" - Tier 1	205,095	72.50%	148,694	96.64%	198,209	49,515	\$	19,522.42	
27	Sprinkler - 5/8" - Tier 2	967	72.50%	701	96.64%	935	233	\$	105.21	
28	Sprinkler - 3/4" - Tier 1	579,989	90.90%	527,210	96.64%	560,516	33,306	\$	13,131.65	
29	Sprinkler - 3/4" - Tier 2	8,112	90.90%	7,374	96.64%	7,840	466	\$	209.91	
30	Sprinkler - 1" - Tier 1	412,587	84.20%	347,398	96.64%	398,735	51,336	\$	20,240.47	
31	Sprinkler - 1" - Tier 2	11,751	84.20%	9,895	96.64%	11,357	1,462	\$	658.85	
32	Sprinkler - 1.5" - Tier 1	61,159	93.30%	57,061	95.78%	58,575	1,514	\$	596.89	
33	Sprinkler - 1.5" - Tier 2	58,387	93.30%	54,475	95.78%	55,921	1,445	\$	651.24	
34	Sprinkler - 2" - Tier 1	84,745	90.40%	76,610	95.78%	81,165	4,555	\$	1,796.05	
35	Sprinkler - 2" - Tier 2	87,121	90.40%	78,758	95.78%	83,441	4,683	\$	2,110.18	
	TOTALS	9,655,794		8,111,837		9,325,543	1,213,706	\$	655,805.76	

	Year 9- Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		ual Consumption Increase (\$)		
1	Water - Residential - 5/8" - Tier 1	661,337	72.00%	476,163	96.35%	637,215	161,053	\$	71,816.96		
2	Water - Residential - 5/8" - Tier 2	993,178	72.00%	715,088	96.35%	956,952	241,865	\$	135,507.30		
3	Water - Residential - 5/8" - Tier 3	412,417	72.00%	296,940	96.35%	397,375	100,434	\$	67,752.97		
4	Water - Residential - 3/4" - Tier 1	520,372	90.40%	470,416	96.35%	501,392	30,976	\$	13,812.72		
5	Water - Residential - 3/4" - Tier 2	1,176,732	90.40%	1,063,766	96.35%	1,133,812	70,046	\$	39,244.11		
6	Water - Residential - 3/4" - Tier 3	772,823	90.40%	698,632	96.35%	744,635	46,003	\$	31,033.66		
7	Water - Residential - 1" - Tier 1	450,131	83.70%	376,760	96.35%	433,713	56,953	\$	25,396.73		
8	Water - Residential - 1" - Tier 2	1,175,803	83.70%	984,147	96.35%	1,132,916	148,770	\$	83,349.81		
9	Water - Residential - 1" - Tier 3	1,218,674	83.70%	1,020,030	96.35%	1,174,224	154,194	\$	104,019.22		
10	Water - Residential - 1.5" - Tier 1	971	92.80%	901	95.49%	927	26	\$	11.64		
11	Water - Residential - 1.5" - Tier 2	2,460	92.80%	2,283	95.49%	2,349	66	\$	37.04		
12	Water - Residential - 1.5" - Tier 3	2,274	92.80%	2,110	95.49%	2,171	61	\$	41.23		
13	Water - Residential - 2" - Tier 1	1,184	89.90%	1,065	95.49%	1,131	66	\$	29.51		
14	Water - Residential - 2" - Tier 2	2,142	89.90%	1,925	95.49%	2,045	120	\$	67.05		
15	Water - Residential - 2" - Tier 3	354	89.90%	318	95.49%	338	20	\$	13.33		
16	Non-Residential - 5/8" - Tier 1	69,284	72.00%	49,885	96.35%	66,757	16,873	\$	9,935.30		
17	Non-Residential - 5/8" - Tier 2	621	72.00%	447	96.35%	598	151	\$	102.03		
18	Non-Residential - 3/4" - Tier 1	39,369	90.40%	35,589	96.35%	37,933	2,343	\$	1,379.93		
19	Non-Residential - 3/4" - Tier 2	0	90.40%	0	96.35%	0	0	\$	-		
20	Non-Residential - 1" - Tier 1	193,169	83.70%	161,682	96.35%	186,123	24,441	\$	14,391.90		
21	Non-Residential - 1" - Tier 2	54,571	83.70%	45,676	96.35%	52,581	6,905	\$	4,657.90		
22	Non-Residential - 1.5" - Tier 1	32,158	92.80%	29,843	95.49%	30,707	864	\$	509.01		
23	Non-Residential - 1.5" - Tier 2	12,447	92.80%	11,551	95.49%	11,886	335	\$	225.71		
24	Non-Residential - 2" - Tier 1	221,649	89.90%	199,262	95.49%	211,648	12,386	\$	7,293.31		
25	Non-Residential - 2" - Tier 2	131,760	89.90%	118,453	95.49%	125,815	7,363	\$	4,966.95		
26	Sprinkler - 5/8" - Tier 1	205,095	72.00%	147,668	96.35%	197,614	49,946	\$	19,987.67		
27	Sprinkler - 5/8" - Tier 2	967	72.00%	696	96.35%	932	236	\$	107.71		
28	Sprinkler - 3/4" - Tier 1	579,989	90.40%	524,310	96.35%	558,835	34,524	\$	13,816.21		
29	Sprinkler - 3/4" - Tier 2	8,112	90.40%	7,334	96.35%	7,816	483	\$	220.85		
30	Sprinkler - 1" - Tier 1	412,587	83.70%	345,336	96.35%	397,539	52,203	\$	20,890.94		
31	Sprinkler - 1" - Tier 2	11,751	83.70%	9,836	96.35%	11,323	1,487	\$	680.02		
32	Sprinkler - 1.5" - Tier 1	61,159	92.80%	56,756	95.49%	58,400	1,644	\$	657.89		
33	Sprinkler - 1.5" - Tier 2	58,387	92.80%	54,184	95.49%	55,753	1,569	\$	717.80		
34	Sprinkler - 2" - Tier 1	84,745	89.90%	76,186	95.49%	80,922	4,736	\$	1,895.12		
35	Sprinkler - 2" - Tier 2	87,121	89.90%	78,322	95.49%	83,191	4,868	\$	2,226.58		
	TOTALS	9,655,794		8,063,558		9,297,567	1,234,008	\$	676,796.13		

Year 10 - Annual Revenue Calculations										
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Ann	ual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	71.50%	472,856	96.06%	635,304	162,448	\$	73,525.62	
2	Water - Residential - 5/8" - Tier 2	993,178	71.50%	710,122	96.06%	954,082	243,960	\$	138,731.28	
3	Water - Residential - 5/8" - Tier 3	412,417	71.50%	294,878	96.06%	396,182	101,304	\$	69,364.95	
4	Water - Residential - 3/4" - Tier 1	520,372	89.90%	467,814	96.06%	499,888	32,073	\$	14,516.74	
5	Water - Residential - 3/4" - Tier 2	1,176,732	89.90%	1,057,882	96.06%	1,130,410	72,528	\$	41,244.33	
6	Water - Residential - 3/4" - Tier 3	772,823	89.90%	694,768	96.06%	742,401	47,633	\$	32,615.40	
7	Water - Residential - 1" - Tier 1	450,131	83.20%	374,509	96.06%	432,412	57,903	\$	26,207.44	
8	Water - Residential - 1" - Tier 2	1,175,803	83.20%	978,268	96.06%	1,129,518	151,250	\$	86,010.50	
9	Water - Residential - 1" - Tier 3	1,218,674	83.20%	1,013,937	96.06%	1,170,701	156,765	\$	107,339.71	
10	Water - Residential - 1.5" - Tier 1	971	92.30%	896	95.20%	924	28	\$	12.75	
11	Water - Residential - 1.5" - Tier 2	2,460	92.30%	2,270	95.20%	2,342	71	\$	40.59	
12	Water - Residential - 1.5" - Tier 3	2,274	92.30%	2,099	95.20%	2,165	66	\$	45.17	
13	Water - Residential - 2" - Tier 1	1,184	89.40%	1,059	95.20%	1,127	69	\$	31.10	
14	Water - Residential - 2" - Tier 2	2,142	89.40%	1,915	95.20%	2,039	124	\$	70.66	
15	Water - Residential - 2" - Tier 3	354	89.40%	316	95.20%	337	21	\$	14.05	
16	Non-Residential - 5/8" - Tier 1	69,284	71.50%	49,538	96.06%	66,557	17,019	\$	10,171.68	
17	Non-Residential - 5/8" - Tier 2	621	71.50%	444	96.06%	597	153	\$	104.46	
18	Non-Residential - 3/4" - Tier 1	39,369	89.90%	35,392	96.06%	37,819	2,427	\$	1,450.27	
19	Non-Residential - 3/4" - Tier 2	0	89.90%	0	96.06%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	83.20%	160,716	96.06%	185,565	24,848	\$	14,851.32	
21	Non-Residential - 1" - Tier 2	54,571	83.20%	45,403	96.06%	52,423	7,020	\$	4,806.59	
22	Non-Residential - 1.5" - Tier 1	32,158	92.30%	29,682	95.20%	30,615	933	\$	557.68	
23	Non-Residential - 1.5" - Tier 2	12,447	92.30%	11,489	95.20%	11,850	361	\$	247.30	
24	Non-Residential - 2" - Tier 1	221,649	89.40%	198,154	95.20%	211,013	12,859	\$	7,685.59	
25	Non-Residential - 2" - Tier 2	131,760	89.40%	117,794	95.20%	125,438	7,644	\$	5,234.10	
26	Sprinkler - 5/8" - Tier 1	205,095	71.50%	146,643	96.06%	197,021	50,379	\$	20,463.22	
27	Sprinkler - 5/8" - Tier 2	967	71.50%	691	96.06%	929	238	\$	110.28	
28	Sprinkler - 3/4" - Tier 1	579,989	89.90%	521,410	96.06%	557,158	35,748	\$	14,520.40	
29	Sprinkler - 3/4" - Tier 2	8,112	89.90%	7,293	96.06%	7,793	500	\$	232.11	
30	Sprinkler - 1" - Tier 1	412,587	83.20%	343,273	96.06%	396,346	53,073	\$	21,557.81	
31	Sprinkler - 1" - Tier 2	11,751	83.20%	9,777	96.06%	11,289	1,512	\$	701.73	
32	Sprinkler - 1.5" - Tier 1	61,159	92.30%	56,450	95.20%	58,224	1,775	\$	720.81	
33	Sprinkler - 1.5" - Tier 2	58,387	92.30%	53,892	95.20%	55,586	1,694	\$	786.45	
34	Sprinkler - 2" - Tier 1	84,745	89.40%	75,762	95.20%	80,679	4,917	\$	1,997.05	
35	Sprinkler - 2" - Tier 2	87,121	89.40%	77,887	95.20%	82,941	5,054	\$	2,346.33	
	TOTALS	9,655,794		8,015,279		9,269,674	1,254,395	\$	698,315.46	

		Year 11	- Annual Reven	ue Calculations						
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Ann	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	71.00%	469,549	95.78%	633,398	163,849	\$	75,272.02	
2	Water - Residential - 5/8" - Tier 2	993,178	71.00%	705,156	95.78%	951,219	246,063	\$	142,026.46	
3	Water - Residential - 5/8" - Tier 3	412,417	71.00%	292,816	95.78%	394,994	102,178	\$	71,012.52	
4	Water - Residential - 3/4" - Tier 1	520,372	89.40%	465,212	95.78%	498,388	33,176	\$	15,240.84	
5	Water - Residential - 3/4" - Tier 2	1,176,732	89.40%	1,051,998	95.78%	1,127,019	75,021	\$	43,301.61	
6	Water - Residential - 3/4" - Tier 3	772,823	89.40%	690,904	95.78%	740,174	49,270	\$	34,242.27	
7	Water - Residential - 1" - Tier 1	450,131	82.70%	372,258	95.78%	431,115	58,856	\$	27,038.55	
8	Water - Residential - 1" - Tier 2	1,175,803	82.70%	972,389	95.78%	1,126,129	153,740	\$	88,738.14	
9	Water - Residential - 1" - Tier 3	1,218,674	82.70%	1,007,843	95.78%	1,167,189	159,346	\$	110,743.76	
10	Water - Residential - 1.5" - Tier 1	971	91.80%	891	94.92%	922	30	\$	13.90	
11	Water - Residential - 1.5" - Tier 2	2,460	91.80%	2,258	94.92%	2,335	77	\$	44.24	
12	Water - Residential - 1.5" - Tier 3	2,274	91.80%	2,087	94.92%	2,158	71	\$	49.24	
13	Water - Residential - 2" - Tier 1	1,184	88.90%	1,053	94.92%	1,124	71	\$	32.73	
14	Water - Residential - 2" - Tier 2	2,142	88.90%	1,904	94.92%	2,033	129	\$	74.37	
15	Water - Residential - 2" - Tier 3	354	88.90%	314	94.92%	336	21	\$	14.78	
16	Non-Residential - 5/8" - Tier 1	69,284	71.00%	49,192	95.78%	66,357	17,165	\$	10,413.28	
17	Non-Residential - 5/8" - Tier 2	621	71.00%	441	95.78%	595	154	\$	106.94	
18	Non-Residential - 3/4" - Tier 1	39,369	89.40%	35,196	95.78%	37,705	2,510	\$	1,522.61	
19	Non-Residential - 3/4" - Tier 2	0	89.40%	0	95.78%	0	0	\$	-	
20	Non-Residential - 1" - Tier 1	193,169	82.70%	159,751	95.78%	185,008	25,257	\$	15,322.30	
21	Non-Residential - 1" - Tier 2	54,571	82.70%	45,130	95.78%	52,266	7,135	\$	4,959.02	
22	Non-Residential - 1.5" - Tier 1	32,158	91.80%	29,521	94.92%	30,523	1,002	\$	607.88	
23	Non-Residential - 1.5" - Tier 2	12,447	91.80%	11,427	94.92%	11,814	388	\$	269.55	
24	Non-Residential - 2" - Tier 1	221,649	88.90%	197,046	94.92%	210,380	13,334	\$	8,089.15	
25	Non-Residential - 2" - Tier 2	131,760	88.90%	117,135	94.92%	125,062	7,927	\$	5,508.94	
26	Sprinkler - 5/8" - Tier 1	205,095	71.00%	145,617	95.78%	196,430	50,813	\$	20,949.27	
27	Sprinkler - 5/8" - Tier 2	967	71.00%	687	95.78%	926	240	\$	112.90	
28	Sprinkler - 3/4" - Tier 1	579,989	89.40%	518,511	95.78%	555,487	36,976	\$	15,244.69	
29	Sprinkler - 3/4" - Tier 2	8,112	89.40%	7,252	95.78%	7,770	517	\$	243.69	
30	Sprinkler - 1" - Tier 1	412,587	82.70%	341,210	95.78%	395,157	53,947	\$	22,241.47	
31	Sprinkler - 1" - Tier 2	11,751	82.70%	9,718	95.78%	11,255	1,537	\$	723.99	
32	Sprinkler - 1.5" - Tier 1	61,159	91.80%	56,144	94.92%	58,050	1,906	\$	785.68	
33	Sprinkler - 1.5" - Tier 2	58,387	91.80%	53,600	94.92%	55,419	1,819	\$	857.23	
34	Sprinkler - 2" - Tier 1	84,745	88.90%	75,339	94.92%	80,437	5,098	\$	2,101.92	
35	Sprinkler - 2" - Tier 2	87,121	88.90%	77,451	94.92%	82,692	5,241	\$	2,469.54	
	TOTALS	9,655,794		7,967,000		9,241,865	1,274,865	\$	720,375.45	

		Year 12	2 - Annual Reven	ue Calculations					
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	70.50%	466,242	95.49%	631,497	165,255	\$ 77,056.93	
2	Water - Residential - 5/8" - Tier 2	993,178	70.50%	700,190	95.49%	948,366	248,175	\$ 145,394.31	
3	Water - Residential - 5/8" - Tier 3	412,417	70.50%	290,754	95.49%	393,809	103,055	\$ 72,696.43	
4	Water - Residential - 3/4" - Tier 1	520,372	88.90%	462,611	95.49%	496,893	34,282	\$ 15,985.49	
5	Water - Residential - 3/4" - Tier 2	1,176,732	88.90%	1,046,115	95.49%	1,123,638	77,523	\$ 45,417.29	
6	Water - Residential - 3/4" - Tier 3	772,823	88.90%	687,040	95.49%	737,953	50,914	\$ 35,915.32	
7	Water - Residential - 1" - Tier 1	450,131	82.20%	370,008	95.49%	429,821	59,814	\$ 27,890.51	
8	Water - Residential - 1" - Tier 2	1,175,803	82.20%	966,510	95.49%	1,122,751	156,241	\$ 91,534.21	
9	Water - Residential - 1" - Tier 3	1,218,674	82.20%	1,001,750	95.49%	1,163,688	161,938	\$ 114,233.21	
10	Water - Residential - 1.5" - Tier 1	971	91.30%	887	94.63%	919	32	\$ 15.08	
11	Water - Residential - 1.5" - Tier 2	2,460	91.30%	2,246	94.63%	2,328	82	\$ 48.00	
12	Water - Residential - 1.5" - Tier 3	2,274	91.30%	2,076	94.63%	2,152	76	\$ 53.43	
13	Water - Residential - 2" - Tier 1	1,184	88.40%	1,047	94.63%	1,121	74	\$ 34.41	
14	Water - Residential - 2" - Tier 2	2,142	88.40%	1,893	94.63%	2,027	133	\$ 78.18	
15	Water - Residential - 2" - Tier 3	354	88.40%	313	94.63%	335	22	\$ 15.54	
16	Non-Residential - 5/8" - Tier 1	69,284	70.50%	48,845	95.49%	66,158	17,313	\$ 10,660.21	
17	Non-Residential - 5/8" - Tier 2	621	70.50%	438	95.49%	593	155	\$ 109.47	
18	Non-Residential - 3/4" - Tier 1	39,369	88.90%	34,999	95.49%	37,592	2,594	\$ 1,597.00	
19	Non-Residential - 3/4" - Tier 2	0	88.90%	0	95.49%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	82.20%	158,785	95.49%	184,453	25,668	\$ 15,805.09	
21	Non-Residential - 1" - Tier 2	54,571	82.20%	44,858	95.49%	52,109	7,251	\$ 5,115.27	
22	Non-Residential - 1.5" - Tier 1	32,158	91.30%	29,360	94.63%	30,432	1,071	\$ 659.62	
23	Non-Residential - 1.5" - Tier 2	12,447	91.30%	11,364	94.63%	11,779	415	\$ 292.50	
24	Non-Residential - 2" - Tier 1	221,649	88.40%	195,937	94.63%	209,749	13,811	\$ 8,504.27	
25	Non-Residential - 2" - Tier 2	131,760	88.40%	116,476	94.63%	124,686	8,210	\$ 5,791.64	
26	Sprinkler - 5/8" - Tier 1	205,095	70.50%	144,592	95.49%	195,841	51,249	\$ 21,446.03	
27	Sprinkler - 5/8" - Tier 2	967	70.50%	682	95.49%	923	242	\$ 115.57	
28	Sprinkler - 3/4" - Tier 1	579,989	88.90%	515,611	95.49%	553,820	38,210	\$ 15,989.53	
29	Sprinkler - 3/4" - Tier 2	8,112	88.90%	7,212	95.49%	7,746	534	\$ 255.59	
30	Sprinkler - 1" - Tier 1	412,587	82.20%	339,147	95.49%	393,971	54,825	\$ 22,942.29	
31	Sprinkler - 1" - Tier 2	11,751	82.20%	9,660	95.49%	11,221	1,562	\$ 746.80	
32	Sprinkler - 1.5" - Tier 1	61,159	91.30%	55,838	94.63%	57,876	2,037	\$ 852.56	
33	Sprinkler - 1.5" - Tier 2	58,387	91.30%	53,308	94.63%	55,253	1,945	\$ 930.19	
34	Sprinkler - 2" - Tier 1	84,745	88.40%	74,915	94.63%	80,196	5,281	\$ 2,209.78	
35	Sprinkler - 2" - Tier 2	87,121	88.40%	77,015	94.63%	82,444	5,429	\$ 2,596.27	
	TOTALS	9,655,794		7,918,721		9,214,139	1,295,418	\$ 742,988.05	

		Year 13	3 - Annual Reven	ue Calculations					
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	70.00%	462,936	95.20%	629,603	166,667	\$ 78,881.16	
2	Water - Residential - 5/8" - Tier 2	993,178	70.00%	695,224	95.20%	945,521	250,296	\$ 148,836.33	
3	Water - Residential - 5/8" - Tier 3	412,417	70.00%	288,692	95.20%	392,628	103,936	\$ 74,417.42	
4	Water - Residential - 3/4" - Tier 1	520,372	88.40%	460,009	95.20%	495,402	35,393	\$ 16,751.18	
5	Water - Residential - 3/4" - Tier 2	1,176,732	88.40%	1,040,231	95.20%	1,120,267	80,036	\$ 47,592.73	
6	Water - Residential - 3/4" - Tier 3	772,823	88.40%	683,176	95.20%	735,740	52,564	\$ 37,635.62	
7	Water - Residential - 1" - Tier 1	450,131	81.70%	367,757	95.20%	428,532	60,775	\$ 28,763.79	
8	Water - Residential - 1" - Tier 2	1,175,803	81.70%	960,631	95.20%	1,119,383	158,752	\$ 94,400.22	
9	Water - Residential - 1" - Tier 3	1,218,674	81.70%	995,657	95.20%	1,160,197	164,540	\$ 117,809.95	
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$ -	
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$ -	
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$ -	
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$ -	
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$ -	
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$ -	
16	Non-Residential - 5/8" - Tier 1	69,284	70.00%	48,499	95.20%	65,960	17,461	\$ 10,912.58	
17	Non-Residential - 5/8" - Tier 2	621	70.00%	435	95.20%	591	157	\$ 112.06	
18	Non-Residential - 3/4" - Tier 1	39,369	88.40%	34,802	95.20%	37,480	2,678	\$ 1,673.50	
19	Non-Residential - 3/4" - Tier 2	0	88.40%	0	95.20%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	81.70%	157,819	95.20%	183,900	26,081	\$ 16,299.96	
21	Non-Residential - 1" - Tier 2	54,571	81.70%	44,585	95.20%	51,953	7,368	\$ 5,275.44	
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$ -	
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$ -	
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$ -	
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$ -	
26	Sprinkler - 5/8" - Tier 1	205,095	70.00%	143,566	95.20%	195,253	51,687	\$ 21,953.74	
27	Sprinkler - 5/8" - Tier 2	967	70.00%	677	95.20%	921	244	\$ 118.31	
28	Sprinkler - 3/4" - Tier 1	579,989	88.40%	512,711	95.20%	552,159	39,448	\$ 16,755.41	
29	Sprinkler - 3/4" - Tier 2	8,112	88.40%	7,171	95.20%	7,723	552	\$ 267.84	
30	Sprinkler - 1" - Tier 1	412,587	81.70%	337,084	95.20%	392,789	55,706	\$ 23,660.63	
31	Sprinkler - 1" - Tier 2	11,751	81.70%	9,601	95.20%	11,188	1,587	\$ 770.18	
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$ -	
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$ -	
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$ -	
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$ -	
	TOTALS	9,655,794		7,251,261		8,527,187	1,275,926	\$ 742,888.07	

	Year 14 - Annual Revenue Calculations								
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		ual Consumption Increase (\$)
1	Water - Residential - 5/8" - Tier 1	661,337	69.50%	459,629	94.92%	627,714	168,085	\$	80,745.50
2	Water - Residential - 5/8" - Tier 2	993,178	69.50%	690,258	94.92%	942,684	252,426	\$	152,354.06
3	Water - Residential - 5/8" - Tier 3	412,417	69.50%	286,630	94.92%	391,450	104,820	\$	76,176.27
4	Water - Residential - 3/4" - Tier 1	520,372	87.90%	457,407	94.92%	493,916	36,509	\$	17,538.39
5	Water - Residential - 3/4" - Tier 2	1,176,732	87.90%	1,034,347	94.92%	1,116,906	82,559	\$	49,829.32
6	Water - Residential - 3/4" - Tier 3	772,823	87.90%	679,311	94.92%	733,532	54,221	\$	39,404.28
7	Water - Residential - 1" - Tier 1	450,131	81.20%	365,506	94.92%	427,246	61,740	\$	29,658.85
8	Water - Residential - 1" - Tier 2	1,175,803	81.20%	954,752	94.92%	1,116,024	161,273	\$	97,337.72
9	Water - Residential - 1" - Tier 3	1,218,674	81.20%	989,563	94.92%	1,156,716	167,153	\$	121,475.90
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$	-
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$	-
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$	-
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$	-
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$	-
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$	-
16	Non-Residential - 5/8" - Tier 1	69,284	69.50%	48,153	94.92%	65,762	17,609	\$	11,170.50
17	Non-Residential - 5/8" - Tier 2	621	69.50%	432	94.92%	589	158	\$	114.71
18	Non-Residential - 3/4" - Tier 1	39,369	87.90%	34,605	94.92%	37,367	2,762	\$	1,752.14
19	Non-Residential - 3/4" - Tier 2	0	87.90%	0	94.92%	0	0	\$	-
20	Non-Residential - 1" - Tier 1	193,169	81.20%	156,853	94.92%	183,348	26,495	\$	16,807.18
21	Non-Residential - 1" - Tier 2	54,571	81.20%	44,312	94.92%	51,797	7,485	\$	5,439.60
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$	-
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$	-
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$	-
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$	-
26	Sprinkler - 5/8" - Tier 1	205,095	69.50%	142,541	94.92%	194,668	52,127	\$	22,472.61
27	Sprinkler - 5/8" - Tier 2	967	69.50%	672	94.92%	918	246	\$	121.11
28	Sprinkler - 3/4" - Tier 1	579,989	87.90%	509,811	94.92%	550,502	40,692	\$	17,542.82
29	Sprinkler - 3/4" - Tier 2	8,112	87.90%	7,131	94.92%	7,700	569	\$	280.42
30	Sprinkler - 1" - Tier 1	412,587	81.20%	335,021	94.92%	391,611	56,590	\$	24,396.89
31	Sprinkler - 1" - Tier 2	11,751	81.20%	9,542	94.92%	11,154	1,612	\$	794.15
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$	-
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$	-
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$	-
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$	-
	TOTALS	9,655,794		7,206,476		8,501,605	1,295,129	\$	765,412.41

Year 15 - Annual Revenue Calculations									
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)		al Consumption ncrease (\$)
1	Water - Residential - 5/8" - Tier 1	661,337	69.00%	456,322	94.63%	625,831	169,509	\$	82,650.79
2	Water - Residential - 5/8" - Tier 2	993,178	69.00%	685,293	94.63%	939,856	254,563	\$	155,949.03
3	Water - Residential - 5/8" - Tier 3	412,417	69.00%	284,568	94.63%	390,275	105,707	\$	77,973.74
4	Water - Residential - 3/4" - Tier 1	520,372	87.40%	454,805	94.63%	492,434	37,629	\$	18,347.62
5	Water - Residential - 3/4" - Tier 2	1,176,732	87.40%	1,028,464	94.63%	1,113,556	85,092	\$	52,128.48
6	Water - Residential - 3/4" - Tier 3	772,823	87.40%	675,447	94.63%	731,332	55,884	\$	41,222.42
7	Water - Residential - 1" - Tier 1	450,131	80.70%	363,256	94.63%	425,965	62,709	\$	30,576.17
8	Water - Residential - 1" - Tier 2	1,175,803	80.70%	948,873	94.63%	1,112,676	163,804	\$	100,348.27
9	Water - Residential - 1" - Tier 3	1,218,674	80.70%	983,470	94.63%	1,153,246	169,776	\$	125,233.03
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$	-
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$	-
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$	-
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$	-
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$	-
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$	-
16	Non-Residential - 5/8" - Tier 1	69,284	69.00%	47,806	94.63%	65,564	17,758	\$	11,434.08
17	Non-Residential - 5/8" - Tier 2	621	69.00%	429	94.63%	588	159	\$	117.42
18	Non-Residential - 3/4" - Tier 1	39,369	87.40%	34,408	94.63%	37,255	2,847	\$	1,832.99
19	Non-Residential - 3/4" - Tier 2	0	87.40%	0	94.63%	0	0	\$	-
20	Non-Residential - 1" - Tier 1	193,169	80.70%	155,887	94.63%	182,798	26,911	\$	17,327.00
21	Non-Residential - 1" - Tier 2	54,571	80.70%	44,039	94.63%	51,641	7,602	\$	5,607.84
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$	-
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$	-
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$	-
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$	-
26	Sprinkler - 5/8" - Tier 1	205,095	69.00%	141,515	94.63%	194,084	52,568	\$	23,002.88
27	Sprinkler - 5/8" - Tier 2	967	69.00%	667	94.63%	915	248	\$	123.96
28	Sprinkler - 3/4" - Tier 1	579,989	87.40%	506,911	94.63%	548,851	41,940	\$	18,352.26
29	Sprinkler - 3/4" - Tier 2	8,112	87.40%	7,090	94.63%	7,677	587	\$	293.36
30	Sprinkler - 1" - Tier 1	412,587	80.70%	332,958	94.63%	390,436	57,478	\$	25,151.46
31	Sprinkler - 1" - Tier 2	11,751	80.70%	9,483	94.63%	11,121	1,637	\$	818.71
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$	-
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$	-
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$	-
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$	-
	TOTALS	9,655,794		7,161,691		8,476,100	1,314,409	\$	788,491.51

	Year 16 - Annual Revenue Calculations - Possible Revenue Beyond 15 Year Guarantee Period								
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	68.50%	453,016	94.35%	623,954	170,938	\$ 84,597.86	
2	Water - Residential - 5/8" - Tier 2	993,178	68.50%	680,327	94.35%	937,036	256,710	\$ 159,622.86	
3	Water - Residential - 5/8" - Tier 3	412,417	68.50%	282,506	94.35%	389,104	106,599	\$ 79,810.63	
4	Water - Residential - 3/4" - Tier 1	520,372	86.90%	452,203	94.35%	490,957	38,754	\$ 19,179.38	
5	Water - Residential - 3/4" - Tier 2	1,176,732	86.90%	1,022,580	94.35%	1,110,215	87,635	\$ 54,491.64	
6	Water - Residential - 3/4" - Tier 3	772,823	86.90%	671,583	94.35%	729,138	57,555	\$ 43,091.18	
7	Water - Residential - 1" - Tier 1	450,131	80.20%	361,005	94.35%	424,687	63,681	\$ 31,516.23	
8	Water - Residential - 1" - Tier 2	1,175,803	80.20%	942,994	94.35%	1,109,338	166,344	\$ 103,433.49	
9	Water - Residential - 1" - Tier 3	1,218,674	80.20%	977,376	94.35%	1,149,786	172,410	\$ 129,083.33	
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$ -	
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$ -	
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$ -	
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$ -	
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$ -	
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$ -	
16	Non-Residential - 5/8" - Tier 1	69,284	68.50%	47,460	94.35%	65,368	17,908	\$ 11,703.44	
17	Non-Residential - 5/8" - Tier 2	621	68.50%	425	94.35%	586	161	\$ 120.19	
18	Non-Residential - 3/4" - Tier 1	39,369	86.90%	34,211	94.35%	37,143	2,932	\$ 1,916.08	
19	Non-Residential - 3/4" - Tier 2	0	86.90%	0	94.35%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	80.20%	154,921	94.35%	182,250	27,328	\$ 17,859.72	
21	Non-Residential - 1" - Tier 2	54,571	80.20%	43,766	94.35%	51,487	7,720	\$ 5,780.25	
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$ -	
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$ -	
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$ -	
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$ -	
26	Sprinkler - 5/8" - Tier 1	205,095	68.50%	140,490	94.35%	193,501	53,011	\$ 23,544.78	
27	Sprinkler - 5/8" - Tier 2	967	68.50%	662	94.35%	912	250	\$ 126.88	
28	Sprinkler - 3/4" - Tier 1	579,989	86.90%	504,011	94.35%	547,204	43,194	\$ 19,184.23	
29	Sprinkler - 3/4" - Tier 2	8,112	86.90%	7,050	94.35%	7,654	604	\$ 306.66	
30	Sprinkler - 1" - Tier 1	412,587	80.20%	330,895	94.35%	389,265	58,370	\$ 25,924.74	
31	Sprinkler - 1" - Tier 2	11,751	80.20%	9,425	94.35%	11,087	1,663	\$ 843.88	
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$ -	
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$ -	
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$ -	
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$ -	
	TOTALS	9,655,794		7,116,906		8,450,672	1,333,766	\$ 812,137.47	

	Year 17 - Annual Revenue Calculations - Possible Revenue Beyond 15 Year Guarantee Period								
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	68.00%	449,709	94.06%	622,082	172,373	\$ 86,587.5	
2	Water - Residential - 5/8" - Tier 2	993,178	68.00%	675,361	94.06%	934,225	258,865	\$ 163,377.1	
3	Water - Residential - 5/8" - Tier 3	412,417	68.00%	280,444	94.06%	387,937	107,494	\$ 81,687.7	
4	Water - Residential - 3/4" - Tier 1	520,372	86.40%	449,601	94.06%	489,484	39,883	\$ 20,034.2	
5	Water - Residential - 3/4" - Tier 2	1,176,732	86.40%	1,016,696	94.06%	1,106,884	90,188	\$ 56,920.3	
6	Water - Residential - 3/4" - Tier 3	772,823	86.40%	667,719	94.06%	726,950	59,231	\$ 45,011.7	
7	Water - Residential - 1" - Tier 1	450,131	79.70%	358,755	94.06%	423,413	64,658	\$ 32,479.5	
8	Water - Residential - 1" - Tier 2	1,175,803	79.70%	937,115	94.06%	1,106,010	168,895	\$ 106,595.0	
9	Water - Residential - 1" - Tier 3	1,218,674	79.70%	971,283	94.06%	1,146,337	175,054	\$ 133,028.8	
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$ -	
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$ -	
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$ -	
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$ -	
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$ -	
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$ -	
16	Non-Residential - 5/8" - Tier 1	69,284	68.00%	47,113	94.06%	65,172	18,058	\$ 11,978.7	
17	Non-Residential - 5/8" - Tier 2	621	68.00%	422	94.06%	584	162	\$ 123.0	
18	Non-Residential - 3/4" - Tier 1	39,369	86.40%	34,015	94.06%	37,032	3,017	\$ 2,001.4	
19	Non-Residential - 3/4" - Tier 2	0	86.40%	0	94.06%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	79.70%	153,955	94.06%	181,703	27,747	\$ 18,405.6	
21	Non-Residential - 1" - Tier 2	54,571	79.70%	43,493	94.06%	51,332	7,839	\$ 5,956.9	
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$ -	
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$ -	
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$ -	
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$ -	
26	Sprinkler - 5/8" - Tier 1	205,095	68.00%	139,464	94.06%	192,921	53,456	\$ 24,098.5	
27	Sprinkler - 5/8" - Tier 2	967	68.00%	658	94.06%	910	252	\$ 129.8	
28	Sprinkler - 3/4" - Tier 1	579,989	86.40%	501,111	94.06%	545,563	44,452	\$ 20,039.2	
29	Sprinkler - 3/4" - Tier 2	8,112	86.40%	7,009	94.06%	7,631	622	\$ 320.3	
30	Sprinkler - 1" - Tier 1	412,587	79.70%	328,832	94.06%	388,097	59,265	\$ 26,717.1	
31	Sprinkler - 1" - Tier 2	11,751	79.70%	9,366	94.06%	11,054	1,688	\$ 869.6	
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$ -	
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$ -	
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$ -	
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$ -	
	TOTALS	9,655,794		7,072,121		8,425,320	1,353,199	\$ 836,362.6	

	Year 18 - Annual Revenue Calculations - Possible Revenue Beyond 15 Year Guarantee Period								
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	67.50%	446,402	93.78%	620,215	173,813	\$ 88,620.82	
2	Water - Residential - 5/8" - Tier 2	993,178	67.50%	670,395	93.78%	931,423	261,028	\$ 167,213.55	
3	Water - Residential - 5/8" - Tier 3	412,417	67.50%	278,382	93.78%	386,773	108,392	\$ 83,605.94	
4	Water - Residential - 3/4" - Tier 1	520,372	85.90%	446,999	93.78%	488,016	41,016	\$ 20,912.59	
5	Water - Residential - 3/4" - Tier 2	1,176,732	85.90%	1,010,813	93.78%	1,103,564	92,751	\$ 59,415.96	
6	Water - Residential - 3/4" - Tier 3	772,823	85.90%	663,855	93.78%	724,770	60,915	\$ 46,985.26	
7	Water - Residential - 1" - Tier 1	450,131	79.20%	356,504	93.78%	422,142	65,638	\$ 33,466.62	
8	Water - Residential - 1" - Tier 2	1,175,803	79.20%	931,236	93.78%	1,102,692	171,456	\$ 109,834.49	
9	Water - Residential - 1" - Tier 3	1,218,674	79.20%	965,190	93.78%	1,142,898	177,708	\$ 137,071.67	
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$ -	
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$ -	
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$ -	
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$ -	
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$ -	
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$ -	
16	Non-Residential - 5/8" - Tier 1	69,284	67.50%	46,767	93.78%	64,976	18,209	\$ 12,259.99	
17	Non-Residential - 5/8" - Tier 2	621	67.50%	419	93.78%	582	163	\$ 125.90	
18	Non-Residential - 3/4" - Tier 1	39,369	85.90%	33,818	93.78%	36,921	3,103	\$ 2,089.23	
19	Non-Residential - 3/4" - Tier 2	0	85.90%	0	93.78%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	79.20%	152,990	93.78%	181,158	28,168	\$ 18,964.98	
21	Non-Residential - 1" - Tier 2	54,571	79.20%	43,220	93.78%	51,178	7,958	\$ 6,137.96	
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$ -	
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$ -	
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$ -	
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$ -	
26	Sprinkler - 5/8" - Tier 1	205,095	67.50%	138,439	93.78%	192,342	53,903	\$ 24,664.43	
27	Sprinkler - 5/8" - Tier 2	967	67.50%	653	93.78%	907	254	\$ 132.92	
28	Sprinkler - 3/4" - Tier 1	579,989	85.90%	498,211	93.78%	543,926	45,715	\$ 20,917.88	
29	Sprinkler - 3/4" - Tier 2	8,112	85.90%	6,968	93.78%	7,608	639	\$ 334.37	
30	Sprinkler - 1" - Tier 1	412,587	79.20%	326,769	93.78%	386,933	60,164	\$ 27,529.10	
31	Sprinkler - 1" - Tier 2	11,751	79.20%	9,307	93.78%	11,021	1,714	\$ 896.10	
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$ -	
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$ -	
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$ -	
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$ -	
	TOTALS	9,655,794		7,027,336		8,400,044	1,372,708	\$ 861,179.76	

	Year 19 - Annual Revenue Calculations - Possible Revenue Beyond 15 Year Guarantee Period								
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	67.00%	443,096	93.50%	618,355	175,259	\$ 90,698.48	
2	Water - Residential - 5/8" - Tier 2	993,178	67.00%	665,429	93.50%	928,628	263,199	\$ 171,133.75	
3	Water - Residential - 5/8" - Tier 3	412,417	67.00%	276,319	93.50%	385,613	109,294	\$ 85,566.02	
4	Water - Residential - 3/4" - Tier 1	520,372	85.40%	444,398	93.50%	486,551	42,154	\$ 21,815.11	
5	Water - Residential - 3/4" - Tier 2	1,176,732	85.40%	1,004,929	93.50%	1,100,253	95,324	\$ 61,980.16	
6	Water - Residential - 3/4" - Tier 3	772,823	85.40%	659,991	93.50%	722,595	62,604	\$ 49,012.99	
7	Water - Residential - 1" - Tier 1	450,131	78.70%	354,253	93.50%	420,876	66,623	\$ 34,477.97	
8	Water - Residential - 1" - Tier 2	1,175,803	78.70%	925,357	93.50%	1,099,384	174,027	\$ 113,153.64	
9	Water - Residential - 1" - Tier 3	1,218,674	78.70%	959,096	93.50%	1,139,469	180,373	\$ 141,213.92	
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$ -	
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$ -	
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$ -	
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$ -	
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$ -	
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$ -	
16	Non-Residential - 5/8" - Tier 1	69,284	67.00%	46,420	93.50%	64,781	18,361	\$ 12,547.41	
17	Non-Residential - 5/8" - Tier 2	621	67.00%	416	93.50%	581	165	\$ 128.85	
18	Non-Residential - 3/4" - Tier 1	39,369	85.40%	33,621	93.50%	36,810	3,189	\$ 2,179.40	
19	Non-Residential - 3/4" - Tier 2	0	85.40%	0	93.50%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	78.70%	152,024	93.50%	180,614	28,590	\$ 19,538.09	
21	Non-Residential - 1" - Tier 2	54,571	78.70%	42,948	93.50%	51,025	8,077	\$ 6,323.45	
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$ -	
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$ -	
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$ -	
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$ -	
26	Sprinkler - 5/8" - Tier 1	205,095	67.00%	137,413	93.50%	191,765	54,352	\$ 25,242.67	
27	Sprinkler - 5/8" - Tier 2	967	67.00%	648	93.50%	904	256	\$ 136.03	
28	Sprinkler - 3/4" - Tier 1	579,989	85.40%	495,311	93.50%	542,294	46,983	\$ 21,820.62	
29	Sprinkler - 3/4" - Tier 2	8,112	85.40%	6,928	93.50%	7,585	657	\$ 348.80	
30	Sprinkler - 1" - Tier 1	412,587	78.70%	324,706	93.50%	385,772	61,066	\$ 28,361.02	
31	Sprinkler - 1" - Tier 2	11,751	78.70%	9,248	93.50%	10,988	1,739	\$ 923.18	
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$ -	
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$ -	
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$ -	
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$ -	
	TOTALS	9,655,794		6,982,552		8,374,844	1,392,292	\$ 886,601.58	

	Year 20 - Annual Revenue Calculations - Possible Revenue Beyond 15 Year Guarantee Period								
Item	Description	Existing Consumption at 100% Accuracy (HCF)	Existing Meter Accuracy %	Existing Consumption (HCF)	New Meter Accuracy %	Consumption Billed with New Meters (HCF)	Annual Consumption Increase (HCF)	Annual Consumption Increase (\$)	
1	Water - Residential - 5/8" - Tier 1	661,337	66.50%	439,789	93.22%	616,500	176,711	\$ 92,821.45	
2	Water - Residential - 5/8" - Tier 2	993,178	66.50%	660,463	93.22%	925,842	265,379	\$ 175,139.47	
3	Water - Residential - 5/8" - Tier 3	412,417	66.50%	274,257	93.22%	384,456	110,199	\$ 87,568.86	
4	Water - Residential - 3/4" - Tier 1	520,372	84.90%	441,796	93.22%	485,092	43,296	\$ 22,742.31	
5	Water - Residential - 3/4" - Tier 2	1,176,732	84.90%	999,045	93.22%	1,096,952	97,907	\$ 64,614.47	
6	Water - Residential - 3/4" - Tier 3	772,823	84.90%	656,127	93.22%	720,427	64,301	\$ 51,096.16	
7	Water - Residential - 1" - Tier 1	450,131	78.20%	352,003	93.22%	419,613	67,611	\$ 35,514.12	
8	Water - Residential - 1" - Tier 2	1,175,803	78.20%	919,478	93.22%	1,096,086	176,608	\$ 116,554.21	
9	Water - Residential - 1" - Tier 3	1,218,674	78.20%	953,003	93.22%	1,136,051	183,048	\$ 145,457.77	
10	Water - Residential - 1.5" - Tier 1	971	0.00%	0	0.00%	0	0	\$ -	
11	Water - Residential - 1.5" - Tier 2	2,460	0.00%	0	0.00%	0	0	\$ -	
12	Water - Residential - 1.5" - Tier 3	2,274	0.00%	0	0.00%	0	0	\$ -	
13	Water - Residential - 2" - Tier 1	1,184	0.00%	0	0.00%	0	0	\$ -	
14	Water - Residential - 2" - Tier 2	2,142	0.00%	0	0.00%	0	0	\$ -	
15	Water - Residential - 2" - Tier 3	354	0.00%	0	0.00%	0	0	\$ -	
16	Non-Residential - 5/8" - Tier 1	69,284	66.50%	46,074	93.22%	64,587	18,513	\$ 12,841.11	
17	Non-Residential - 5/8" - Tier 2	621	66.50%	413	93.22%	579	166	\$ 131.87	
18	Non-Residential - 3/4" - Tier 1	39,369	84.90%	33,424	93.22%	36,700	3,276	\$ 2,272.03	
19	Non-Residential - 3/4" - Tier 2	0	84.90%	0	93.22%	0	0	\$ -	
20	Non-Residential - 1" - Tier 1	193,169	78.20%	151,058	93.22%	180,072	29,014	\$ 20,125.26	
21	Non-Residential - 1" - Tier 2	54,571	78.20%	42,675	93.22%	50,871	8,197	\$ 6,513.49	
22	Non-Residential - 1.5" - Tier 1	32,158	0.00%	0	0.00%	0	0	\$ -	
23	Non-Residential - 1.5" - Tier 2	12,447	0.00%	0	0.00%	0	0	\$ -	
24	Non-Residential - 2" - Tier 1	221,649	0.00%	0	0.00%	0	0	\$ -	
25	Non-Residential - 2" - Tier 2	131,760	0.00%	0	0.00%	0	0	\$ -	
26	Sprinkler - 5/8" - Tier 1	205,095	66.50%	136,388	93.22%	191,190	54,802	\$ 25,833.52	
27	Sprinkler - 5/8" - Tier 2	967	66.50%	643	93.22%	902	258	\$ 139.22	
28	Sprinkler - 3/4" - Tier 1	579,989	84.90%	492,411	93.22%	540,667	48,256	\$ 22,748.05	
29	Sprinkler - 3/4" - Tier 2	8,112	84.90%	6,887	93.22%	7,562	675	\$ 363.63	
30	Sprinkler - 1" - Tier 1	412,587	78.20%	322,643	93.22%	384,615	61,972	\$ 29,213.34	
31	Sprinkler - 1" - Tier 2	11,751	78.20%	9,190	93.22%	10,955	1,765	\$ 950.93	
32	Sprinkler - 1.5" - Tier 1	61,159	0.00%	0	0.00%	0	0	\$ -	
33	Sprinkler - 1.5" - Tier 2	58,387	0.00%	0	0.00%	0	0	\$ -	
34	Sprinkler - 2" - Tier 1	84,745	0.00%	0	0.00%	0	0	\$ -	
35	Sprinkler - 2" - Tier 2	87,121	0.00%	0	0.00%	0	0	\$ -	
	TOTALS	9,655,794		6,937,767		8,349,720	1,411,953	\$ 912,641.28	

					Minimu	m Flow	Intermed	liate Flow	High	Flow	
				•							Weighted
				Dandina.	Dete	A	Dete		Data		Average
Ref#	Meter Size	Manufacturer	Serial #	Reading (kgal)	Rate (gpm)	Accuracy (%)	Rate (gpm)	Accuracy (%)	Rate (gpm)	Accuracy (%)	Accuracy (%)
1	5/8"	ROCKWELL	45417861	1,782,370	0.25	0.0%	2.00	86.0%	15.00	93.0%	74.2%
2	5/8"	SENSUS	53530301	1,328,880	0.25	88.0%	2.00	99.0%	15.00	98.0%	97.2%
3	5/8" 5/8"	SENSUS ROCKWELL	55119995 45417819	1,276,720 853,320	0.25 0.25	76.0% 0.0%	2.00	100.0% 92.0%	15.00 15.00	98.0% 92.0%	96.1% 78.2%
5	5/8"	SENSUS	42190677	327,810	0.25	0.0%	2.00	101.0%	15.00	98.0%	85.4%
6	5/8"	SENSUS	36796563	306,190	0.25	0.0%	2.00	87.0%	15.00	98.0%	75.6%
7	5/8"	ROCKWELL	43045770	4,011,690	0.25	0.0%	2.00	80.0%	15.00	94.0%	70.1%
<u>8</u> 9	5/8" 5/8"	ROCKWELL ROCKWELL	35458464 37736787	1,140,510 1,787,670	0.25 0.25	0.0%	2.00	0.0% 88.0%	15.00 15.00	92.0% 95.0%	13.8% 75.9%
10	5/8"	ROCKWELL	35016849	725,380	0.25	0.0%	2.00	92.0%	15.00	97.0%	79.0%
11	5/8"	ROCKWELL	33172484	2,377,590	0.25	0.0%	2.00	94.0%	15.00	95.0%	80.1%
12	5/8"	ROCKWELL	39153054	2,358,220	0.25	0.0%	2.00	80.0%	15.00	86.0%	68.9%
13 14	5/8" 5/8"	ROCKWELL SENSUS	44784670 49855540	169,500 2,496,640	0.25 0.25	0.0%	2.00 2.00	95.0% 97.0%	15.00 15.00	98.0% 98.0%	81.2% 82.6%
15	5/8"	SENSUS	29160436	636,330	0.25	0.0%	2.00	97.0%	15.00	98.0%	82.6%
16	3/4"	SENSUS	46356326	2,672,830	0.50	70.0%	3.00	96.0%	25.00	96.0%	92.1%
17	3/4"	SENSUS	54534574	1,501,040	0.50	82.0%	3.00	100.0%	25.00	97.0%	96.9%
18 19	3/4" 3/4"	SENSUS SENSUS	54534539 55406354	1,117,740 1,282,460	0.50 0.50	0.0% 96.0%	3.00 3.00	99.0% 99.0%	25.00 25.00	99.0% 99.0%	84.2% 98.6%
20	3/4"	SENSUS	53498532	1,157,690	0.50	80.0%	3.00	100.0%	25.00	98.0%	96.7%
21	3/4"	SENSUS	45613196	5,752,790	0.50	0.0%	3.00	92.0%	25.00	95.0%	78.7%
22	3/4"	SENSUS	57160923	1,629,780	0.50	91.0%	3.00	101.0%	25.00	99.0%	99.2%
23 24	3/4" 3/4"	SENSUS SENSUS	47608668 52182784	2,004,500 1,338,350	0.50 0.50	83.0% 85.0%	3.00 3.00	92.0% 100.0%	25.00 25.00	98.0% 98.0%	91.6% 97.5%
25	3/4"	SENSUS	47608634	3,331,960	0.50	76.0%	3.00	90.0%	25.00	98.0%	89.1%
26	3/4"	SENSUS	53863015	1,238,240	0.50	93.0%	3.00	100.0%	25.00	99.0%	98.8%
27	3/4"	SENSUS	52182826	2,455,540	0.50	0.0%	3.00	90.0%	25.00	96.0%	77.4%
28	3/4" 3/4"	SENSUS	53498553	3,988,440	0.50	98.0%	3.00	97.0%	25.00	99.0%	97.5%
29 30	3/4"	SENSUS SENSUS	53498543 55753041	2,248,820 1,668,510	0.50 0.50	92.0% 94.0%	3.00 3.00	100.0% 101.0%	25.00 25.00	97.0% 98.0%	98.4% 99.5%
31	3/4"	SENSUS	45055649	3,865,550	0.50	0.0%	3.00	91.0%	25.00	94.0%	77.8%
32	3/4"	SENSUS	52273638	1,908,860	0.50	85.0%	3.00	97.0%	25.00	97.0%	95.2%
33	3/4"	SENSUS	52182816	1,955,990	0.50	80.0%	3.00	100.0%	25.00	97.0%	96.6%
34 35	3/4" 3/4"	SENSUS BADGER	46356329 18946038	5,639,240 184,580	0.50 0.50	0.0% 98.0%	3.00	92.0% 100.0%	25.00 25.00	93.0% 99.0%	78.4% 99.6%
36	3/4"	BADGER	18945565	444,850	0.50	98.0%	3.00	100.0%	25.00	99.0%	99.6%
37	3/4"	BADGER	18946036	769,020	0.50	94.0%	3.00	101.0%	25.00	99.0%	99.7%
38	3/4"	BADGER	29697152	675,080	0.50	93.0%	3.00	98.0%	25.00	99.0%	97.4%
39 40	3/4" 3/4"	BADGER BADGER	18945788 18945090	1,815,030 251,780	0.50 0.50	95.0% 97.0%	3.00 3.00	96.0% 100.0%	25.00 25.00	99.0% 99.0%	96.3% 99.4%
41	3/4"	BADGER	18945644	1,504,930	0.50	96.0%	3.00	99.0%	25.00	99.0%	98.6%
42	3/4"	BADGER	18945867	1,492,910	0.50	94.0%	3.00	99.0%	25.00	99.0%	98.3%
43	3/4"	BADGER	18945249	1,693,890	0.50	95.0%	3.00	97.0%	25.00	99.0%	97.0%
44	3/4"	BADGER	18945596 43303525	1,543,400	0.50	93.0%	3.00	101.0%	25.00	99.0%	99.5%
45 46	3/4" 3/4"	BADGER BADGER	18945229	857,190 1,636,780	0.50 0.50	94.0% 96.0%	3.00 3.00	100.0% 98.0%	25.00 25.00	98.0% 99.0%	98.8% 97.9%
47	1"	BADGER	18959843	1,670,560	0.75	90.0%	4.00	97.0%	40.00	97.0%	96.0%
48	1"	BADGER	33675808	981,900	0.75		4.00		40.00		96.3%
49	1"	BADGER	18959787	1,992,390	0.75	0.0%	4.00	0.0%	40.00	98.0%	14.7%
50 51	1" 1"	BADGER BADGER	29692265 33675629	915,600 1,277,400	0.75 0.75	84.0% 90.0%	4.00 4.00	101.0% 100.0%	40.00 40.00	99.0% 99.0%	98.2% 98.4%
52	1"	BADGER	29692173	962,090	0.75	91.0%	4.00	98.0%	40.00	99.0%	97.1%
53	1"	BADGER	18959840	2,395,890	0.75	88.0%	4.00	101.0%	40.00	98.0%	98.6%
54	1"	BADGER	36043265	55,000	0.75	0.0%	4.00	0.0%	40.00	0.0%	0.0%
55 56	1" 1"	BADGER BADGER	33675620 43303627	789,290 286,020	0.75 0.75	99.0% 94.0%	4.00 4.00	100.0% 101.0%	40.00 40.00	99.0% 99.0%	99.7% 99.7%
57	1"	BADGER	43303572	63,550	0.75	98.0%	4.00		40.00	99.0%	98.9%
58	1"	SENSUS	56741742	2,401,380	0.75	92.0%	4.00	100.0%	40.00	99.0%	98.7%
59	1"	SENSUS	58888766	1,647,630	0.75	87.0%	4.00	96.0%	40.00	98.0%	95.0%
60 61	1" 1"	SENSUS SENSUS	57421388 57502637	2,633,850 3,901,770	0.75 0.75	90.0% 88.0%	4.00 4.00	100.0% 99.0%	40.00 40.00	99.0% 98.0%	98.4% 97.2%
62	1"	SENSUS	57502637	1,142,340	0.75	99.0%	4.00	98.0%	40.00	100.0%	98.5%
63	1"	SENSUS	59321087	2,393,770	0.75	92.0%	4.00	100.0%	40.00	99.0%	98.7%
64	1"	SENSUS	56741764	3,038,510	0.75	90.0%	4.00	98.0%	40.00	99.0%	97.0%
65	1"	ROCKWELL	19639079	3,351,780	0.75	36.0%	4.00	94.0%	40.00	94.0%	85.3%
66 67	1.5" 1.5"	BADGER SENSUS	32339932 51313006	321,300 6,941,200	1.50 1.50	100.0% 81.0%	8.00 8.00	98.0% 97.0%	50.00 50.00	101.0% 98.0%	85.4% 83.2%
68	2"	SENSUS	56023772	51,185,300	2.00	78.0%	15.00	98.0%	100.00	101.0%	85.4%
69	2"	ROCKWELL	38847351	36,913,800	2.00	70.0%	15.00	96.0%	100.00	98.0%	

## Neptune T-10, HP Turbine FRU/FLO® Compound Cold Water Meters Warranty

UTILITY
MANAGEMENT
SYSTEMS\*\*\*

## 1. Terms of Limited Warranty

With respect to its Neptune 1-10, HP TURBINE, TRU/FLO® Compound Water Meters (collectively the "Water Meters"), Neptune Technology Group Inc. ("Neptune") warrants the following on meters sold on or after 11,/1/92:

referred to as "the Date of Shipment") and will remain for a period of eighteen (18) months from the Date of Shipment, or twelve (12) months from date of installation, whichever coines first, from from manufacturing defects in workmanship and material. The Water Meters will be, at the later of (i) the date of original purchase from Neptune or (ii) the date of original shipment from Neptune-authorized distributor of Water Meters (that later date is

- (a) Maincase. The no-lead high copper alloy or Brass maincase of the Water Meters will be at the Date of Shipment free from manufacturing defects in workmanship and material for the life of the
- (b) Frost Protection. All Neptune T-10 Cold Water Meters shipped with a synthetic polymer or cast iron bottom cap will, commencing upon the Date of Shipment, be warranted against chamber damage for a period of ten (10) years.
- (a) Registers. Standard, roll sealed registers of the Water Meters will be at the Date of Shipment, and shall remain for the following periods, free from manufacturing defects in workmanship and material for a period of ten (10) years. The ARB , ProRead (ARB VI), and E-Coder (ARB VII), system registers are warranted for ten (10) years from Date of Shipment. All ProRead encoder receptacles shipped after January 1, 2001 shall be warranted for five years from the Date of Shipment. All other components and parts are covered under Neptune's standard one-year material and workmanship guarantee.
- (d) Meter Accuracy for Neptune T-10. Neptune T-10 Meters and Neptune T-10 nutating disc chambers in TRU/FLO Compound Water Meters are evarranted to meet or exceed, as listed herein, for 1 1/2" and 2" meters; or (iii) the applicable registration shown below, whichever occurs first. Neptune further guarantees that the Neptune T-10 and Neptune T-10 nutating disc chambers in accuracy standards of the AWWA Standard C700-95 for a period of: (i) live (5) years from Date of Shipment for 5/6", 3/4" and 1" moters; (ii) for a period of two (2) years from the Date of Shipment registration shown below, whichever occurs first. TRU/FLO Compound Water Meters will perform to at least Repaired Meter Accuracy Standards, according to AVWVA Manual M-6 Chapter 5 (1999) Table 5.3 for an additional ten (10) years or the
- (e) Meter Accuracy for HP Turbine and TRU/FLO. The HP Turbine and TRU/FLO Compound Cold Water Meters will perform, for a period of one (1) year from the Date of Shipment, to American Water Works Association ("AWWA") accuracy standards for new water meters.

		<u> </u>	<u> </u>		
2"	1%"	1"	3/4"	%&%"x%"	SIZE
1 US gpm @ 95% 2 years or 2,700,000 gallons	% US gpm @ 95% 2 years or 1,600,000 gallons	% US.gpm @ 95% 5 years or 1,000,000 gallons	¼ US gpm @ 95% 5 years or 750,000 gallons	% US gpm @ 95% 5 years or 500,000 gallons	EXTENDED LOW FLOW ACCURACY
2,700,000 gallons	1,500,000 gallons	1,000,000; gallons	750,000 gallons	500,000 gallens	NEW METER ACCURACY
8,000,000 gallons	5,000,000 gallons	3,000,000 gallons	2,250,000 gallons	1,500,000 gallons	REPAIRED METER ACCURACY



W METER 09:11



Cit

## Warranty Return:

guarantee will be guaranteed to perform to AWWA repaired meter accuracy standards. conducted by the customer according to AWWA standards. Any meter being returned for repair to Neptune under this performance guarantee must be returned with a copy of the customer's test If a Neptune Water Meter fails an accuracy test during an applicable warranty period, it may be returned to Neptune for repair or replacement at Neptune's option. An accuracy test shall be testing fee by Neptune in such cases. Neptune will repair or replace the meter at Neptune's option after the meter has been tested by Neptune. Meters repaired or replaced under the performance results. If the meter is returned to Neptune without a copy of the test results or if Neptune's factory test shows the meter to meet current AWVWA standards, the customer will be charged a nominal

## 3. Warranties are exclusive.

merchantability and the warranty of fitness for a particular purpose The warranties set forth in this certificate of warranty are in lieu of any other warranty, guarantee, or representation, whether expressed or implied, including without limitation, the warranty of

# 4. Damages limited to costs of replacement and repair.

of delivery to Neptune are assumed by the purchaser of the Water Meter. Neptune's liability is limited to its costs of replacement and repair of the defective water meter. Damages resulting from If the Water Meter fails to meet the warranties set forth in Paragraph 1 of this Certificate of Warranty, Neptune, at its option shall, without charge of labor or materials, repair or replace the Water miscalculation of water usage or lost revenue or profit are not recoverable from Neptune. It is the responsibility of the customer to periodically verify the operation and accuracy of its meters. Meter or part thereof, provided that [a] the Water Meter is delivered to a Neptune representative, (b) the Water Meter is accompanied by a Return Material Authorization (RMA), and (c) all costs

# 5. Warranties are inapplicable under certain conditions.

not approved or licensed by Neptune. Neptune makes no claims concerning operability and/or compatibility or third party reading systems. In addition, this Certificate of Warranty shall not apply if water conditions, tampering or unauthorized repairs or modifications, accidental or intentional damage; acts of God. This Certificate of Warranty shall not apply if product is placed in non-Water Meter's ability of performance, including but not limited to: misuse, improper handling, application or installation; excessive operating conditions; foreign materials in the water; aggressive The warranties set forth in this Certificate of Warranty do not apply to any Water Meter that has been damaged by, or subjected to, conditions which, in the opinion of Neptune, have affected the inspect any Water Meter or part thereof that is claimed to be defective at Neptune or other location designated by Neptune. third party reading equipment is believed to have caused damage to the meter or register. In order to determine its liability, if any, under this Certificate of Warranty, Neptune shall have the right to recommended installation, is connected or altered by other than Neptune recommended procedures, is used with other than genuine Neptune meter registers and components, or read by equipment

WARRANTY (2) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT NEPTUNE'S LIABILITY WITH BESPECT TO BREACHES OF THE FOREGOING LIMITED WARRANTY. SHALL BE LIMITED AS STATED HEREIM, NEPTUNE'S LIABILITY SHALL IN NO EVENT EXCEED EXEMPLARY, AND PUNITIVE DAMAGES WHATSOEVER, TO PRODUCTS SOLD OR SERVICES RENDERED BY NEPTUME, OR ANY UNDERTAKINGS, ACT OR OMISSIONS RELATING THERETO, AND (3) ALL CONSEQUENTIAL, INCIDENTAL, SPECIAL, MULTIPLE THE PURCHASE PRICE NEPTUNE SHALL NOT BE SUBJECT TO AND DISCLAIMS THE FOLLOWING: (1) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF





# E-Coder®)R900i™ Warranty Statement

## T T SYSTEMS\*\*

## I. Warranty Effective Date

This warranty will be effective for any E-Coder \$1900?" that has shipped since product introduction

### II. E-Coder)R900/

a non-performing E-Coder/R900/ free of charge for the first ten (10) years and at a discount off of the then-current contract price or the materials, manufacture, or otherwisel which manifest themselves after the expiration of the Warranty Period, Neptune will repair or replace (such period being the "Warranty Period"). Neptune shall not be responsible for any defects in the E-Code/#900/ (whether due to design, removable or replaceable) shall be free from defects in manufacture and design for a period of twenty (20) years from the "date of shipment" Neptune Technology Group Inc. warrants that the E-CoderJR9007 (which includes a Neptune-supplied battery that is not intended to be <u>then-current list price; whichever is less;</u> during the remaining ten (10) years according to the discount schedule at the right.

# III. Warranties are inapplicable under certain conditions.

no event shall Neptune be liable for special, incidental, indirect, or consequential damages, including, without limitation, lost revenue, not apply to any E-Coder/R900/ that has been damaged by, or subjected to, conditions which, in the opinion of Neptune, have affected meter registers and components or read by equipment not approved or licensed by Neptune; or damaged due to improper care or was converted, aftered, or connected by other than Neptune recommended procedures; is used with other than genuine Neptune not apply if product is placed in non-recommended installations; may have been repaired with parts not recommended by Neptune; This warranty does not include field replacement labor or materials costs, which are the responsibility of the utility. This warranty does the E-Coder/R9007 register's ability of performance, including but not limited to: misuse; improper handling; application or installation; maintenance, or improper periodic testing (please refer to E-Coder)R900/ Installation and Maintenance Guide). This warranty does excessive operating conditions; tampering or unauthorized repairs and modifications; accidental or intentional damage; or acts of God. In

CONCERNING THE E-CODERIRGOD/ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY, CONDITION AND DISCLAIMS THE FOLLOWING: (1) ANY OTHER OBLIGATIONS OF LIABILITIES ARISING OUT OF BREACHOF CONTRACT OR OF WARRANTY, [2] ANY OBLIGATIONS WHATSOEVER WARRANTES TO THE MAXIMUM EXTENT PERMITTED BY LAW, TO AVOID ANY AMBIGUITY OR MISUNDERSTANDING, ALL PROBLEMS ARISING WITH AN E-Coder/18901 AFTER THIS POINT ARE BUYER'S RESPONSIBILITY. NEPTUNE SHALLINGT BE SUBJECT TO PURPOSE. THIS PARAGRAPH IS EXPRESSLY INTENDED TO EXCLUDE FROM THIS CONTRACT ALL STATUTORY AND COMMON LAW ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES term, and representation or other legally operative provision as to merchantability of finess for a particular THE E-CODEFIR9001. ALL DTHEF WARRANTIES, CONDITIONS, TERMS, REPRESENTATIONS, OR OTHER LEGALLY OPERATIVE PROVISIONS THE ABOVE WARHANTY FOR THE E-Coder/19900; IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY NEPTUNE WITH RESPECT TO RENDERED BY NEPTUNE, OR ANY UNDERTAKINGS, ACTS, OR OMISSIONS RELATING THERETO, AND (3) ALL CONSEQUENTIAL, INCIDENTAL, SPECIAL,

Year of Failure	E-Coder®)R900;** Replacement Price Discount*
1-10	Full replacement: 100%
11	50%
12	50%
13	40%
14	40%
5.	30%
16	30%
17	20%
18	20%
.61	10%
20	10%

balánce ot original E-CoderiR900i warranty, whichever is greater registers are warranted for one (1) year after date of shipment or Nepture under warranty conditions. Replacement E-Coder/R9001 whichever is less, in effect for the year product is accepted by Replacement price discount percentages will be applied

TECHNOLOGY GROUP INC



WE-CODER HASON DS.16

### **SIEMENS**

### **Certificate of Substantial Completion**

PROJECT NAME:	
CLIENT:	
CERTIFICATE DATE (mm/dd/yyyy):	
CERTIFICATE NUMBER:	
PROJECT NUMBER:	
	Substantial Completion in accordance with the Agreement. Improvement Measure title, system name, building, etc.)
Work Item:	
Warranty Start Date (mm/dd/yyyy):	
Work Item:	
Warranty Start Date (mm/dd/yyyy):	
Work Item:	
Warranty Start Date (mm/dd/yyyy):	
materials of the above Substantially Comp The Work indicated above has been revie CLIENT's knowledge, to be Substantially progress of the Work at which time the W have beneficial use of the Work for its into	emens Industry, Inc. guarantees the workmanship and plete Work in accordance with the Agreement.  ewed by the CLIENT and has been found, to the best of the Complete. Substantial Completion is the milestone in the fork is sufficiently complete and available for the CLIENT to ended purpose. A list of items to be completed and a Outstanding Items List, attached to this form, and indicated
Outstanding Items List Attached:	No Outstanding Items Noted:
contractual responsibility of Building Tech	equiring completion or correction does not relieve the inclogies Division of Siemens Industry, Inc. to complete or completion or correction after the Certificate Date of this

Certificate, but within the warranty period shall be corrected in accordance with the Agreement's warranty provisions.

Building Technologies Division of Siemens Industry, Inc. agrees to complete or correct all items indicated on the Outstanding Items in a timely manner.

Building Technologies Division of Siemens Indust	ry, Inc. Representative:
Signature:	Date:
The CLIENT accepts the Work indicated above as and beneficial use of the Work on the Warranty S	
CLIENT:	
CLIENT Representative:	
Signature:	Date:

**Note:** The CLIENT shall, upon execution of this Certificate of Substantial Completion, assume all contractual responsibilities for maintenance, insurance, operation, and protection of the Substantially Complete Work in accordance with the Agreement.

### **SIEMENS**

### **Certificate of Final Completion**

PROJECT NAME:	
CLIENT:	
CERTIFICATE DATE (mm/dd/yyyy):	
PROJECT NUMBER:	
of the CLIENT's knowledge, to be at Final Com	iewed by the CLIENT and have been found, to the best pletion. All items noted in the Outstanding Items Lists impletion have been resolved, and all Work as defined
contractual responsibility of Building Technolog correct the Work. Work found to require compl	ies Division of Siemens Industry, Inc. to complete or etion or correction after the date of this Certificate, but rected in accordance with the Agreement's warranty
Building Technologies Division of Siemens Inducontractual requirements, and the requirements	ustry, Inc. has reviewed the project Work, as well as all s for Final Completion have been met.
Building Technologies Division of Siemens Indu	ustry, Inc. Representative:
Signature:	Date:
The CLIENT accepts the project Work as meeti	ing the requirements for Final Completion.
CLIENT:	
CLIENT Representative:	
Signature:	Date:

Mayor and Council

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED ACTION ITEM (ID # 1986)



Meeting: 08/15/16 06:00 PM Department: Public Works Category: Resolution Department Head: Brant Gary DOC ID: 1986

### **Item Title:**

Consideration of and possible action on the adoption of a resolution of the City Council of the City of Bellaire, Texas, to publish a notice of intent to issue Certificates of Obligation - Submitted by Paul A. Hofmann, City Manager.

### **Background/Summary:**

Before Council is a Resolution to publish the City's intent to issue Certificates of Obligation (CO's) for an amount not to exceed \$24,380,000.00 for the purpose of funding the following projects:

<u>Project</u>		<u>Buaget</u>
Performance Contracting Project for Utility System Improvements	-	\$12,800,000
Water Line Replacement Program	-	\$11,000,000
Wastewater Line Replacement Program	-	\$580,000

If approved, the notice would be published on Tuesday, August 23, 2016 and again on Tuesday, August 30, 2016. Once published, the CO's would be eligible for issuance on September 26, 2016.

### **Previous Council Action Summary:**

At its August 2, Workshop, Council heard a presentation from the Director of Public Works and Siemens concerning the Performance Contract Agreement and the issuance of CO's. No action was taken at that meeting.

### **Fiscal Impact:**

Funding for the Certificates of Obligation will come from the Enterprise fund. Included in the proposed FY 2017 budget are projected water and waste water revenues that will cover the annual debt payment.

Funding for the Performance Contract portion of the proposed debt will be cost neutral due to a guarantee contract executed between the City and Siemen's.

There will be no impact to the property tax rate.

### **Recommendation:**

[Insert Recommendation here]

### **ATTACHMENTS:**

• Resolution Auth Public of Notice of Intent to Issue COs (DOC)

Updated: 8/11/2016 10:25 AM by Shawn Cox

### RESOLUTION NO. 2016-\_\_\_\_

### RESOLUTION DIRECTING PUBLICATION OF NOTICE OF INTENTION TO ISSUE COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION

WHEREAS, the City Council of the City of Bellaire, Texas (the "City"), deems it advisable to give notice of intention to issue Combination Tax and Revenue Certificates of Obligation, in one or more series, in the total aggregate amount not to exceed \$24,380,000 for paying all or a portion of the City's contractual obligations for the purpose of paying for the purchasing, constructing, legal, fiscal, engineering, project administration/management, and related necessary fees in connection with improvements to the City's water supply and distribution system and wastewater treatment and collection system; and

**WHEREAS,** it is hereby officially found and determined that the meeting at which this Resolution was passed, was open to the public and public notice of the time, place, and purpose of said meeting was given, all as required by Chapter 551, Texas Government Code.

### NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS:

- 1. That attached hereto as <u>Exhibit "A"</u> is a form of the Notice of Intention to Issue Certificates of Obligation, the form and substance of which is hereby adopted and approved.
- 2. That the City Clerk shall cause said notice to be published in substantially the form attached hereto, in a newspaper of general circulation in said City, and published in said City, on the same day in each of two consecutive weeks, the date of the first publication thereof to be at least 30 days prior to the time set for the issuance of such certificates of obligation as shown in said notice.
  - 3. That this Resolution shall become effective immediately upon adoption.

PASSED, APPROVED, and ADOPTED this 15th day of August, 2016.

ATTEST:	SIGNED:
Tracy L. Dutton, TRMC	Andrew S. Friedberg

Mayor

City Clerk

(SEAL)

### APPROVED AS TO FORM:

Alan P. Petrov City Attorney

### NOTICE OF INTENTION TO ISSUE COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION

The City of Bellaire, Texas (the "City"), does hereby give notice of intention to issue Combination Tax and Revenue Certificates of Obligation, in one or more series, in the maximum aggregate principal amount not to exceed \$24,380,000, for paying all or a portion of the City's contractual obligations incurred for the purpose of paying for the purchasing, constructing, legal, fiscal, engineering, project administration/management, and related necessary fees in connection with improvements to the City's water supply and distribution system and wastewater treatment and collection system.

The City proposes to provide for the payment of such Certificates of Obligation from the levy and collection of ad valorem taxes in the City as provided by law, and from a limited pledge on the net revenues of the City's water and wastewater system. The City Council intends to consider for passage, an Ordinance authorizing the issuance of City of Bellaire, Texas, Certificates of Obligation, at a Regular City Council Meeting to be held at 7:00 P.M. on October 3, 2016, at Bellaire City Hall, Council Chamber, 7008 South Rice Avenue, Bellaire, Texas.

Tracy L. Dutton City Clerk City of Bellaire, Texas Mayor and Council 7008 S. Rice Avenue

7008 S. Rice Avenue Bellaire, TX 77401

SCHEDULED ACTION ITEM (ID # 1846)



Meeting: 08/15/16 06:00 PM
Department: City Clerk
Category: Ordinance
Department Head: Tracy L. Dutton

DOC ID: 1846

### **Item Title:**

Consideration of and possible action on the adoption of an ordinance of the City Council of the City of Bellaire, Texas, calling a bond election within the City of Bellaire, Texas, for the purpose of providing funds for: 1) street and drainage facility improvements, 2) the construction of new municipal buildings (City Hall/Civic Center and Police/Courts Building), 3) water line improvements, and 4) sidewalk improvements; establishing the date of the bond election on the uniform election date designated by the State of Texas as the first Tuesday after the first Monday in November or November 8, 2016; establishing election precincts, polling places, and appointing election officials; and setting forth certain guidelines - Submitted by Tracy L. Dutton, City Clerk. Attached to this agenda is an additional copy with the information relating to this item translated into Spanish, Vietnamese, and Mandarin Chinese.

### **Background/Summary:**

On August 1, 2016, the Bellaire City Council held discussions and provided feedback to City Manager Paul A. Hofmann related to a November 2016 proposed bond election. Based on that discussion and feedback, an ordinance was prepared by City Attorney Alan P. Petrov for the purpose of calling a bond election within the City of Bellaire, Texas, to provide funds for: 1) street and drainage facility improvements, 2) the construction of new municipal buildings (City Hall/Civic Center and Police/Courts Building), 3) water line improvements, and 4) sidewalk improvements, said projects to be collectively known as the "Bonds for a Better Bellaire Program."

Proposed dollar amounts associated with each of the four projects are as follows:

Street and Drainage Facility Improvements: \$20,000,000
Construction of New Municipal Buildings: \$5,600,000
Water Line Improvements: \$11,000,000
Sidewalk Improvements: \$4,000,000

Total \$40,600,000

### **Previous Council Action Summary:**

As noted above, City Council was presented with an informational packet describing the projects included in the "Bonds for a Better Bellaire Program" at the August 1, 2016, Council Meeting.

### Fiscal Impact:

Costs associated with the bond election would include joint election services costs, legal fees, and translation fees.

### **Recommendation:**

Updated: 8/11/2016 4:55 PM by Tracy L. Dutton

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Based on feedback provided by the City Council, the City Clerk recommends adoption of the proposed bond election ordinance.

### **ATTACHMENTS:**

• Calling Bond Election Ordinance - November 8 2016 (00181960-3xD8318) (DOC)



### ORDINANCE NO. 16-\_\_\_\_

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS, CALLING A BOND ELECTION WITHIN THE CITY OF BELLAIRE, TEXAS, FOR THE PURPOSE OF PROVIDING **FUNDS** FOR: 1) STREET AND DRAINAGE **FACILITY** IMPROVEMENTS; 2) THE CONSTRUCTION OF NEW MUNICIPAL **BUILDINGS (CITY HALL/CIVIC CENTER AND POLICE/COURTS BUILDING)**; 3) WATER LINE **IMPROVEMENTS**; 4) SIDEWALK IMPROVEMENTS; ESTABLISHING THE DATE OF THE BOND ELECTION ON THE UNIFORM ELECTION DATE DESIGNATED BY THE STATE OF TEXAS AS THE FIRST TUESDAY AFTER THE FIRST MONDAY IN NOVEMBER OR NOVEMBER 8, 2016; ESTABLISHING ELECTION PRECINCTS, POLLING PLACES, AND APPOINTING ELECTION OFFICIALS; AND SETTING FORTH CERTAIN GUIDELINES.

WHEREAS, the City Council of the City of Bellaire, Texas (the "City Council") deems it advisable to hold an election to ascertain whether the City Council shall be authorized to issue bonds of the City of Bellaire, Texas in the amounts and for the purposes hereinafter stated; and

WHEREAS, the City Council wishes to adopt this ordinance in order to provide for the conduct of such election on the uniform election date designated by the State of Texas as the first Tuesday after the first Monday in November or on November 8, 2016; establishing precincts, polling places, and appointing election officials; and setting forth certain guidelines, all in accordance with the requirements of the Texas Election Code; NOW, THEREFORE,

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### BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS:

- **1. THAT** the recitals contained herein are true and correct.
- 2. THAT on the 8th day of November, 2016, a bond election shall be held in the City of Bellaire, Texas, in which all qualified electors of the City of Bellaire, Texas, shall be entitled to vote, and the City Council hereby finds that holding the bond election on such date is in the public interest.
- **3. THAT** said bond election shall be held in conjunction with elections to be administered by Harris County, Texas ("County") for the City of Bellaire, Texas, and multiple entities.
- **4. THAT** at the bond election, the following PROPOSITIONS shall be submitted in accordance with law:

### **PROPOSITION ONE**

SHALL THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS, BE AUTHORIZED TO ISSUE AND SELL AT ANY PRICE OR PRICES THE BONDS OF THE CITY IN THE AMOUNT OF \$20,000,000, MATURING SERIALLY OR OTHERWISE WITHIN 30 YEARS FROM THEIR DATE OR DATES, AND BEARING INTEREST AT SUCH RATE OR RATES, NOT TO EXCEED THE MAXIMUM INTEREST RATE NOW OR HEREAFTER AUTHORIZED BY LAW, AS SHALL BE DETERMINED WITHIN THE DISCRETION OF THE CITY COUNCIL AT THE TIME OF ISSUANCE, CONTINUING THE REBUILD BELLAIRE PROJECT, FOR THE PURPOSE OF CONSTRUCTING, IMPROVING, REPAIRING, REPLACING OR EXTENDING THE CITY'S STREETS AND DRAINAGE FACILITIES, AND TO LEVY TAXES UPON ALL TAXABLE PROPERTY WITHIN THE CITY ANNUALLY SUFFICIENT TO PAY THE INTEREST ON THE BONDS AS IT ACCRUES AND TO CREATE A SINKING FUND TO PAY THE PRINCIPAL OF THE BONDS AS IT MATURES?

### **PROPOSITION TWO**

SHALL THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS, BE AUTHORIZED TO ISSUE AND SELL AT ANY PRICE OR PRICES THE BONDS OF THE CITY IN THE AMOUNT OF \$5,600,000, MATURING SERIALLY OR

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OTHERWISE WITHIN 30 YEARS FROM THEIR DATE OR DATES, AND BEARING INTEREST AT SUCH RATE OR RATES, NOT TO EXCEED THE MAXIMUM INTEREST RATE NOW OR HEREAFTER AUTHORIZED BY LAW, AS SHALL BE DETERMINED WITHIN THE DISCRETION OF THE CITY COUNCIL AT THE TIME OF ISSUANCE, CONTINUING THE REBUILD BELLAIRE PROJECT FOR THE PURPOSE OF REPAIRING, CONSTRUCTING OR IMPROVING. REPLACING CERTAIN MUNICIPAL BUILDINGS AND FACILITIES, TO WIT, CITY HALL/CIVIC CENTER AND POLICE/COURTS BUILDING, AND TO LEVY TAXES UPON ALL TAXABLE PROPERTY WITHIN THE CITY ANNUALLY SUFFICIENT TO PAY THE INTEREST ON THE BONDS AS IT ACCRUES AND TO CREATE A SINKING FUND TO PAY THE PRINCIPAL OF THE BONDS AS IT MATURES?

### **PROPOSITION THREE**

SHALL THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS, BE AUTHORIZED TO ISSUE AND SELL AT ANY PRICE OR PRICES THE BONDS OF THE CITY IN THE AMOUNT OF \$11,000,000, MATURING SERIALLY OR OTHERWISE WITHIN 30 YEARS FROM THEIR DATE OR DATES, AND BEARING INTEREST AT SUCH RATE OR RATES, NOT TO EXCEED THE MAXIMUM INTEREST RATE NOW OR HEREAFTER AUTHORIZED BY LAW, AS SHALL BE DETERMINED WITHIN THE DISCRETION OF THE CITY COUNCIL AT THE TIME OF ISSUANCE, FOR THE PURPOSE OF IMPROVING, REPAIRING, REPLACING OR EXTENDING THE CITY'S WATER DISTRIBUTION LINES AND RELATED WATER SYSTEM FACILITIES, AND TO LEVY TAXES UPON ALL TAXABLE PROPERTY WITHIN THE CITY ANNUALLY SUFFICIENT TO PAY THE INTEREST ON THE BONDS AS IT ACCRUES AND TO CREATE A SINKING FUND TO PAY THE PRINCIPAL OF THE BONDS AS IT MATURES?

### PROPOSITION FOUR

SHALL THE CITY COUNCIL OF THE CITY OF BELLAIRE, TEXAS, BE AUTHORIZED TO ISSUE AND SELL AT ANY PRICE OR PRICES THE BONDS OF THE CITY IN THE AMOUNT OF \$4,000,000, MATURING SERIALLY OR OTHERWISE WITHIN 30 YEARS FROM THEIR DATE OR DATES, AND BEARING INTEREST AT SUCH RATE OR RATES, NOT TO EXCEED THE MAXIMUM INTEREST RATE NOW OR HEREAFTER AUTHORIZED BY LAW, AS SHALL BE DETERMINED WITHIN THE DISCRETION OF THE CITY COUNCIL AT THE TIME OF ISSUANCE, FOR THE PURPOSE OF CONSTRUCTING, IMPROVING, REPAIRING,

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REPLACING OR EXTENDING THE CITY'S SIDEWALKS, AND TO LEVY TAXES UPON ALL TAXABLE PROPERTY WITHIN THE CITY ANNUALLY SUFFICIENT TO PAY THE INTEREST ON THE BONDS AS IT ACCRUES AND TO CREATE A SINKING FUND TO PAY THE PRINCIPAL OF THE BONDS AS IT MATURES?

**5. THAT** the official ballots for the bond election shall conform to the requirements of the Texas Election Code so as to permit the qualified electors to vote "FOR" or "AGAINST" the aforesaid Propositions which shall be set forth on the ballots substantially in the following form:

### **PROPOSITION ONE FOR** THE ISSUANCE OF \$ 20,000,000 IN BONDS FOR STREET AND **DRAINAGE FACILITY IMPROVEMENTS AGAINST PROPOSITION TWO FOR** THE ISSUANCE OF \$5,600,000 IN BONDS FOR IMPROVEMENTS TO MUNICIPAL BUILDINGS; TO WIT, CITY HALL/CIVIC CENTER AND POLICE/COURTS BUILDING **AGAINST** PROPOSITION THREE **FOR** THE ISSUANCE OF \$ 11,000,000 **BONDS** FOR WATER DISTRIBUTION **SYSTEM IMPROVEMENTS AGAINST PROPOSITION FOUR FOR** THE ISSUANCE OF \$ 4,000,000 ΙN BONDS FOR SIDE WALK **IMPROVEMENTS AGAINST**

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- **6. THAT** the City of Bellaire, Texas, consists of five (5) voting precincts and polling places (i.e., 128, 182, 214, 215, and 268), the polling places of which are those designated by the County. Voting on election day shall be conducted at said polling places designated by the County between the hours of 7:00 a.m. and 7:00 p.m.
- **7. THAT** each of the referenced five (5) voting precincts are regular County election precincts and, therefore, the City of Bellaire, Texas, hereby appoints the County election officials as its special officials for the purpose of this bond election.
- **8. THAT** the following special officials are hereby appointed to operate the counting station:

Presiding Judge Stan Stanart,
or such other person or persons as may be appointed by the County.

- 9. THAT Early Voting by Mail for the bond election may be conducted by making application for an early voting ballot with Stan Stanart, Harris County Clerk, Attn: Elections Division, P.O. Box 1148, Houston, Texas 77251-1148. Voters qualified to vote early by mail may begin applying for a ballot by mail at any time of the year of the election for which a ballot is requested, but not later than the close of regular business in the early voting clerk's office on October 28, 2016, for the bond election.
- 10. THAT Early Voting by Personal Appearance may be conducted by the Harris County Clerk's Office, Elections Division, 1001 Preston, 1<sup>st</sup> Floor, Houston, Texas 77002, or any of the other 45 early voting polling locations designated by the County. Early Voting by Personal Appearance will begin on Monday, October 24, 2016, and conclude on Friday, November 4, 2016.

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- **11. THAT** ballots shall be cast utilizing direct recording equipment during early voting and during election day.
- **12. THAT** a special meeting of the City Council of the City of Bellaire, Texas, to canvass returns of the bond election shall be held on Monday, November 21, 2016, at 6:30 p.m.
- prescribed by the Secretary of State of the State of Texas shall serve as proper notice of the bond election. Said notice, including a Spanish, Vietnamese, and Mandarin Chinese translation thereof, shall be given by publishing and posting it in accordance with the *Texas Election Code*.
- **14. THAT** in accordance with the provisions of Section 3.009(b) of the *Texas Election Code*, it is hereby found and determined that:
- (a) The proposition language that will appear on the ballot is set forth in Section 5 hereof.
- (b) The purpose for which the bonds are to be authorized is set forth in Section 4 hereof.
- (c) The principal amount of the bonds to be authorized is set forth in Sections 4 and 5 hereof.
- (d) As set forth in Sections 4 and 5 hereof, if the bonds are approved by the voters, the City Council will be authorized to levy annual ad valorem taxes on all taxable property in the City, within the limits prescribed by law, sufficient to pay the annual principal of and interest on the bonds and provide a sinking fund to pay the bonds at maturity.
- (e) Based upon the bond market conditions at the date of adoption of this Ordinance, the maximum interest rate for any series of the bonds is estimated

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to be 3.00% as calculated in accordance with applicable law. Such estimate takes into account a number of factors, including the issuance schedule, maturity schedule and the expected bond ratings of the proposed bonds. Such estimated maximum interest rate is provided as a matter of information, but is not a limitation on the interest rate at which the bonds, or any series thereof, may be sold.

- (f) As set forth in Section 4 hereof, if the bonds are approved, they may be issued in one or more series, to mature serially, over a period not to exceed 30 years.
- (g) The aggregate amount of the outstanding principal of the City's debt obligations which are secured by ad valorem taxes as of the beginning of the City's 2016 fiscal year is \$77,310,000.
- (h) The aggregate amount of the outstanding interest of the City's debt obligations which are secured by ad valorem taxes as of the beginning of the City's 2016 fiscal year is \$26,818,284.
- (i) The ad valorem debt service tax rate for the City for the 2016 fiscal year is \$0.1304 per \$100 of taxable assessed valuation.
- or other part of this Ordinance or the application thereof to any person or circumstance, shall ever be held to be invalid or unconstitutional by any court of competent jurisdiction, neither the remainder of this ordinance, or the application of such word, phrase, clause, sentence, paragraph, section or other part of this Ordinance to any other persons or circumstances, shall not be affected thereby.
- **16. THAT** all ordinances and parts of ordinances in conflict herewith are hereby repealed to the extent of conflict only.

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finds, determines, and declares that a sufficient written notice of the date, hour, place, and subject of the meeting at which this Ordinance was discussed, considered, or acted upon was given in the manner required by the *Texas Open Meetings Act*, as amended, and has been open to the public as required by law at all times during such discussion, consideration, and action. The City Council of the City of Bellaire, Texas, ratifies, approves, and confirms such notice and the contents and posting thereof.

**18. THAT** this Ordinance shall be effective immediately upon passage and shall be preserved in the permanent records of the City of Bellaire, Texas.

**PASSED, APPROVED,** and **ADOPTED** this 15th day of August, 2016.

(SEAL)

ATTEST:	SIGNED:
Tracy L. Dutton, TRMC City Clerk	Andrew S. Friedberg Mayor
APPROVED AS TO FORM:	
Alan P. Petrov	

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