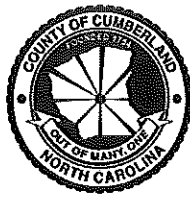


LARRY L. LANCASTER  
Chairman

JEANNETTE M. COUNCIL  
Vice Chairman

GLENN B. ADAMS  
MICHAEL C. BOOSE  
CHARLES E. EVANS  
W. MARSHALL FAIRCLOTH  
JIMMY KEEFE



## CUMBERLAND ★ COUNTY ★ NORTH CAROLINA

CANDICE WHITE  
Clerk to the Board

KELLIE BEAM  
Deputy Clerk

### BOARD OF COMMISSIONERS

#### MEMORANDUM

TO: Facilities Committee Members (Commissioners Adams, Boose and Council)

FROM: Kellie Beam, Deputy Clerk to the Board *KB*

DATE: August 31, 2018

SUBJECT: Facilities Committee Special Meeting – Thursday, September 6, 2018

The regular meeting of the Board of Commissioners' committees (Finance, Policy and Facilities Committee) has been **CANCELLED** and rescheduled as a **SPECIAL MEETING** on Thursday, September 6, 2018 beginning at 8:30 a.m. at the **Department of Social Services, 1225 Ramsey Street, conference room C**. All committee meetings will start as soon as the previous committee adjourns.

#### AGENDA

1. Approval of Minutes – August 2, 2018 Special Meeting (Pg. 2)
2. Presentation of Final Report on Performance Contract with Johnson Controls (Pg. 10)
3. Consideration of Proposal for Ann Street Landfill Gas Collection System Expansion (Pg. 45)
4. Consideration of Additional Firms to the List of Qualified Architectural/Engineering Firms (Pg. 47)
5. Consideration of Contracts
  - a. Parking Lot Improvements at Veterans Services (Pg. 48)
  - b. Parking Lot Improvements at Spring Lake Library and Spring Lake Family Resource Center (Pg. 50)
  - c. Roof Repairs for Multiple County Facilities (Pg. 52)
6. Monthly Project Updates (Pg. 55)
7. Other Items of Business (NO MATERIALS)

## DRAFT

CUMBERLAND COUNTY FACILITIES COMMITTEE  
CUMBERLAND COUNTY DEPARTMENT OF SOCIAL SERVICES  
1225 RAMSEY STREET, CONFERENCE ROOMS C & D  
AUGUST 2, 2018  
SPECIAL MEETING MINUTES

MEMBERS PRESENT: Commissioner Glenn Adams, Facilities Committee Chairman  
Commissioner Jeannette Council

MEMBERS ABSENT: Commissioner Michael Boose

OTHER COMMISSIONERS  
PRESENT: Commissioner Marshall Faircloth  
Commissioner Larry Lancaster

OTHERS PRESENT: Amy Cannon, County Manager  
Sally Shutt, Assistant County Manager  
Melissa Cardinali, Assistant County Manager  
Duane Holder, Assistant County Manager  
Tracy Jackson, Assistant County Manager  
Rick Moorefield, County Attorney  
Jeffery Brown, County Engineer  
AJ Riddle, Assistant County Engineer  
Brenda Jackson, Social Services Director  
Vicki Evans, Finance Director  
Deborah Shaw, Budget Analyst  
Heather Harris, Budget Analyst  
Robert Van Geons, FCEDC  
Tony Brown, Southern CC, Inc.  
Rick Murillo, Southern CC, Inc.  
Candice White, Clerk to the Board  
Kellie Beam, Deputy Clerk to the Board  
Press

Commissioner Glenn Adams called the meeting to order.

### 1. APPROVAL OF MINUTES – JUNE 7, 2018 REGULAR MEETING

1

*All references to any materials which are described in these minutes or incorporated into these minutes are to the materials that are contained in the same numbered item in the agenda for this meeting. These may be viewed online in the agenda set out on this webpage*

<http://co.cumberland.nc.us/departments/commissioners-group/commissioners/committee-agendas-and-minutes>

## DRAFT

MOTION: Commissioner Council moved to approve the June 7, 2018 meeting minutes as presented.  
SECOND: Commissioner Adams  
VOTE: UNANIMOUS (2-0)

### 2. CONSIDERATION OF REQUEST FROM FAYETTEVILLE-CUMBERLAND PARKS AND RECREATION ADVISORY BOARD TO RENAME THE GRAYS CREEK RECREATION FACILITIES

#### BACKGROUND:

The Fayetteville-Cumberland Parks and Recreation Advisory Board has successfully submitted paperwork and supporting documentation, as required by the Cumberland County Facility Naming Policy, to rename the facilities at Gray's Creek Recreation Park in honor of Mr. John Dove ("J.D.") Pone. Please find attached the aforementioned documents with this memo along with the policy requirements and a checklist of the requirements that were met.

#### RECOMMENDATION/PROPOSED ACTION:

Staff recommends approval to move this forward to the full Board of Commissioners as an Item of Business at the August 20, 2018 regular meeting.

\*\*\*\*\*

Tracy Jackson, Assistant County Manager, reviewed the background information and recommendation as recorded above.

MOTION: Commissioner Council moved to recommend to the full board approval of the consideration from the Fayetteville-Cumberland Parks and Recreation Advisory Board to rename the Gray's Creek Recreation Facilities and forward this item to the full Board of Commissioners as an Item of Business at the August 20, 2018 regular meeting.  
SECOND: Commissioner Adams  
VOTE: UNANIMOUS (2-0)

### 3. CONSIDERATION OF MEMORIAL PARKING MARKERS

#### BACKGROUND:



## DRAFT

A local military veteran, Mr. Rick Murillo, with the support of a non-profit group, Southern CC, Inc. (please see attached information), has developed a program utilizing parking space signage that serves as a memorial marker for military veterans and first responders that have died in the line of duty. Mr. Murillo is requesting the opportunity to place markers in various County parking lots. Attached are photos of markers that are in place at area businesses and venues in Cumberland County. Southern CC and Mr. Murillo would pay for the creation of each marker and install the signage on a post installed by the County Sign Shop. The only cost to the County would be the installation of the post for each sign. Engineering and Infrastructure would work with Mr. Murillo to determine the proper location, placement, and quantity of signs allowed at any County facility.

### RECOMMENDATION/PROPOSED ACTION:

Staff recommends approval to move this request forward to the full Board of Commissioners as a consent item at the August 6, 2018 regular meeting.

\*\*\*\*\*

Mr. Jackson reviewed the background information and recommendation as recorded above. Commissioner Adams stated he saw the ceremony at the Carolina Ale House regarding the memorial markers and he is in support of this item.

Commissioner Faircloth asked if the parking spots would be for any veteran and Mr. Murillo responded the parking spots will be for any veteran or first responder regardless of what unit they may have been in. Commissioner Faircloth stated that some veterans may not know they can park in the parking spot when it is dedicated to a certain unit. Commissioner Adams asked if something could be put below the logo on the parking sign that indicates the parking spot is for all veterans. Mr. Jackson stated the County would have to work with Mr. Murillo as far as any adjustment to the parking sign.

MOTION: Commissioner Council moved to recommend to the full board approval of the consideration of memorial parking markers and forward this item to the full Board of Commissioners as a consent item at the August 6, 2018 regular meeting.

SECOND: Commissioner Adams

VOTE: UNANIMOUS (2-0)

#### 4. CONSIDERATION OF LEASE AGREEMENT RENEWAL FOR THE JERNIGAN SOLID WASTE CONTAINER SITE

### BACKGROUND:

## DRAFT

The Solid Waste Department operates the Jernigan Container site located at 9221 Giles Road, Linden, N.C. Cumberland County leases the property for this site from CES, L.L.C. This container site has been in operation for over thirty-five years at the same location and it is critical that this site remain open in order to provide the necessary service to the citizens within the surrounding community. The current lease agreement is set to expire on August 12, 2018.

The property owner has agreed to renew the lease with Cumberland County for an additional five years with the same terms as the existing lease (attached for your convenience). The current lease amount is \$4,000 for the full five-year lease agreement which is to be paid promptly after the execution of the lease agreement.

### RECOMMENDATION/PROPOSED ACTION:

The Interim Solid Waste Director along with County Management recommend that the Facilities Committee approve the lease renewal and forward it to the Board of Commissioners for its consideration at their August 6, 2018 meeting.

\*\*\*\*\*

Jeffery Brown, Engineering & Infrastructure Director, reviewed the background information and recommendation as recorded above.

MOTION: Commissioner Council moved to recommend to the full board approval of the lease agreement renewal for the Jernigan Solid Waste Container Site and forward this item to the Board of Commissioners for consideration at the August 6, 2018 meeting.

SECOND: Commissioner Adams

VOTE: UNANIMOUS (2-0)

## 5. COMMUNITY RATING SYSTEM ANNUAL REPORT

### BACKGROUND:

Cumberland County participates within the National Flood Insurance Program's (NFIP) Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. The County's participation allows those that are required to have flood insurance to receive discounted insurance premium rates. Cumberland County currently has a class rating of 8 which allows property owners to receive a 10% discount off their insurance premiums for policies within the Special Flood Hazard Area (SFHA).



## DRAFT

As part of the County's annual recertification process, our Department is required to provide an update on each action item related to floodplain management outlined within the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan. Another requirement is that this progress report be presented to the governing board. The progress report is being provided as an attachment to this memo.

### RECOMMENDATION/PROPOSED ACTION:

The Facilities Committee is not being asked to take action. The purpose of this item is to provide the Committee the progress report as required by NFIP for the County's annual recertification for the Community Rating System.

\*\*\*\*\*

Mr. Brown reviewed the background information and recommendation as recorded above. Mr. Brown stated Spring Lake and Hope Mills have their own program.

No action taken. This item is for information purposes only.

## 6. CONSIDERATION OF CONTRACTS

### A. EXTERIOR BUILDING REPAIRS FOR MULTIPLE COUNTY FACILITIES

#### BACKGROUND:

The Historic Courthouse, Headquarters Library and Hope Mills Library were identified for exterior repairs including shingle replacement, exterior insulation and finish systems (EIFS) repairs, vertical repairs, lintel repair and stair repairs. These repairs were included in the capital improvement installment financing plan that was approved by the Local Government Commission (LGC) on September 12, 2017.

A pre-bid meeting was held on June 7, 2018. Informal bids were received on June 21, 2018 for the proposed roof and exterior wall repairs. The certified bid tab along with letter of recommendation from Fleming & Associates, PA, the project engineer, have been attached. The lowest, responsible and responsive bid was submitted by Jacobs Construction and Home Improvements in the amount of \$226,080. A \$15,000 owner's allowance is included within the bid amount for any additional work that may be needed.

#### RECOMMENDATION/PROPOSED ACTION:

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendation and forward it to the Board of Commissioners for its approval at their August 6, 2018 meeting and take the following action:

## DRAFT

- Accept the bids for the exterior building repairs to multiple County facilities and approve a contract with Jacobs Construction & Home Improvements in the amount of \$226,080.

\*\*\*\*\*

Mr. Brown reviewed the background information and recommendation as recorded above.

MOTION: Commissioner Council moved to recommend to the full board approval to accept the bids for the exterior building repairs to multiple County facilities and approve a contract with Jacobs Construction & Home Improvements in the amount of \$226,080 and forward this item to the Board of Commissioners August 6, 2018 meeting.

SECOND: Commissioner Adams

VOTE: UNANIMOUS (2-0)

### B. STREAM DEBRIS REMOVAL FROM WATERWAYS WITHIN THE COUNTY

#### BACKGROUND:

Cumberland County was awarded funding through the North Carolina Department of Agriculture and Consumer Services – Division of Soil and Water Conservation in the amount of \$1,219,408. The County identified specific waterways prior to applying for the grant funding. These waterways are South River, Sandy Creek and Locks Creek.

A pre-bid meeting was held on July 23, 2018, in which specialty contractors were invited to attend. Bids are scheduled to be received on August 1, 2018 for the proposed stream debris removal. The received bids will be presented to the Facilities Committee at the August 2, 2018 meeting for consideration to award a contract to the lowest, responsible and responsive bidder.

#### RECOMMENDATION/PROPOSED ACTION:

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendation and forward it to the Board of Commissioners for its consideration at their August 6, 2018 meeting:

- Accept the bids for stream debris removal from waterways within the County and approve a contract with the lowest, responsible and responsive bidder.

\*\*\*\*\*

Mr. Brown reviewed the background information and recommendation as recorded above.



## DRAFT

MOTION: Commissioner Council moved to recommend to the full board approval to accept the bids for stream debris removal from waterways within the County and approve a contract with Halls Tree Service in the amount of \$912,381 and forward this item to the Board of Commissioners August 6, 2018 meeting.

SECOND: Commissioner Adams

VOTE: UNANIMOUS (2-0)

### 7. CONSIDERATION OF GRANTS OF EASEMENTS TO SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION IN CEDAR CREEK INDUSTRIAL PARK

#### BACKGROUND:

South River Electric Membership Corporation has requested the County to grant it the six easements that are attached for the distribution of electric power in the Cedar Creek Industrial Park. The county attorney has verified that each of the easements is located on county-owned property. Each easement appears to be in the form of a standard easement used by power companies.

#### RECOMMENDATION/PROPOSED ACTION:

County Attorney recommends approval of the easements.

\*\*\*\*\*

Rick Moorefield, County Attorney, reviewed the background information and recommendation as recorded above.

Commissioner Adams asked if PWC was in this area of just South River Electric and Mr. Moorefield responded only South River Electric is available at the Cedar Creek Industrial Park. Mr. Moorefield stated South River Electric is also asking the County to donate a 1-acre parcel to put a substation on and South River Electric will not survey the property. Mr. Moorefield further stated legally he cannot draw a deed for this property without a survey being done. Mr. Moorefield asked the committee if they would approve the County pay for a survey on the piece of land being donated to South River Electric. Commissioner Adams stated this property is in the County's Industrial Park and it would benefit economic development. Ms. Cannon stated this is a part of South River Electric putting three phase power in the park for the Campbell project and without this there is no project. Ms. Cannon further stated as a part of South River Electric not charging the County for the three-phase power was the County donating the one-acre piece of land to South River Electric. The consensus of the Facilities Committee was for the County to provide the survey of the 1-



## DRAFT

acre piece of land for South River Electric to proceed with the three-phase power in the park.

MOTION: Commissioner Council moved to recommend to the full board approval of the grants of easements to South River Electric Membership Corporation in Cedar Creek Industrial Park and for the County to provide the survey of the one-acre piece of land that will be donated to South River Electric and forward this item to the Board of Commissioners August 6, 2018 meeting.

SECOND: Commissioner Adams

VOTE: UNANIMOUS (2-0)

### 8. MONTHLY PROJECT UPDATES

Mr. Brown reviewed the attached monthly progress report which includes projects that are currently being worked on by the County.

### 9. OTHER ITEMS OF BUSINESS

There were no other items of business.

MEETING ADJOURNED AT 10:41 AM.



ITEM NO. 2

**CUMBERLAND**  
**COUNTY**  
NORTH CAROLINA

**ENGINEERING & INFRASTRUCTURE DEPARTMENT**

Engineering Division · Facilities Management Division · Landscaping & Grounds Division · Public Utilities Division

**MEMO FOR THE AGENDA OF THE  
SEPTEMBER 6, 2018 MEETING OF THE FACILITIES COMMITTEE**

**TO: FACILITIES COMMITTEE MEMBERS**  
**FROM: JEFFERY P. BROWN, PE, E & I DIRECTOR**  
**THROUGH: AMY CANNON COUNTY MANAGER**  
**DATE: AUGUST 30, 2018**  
**SUBJECT: PRESENTATION OF FINAL REPORT ON  
PERFORMANCE CONTRACT WITH JOHNSON  
CONTROLS**  
**Requested by: AMY CANNON, COUNTY MANAGER**  
**Presenter(s): JEFFERY P. BROWN, PE, E & I DIRECTOR**  
**Estimate of Committee Time Needed: 10 MINUTES**

**BACKGROUND:**

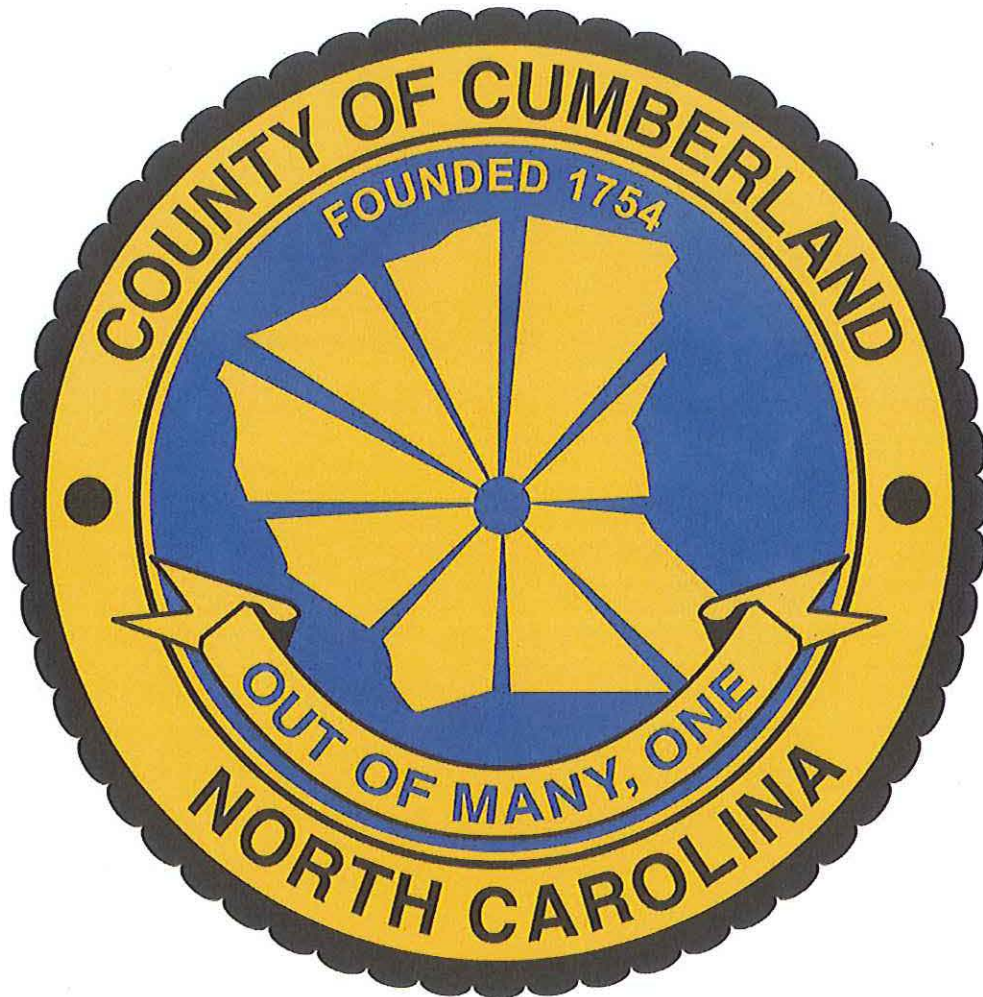
Cumberland County entered into a guaranteed energy savings contract with Johnson Controls, Inc (JCI) in December 2004. There were specific projects identified by JCI that the County would complete and JCI would guarantee an energy savings of a specific amount over a twelve-year period after all the projects had been completed. The twelve-year period began in 2006 and ended earlier this year. The final findings will be presented to the Facilities Committee along with some future opportunities that the County could pursue for energy savings.

**RECOMMENDATION/PROPOSED ACTION:**

The purpose of this item is to present the Facilities Committee the final report on the guaranteed energy savings contract and to gauge the Committee's interest in pursuing future opportunities for energy savings.



PERFORMANCE CONTRACTING VALUE REPORT for  
CUMBERLAND COUNTY GOVERNMENT, NC  
YEAR TWELVE  
FINAL REPORT



---

PRESENTED BY:



INGENUITY WELCOME

December 12, 2017



## **Supporting Your Mission**

Since Johnson Controls became your strategic partner in December of 2004, it has been our charge to help you fulfill your mission:

### **Cumberland County Government Mission**

To provide quality service to our citizens while being fiscally responsible.

### **Cumberland County Government Vision**

To grow as a regional destination for employment, economic development, commerce and cultural pursuits.

Johnson Controls has worked diligently to exceed your expectations by creating value-added solutions that will improve your business and working environments. For Cumberland County Government this innovative contracting approach funded the replacement of numerous obsolete heating, ventilating, and air conditioning (HVAC) systems, outdated lighting components and certain water fixtures with highly efficient HVAC equipment, energy efficient lighting and water saving systems. These changes have resulted in the Twelfth year performance of \$ 725,133.



## Savings Analysis Summary Phase I & II

### Cumberland County Government Dollar Avoidance

	Year 11	Year 12
Non-measured Savings	\$ 22,628	\$ 23,080
Electric	\$ 724,737	\$ 655,777
Water & Sewer	\$ 20,285	\$ 22,412
Gas	\$ 22,412	\$ 23,052
Propane	\$ <u>784</u>	\$ <u>812</u>
Total	\$ 790,846	\$ 725,133

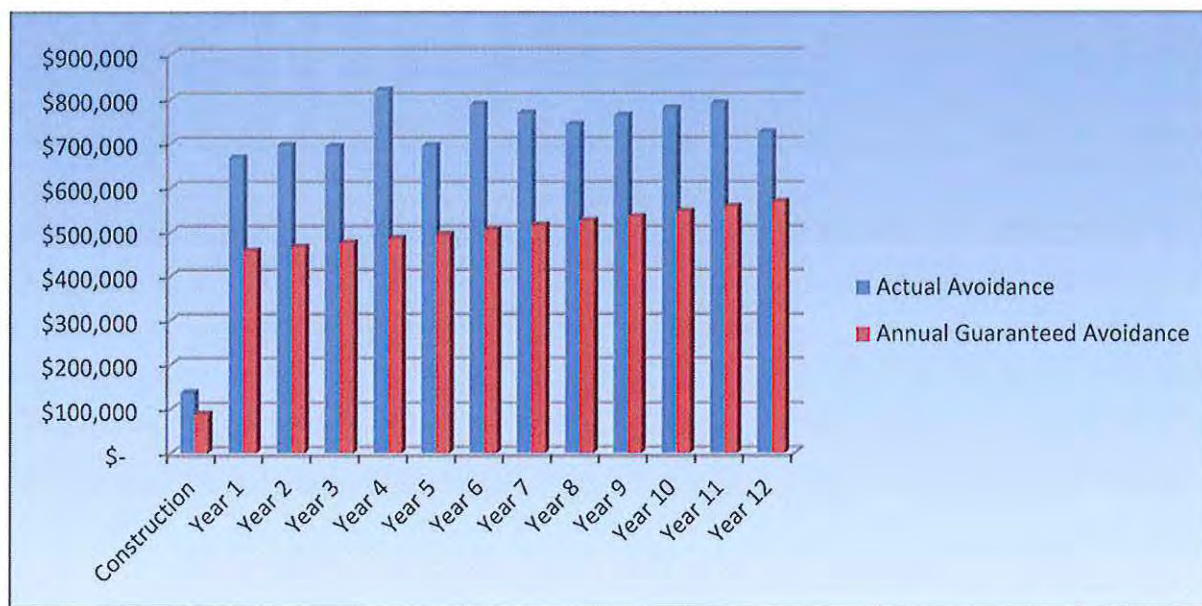
### Energy Avoidance in Units

	Year 11	Year 12
Electric - Consumption	10,808,440 Kwh	9,368,242 Kwh
- Demand	8,988 kW	7,655 kW
Water & Sewer	2,208 Kgal	2,441 Kgal
Natural Gas	12,421 Therms	12,421 Therms
Propane	608 Gallons	634 Gallon

## Summary of Results

When Johnson Controls and Cumberland County formed our partnership, we agreed on specific objectives by which to measure our performance on your behalf. The table below summarizes the results we have delivered:

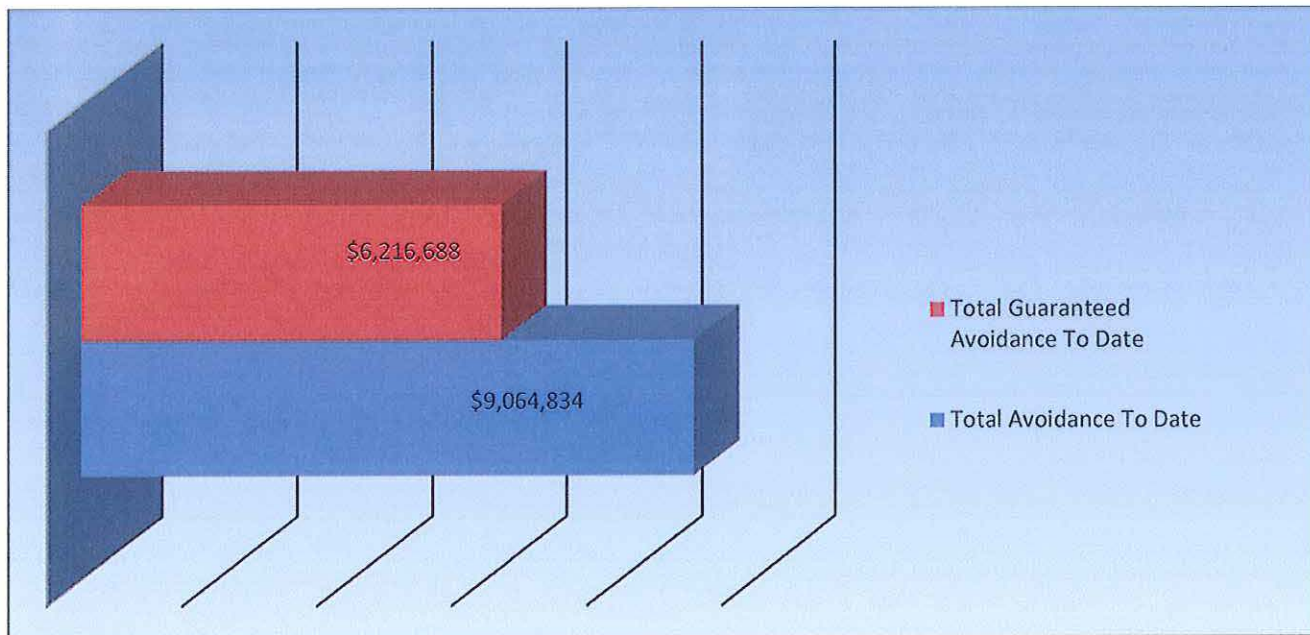
**Project** Cumberland Co Government  
**Total Project Target or Guarantee:** \$6,216,888 over 12 years.



Notes: Over the last couple of years, Johnson Controls has noticed degradation of equipment and tenant complacency is contributing to a reduction in savings.



## Avoidance to Date for Cumberland County



Note: Project exceeded the total guaranteed avoidance by \$2,848,146.

## Other Benefits

We invest the dollars you entrust to us mainly toward the key objectives outlined above, however; along the way, we have helped you in other meaningful ways. Some of these include:

### Community Benefit:

The electrical and gas energy avoidance for this year equates to **9157 Tons** of CO<sub>2</sub> greenhouse gas emissions that were not produced. Cumberland County over the term of the contract has reduced emissions by **93,714 Tons**.

Type of Pollution	Amount of Reduction per Year
Greenhouse Gases (CO <sub>2</sub> )	38,613,556 Pounds
Nitrogen Oxides (NO <sub>x</sub> )	918 Pounds
Sulfur Dioxide (SO <sub>2</sub> )	642 Pounds
<b>Toxic Metals Pollution</b>	<b>Amount of Reduction per Year</b>
Mercury (Hg)	0.47752572 Milligrams

Note: <http://www.cleanerandgreener.org/resources/emissions-reductions-calculator.html>

Cumberland County has become a cleaner, more comfortable place to visit and work, resulting in high productivity and satisfaction.



## Recommendations for Further Improvement

Johnson Controls will work diligently to discover more ways to help make progress toward your key energy efficiency objectives. Some of our services include:

- Continue performing quarterly audit's both onsite and remotely
- Continue to monitor building schedules and set points (Johnson Controls suggest updating schedules on a quarterly basis)
- Continue to update Facility Dude energy module, a critical component to Cumberland County's energy management program.
- Evaluate potential for a Phase III Energy Performance Contract.

## Future Objectives

- Continue the verification of building automated systems network to increase the integrity and reliability of system performance and energy savings.
- Proactive design review/analysis of upcoming projects based upon operation and energy management savings.
- Continue the updating of Facility Dude Inventory and service management system.
- Due to recent utility rate increases, we suggest moving forward with a Phase III project.

## Thank You

We value your business. This goal was exceeded by the joint efforts of the engineering and maintenance staff of Cumberland County. It has been and will remain our privilege to work in partnership with Cumberland County Government.

## Appendix

### Calculation Methodology Phase I & II

#### IPMVP Option C

Option C involves use of utility meters or whole building sub-meters to assess the energy performance of a total building. Option C assesses the impact of any type of ECM, but not individually if more than one is applied to an energy meter. This option determines the collective savings of all ECM's applied to the part of the facility monitored by the energy meter. Also, since whole building meters are used, savings reported under Option C include the impact of any other change made in facility energy use (positive or negative).

Energy cost avoidance is calculated using the utility bill analysis method. This method compares the utility bill energy consumption during a pre-retrofit baseline period with the utility bill energy consumption post-retrofit. Adjustments are made to the baseline utility consumption for changes in weather, hours of operation, square footage, and miscellaneous equipment consumption before comparing to the current utility usage.

Cost savings are calculated by multiplying the energy consumption savings by the energy costs per unit of energy documented in the contract. Energy unit costs are the actual utility rate schedule costs per unit of energy that are current when the contract is signed. These costs are escalated at an assumed XX% increase per year based on historical energy cost escalation.

The tool utilized for calculations is Metrix; developed by SRC Systems, Inc. Metrix has been used by energy service companies for over a decade to calculate savings from their performance contracts. Hundreds of millions in performance contract guarantees are measured using Metrix. Metrix analyzes utility data using a regression analysis to create a baseline from historical energy utility bills.

$$kWh_{Baseline} = \left( kWh/Day * Number \text{ of Days} \right) + \left( kWh/DD * Degree \text{ Days} \right)$$

Where:

KWh/day	=	Base load energy usage per Day
Billing Period	=	Length of utility billing period in Days
kWh/DD	=	Weather sensitive energy usage per Degree Day
Degree Days	=	Either Heating or Cooling Degree Days

#### Degree-Days

The heating and cooling degree-days is calculated by averaging that day's highest and lowest temperatures, then subtracting that result from the balance point (nominally 65°F). Cooling degree-days are derived in much the same way, the only exception being that the difference is added to 65°F.

$$DD = \sum (Balance \text{ Point} - Avg \text{ Daily Temp})$$





# Cumberland County, North Carolina Energy Services Contract

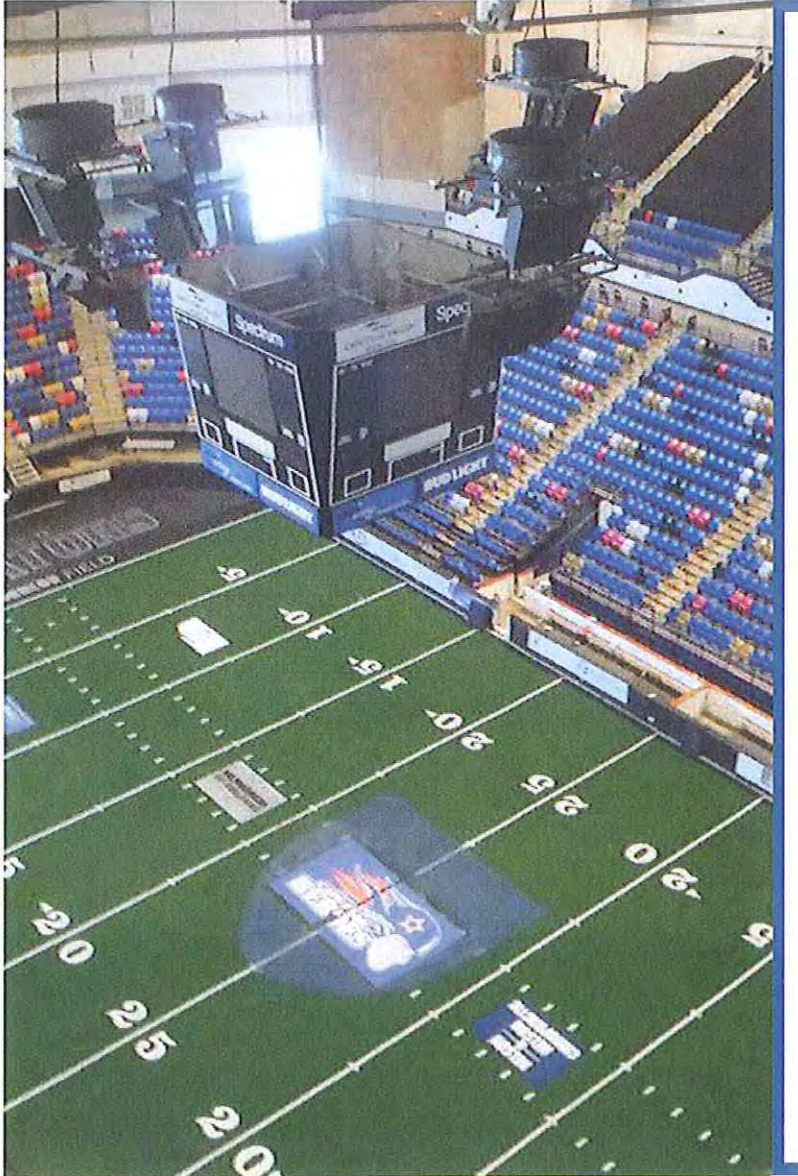
September 6, 2018



Johnson Controls







## ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC)

"The use of GUARANTEED savings from the maintenance and operations budgets (Utilities) as capital to make needed upgrades and modernizations financed over a specified period of time."

- *US Department of Energy*

## PERFORMANCE CONTRACTING

- ✓ Financial Mechanism
- ✓ Alternative Procurement
- ✓ Construction Delivery Method
- ✓ Guaranteed Financial and Performance Outcomes

## Agenda

---

- Discuss Project Goals / Objectives
- Cumberland County Project History / Final Report
- Utility Discussion
- Initial Findings / Potential Opportunities
- Project Potential
- Questions / Discussion
- Next Steps

## Validate Goals/Objectives

---

- Upgrade Facilities Infrastructure
- Identify Funding Sources to Replace Aging Equipment
- Lower Energy Consumption and Demand to Minimize Effect of Impending Rate Increases
- Lower Operational Costs
- Address Deferred Maintenance
- Budget Neutral
- Comprehensive and Consistent Approach
- Environmental Stewardship



## Cumberland County Project History

---

### Phase One

Since Johnson Controls became your strategic partner in December of 2004, it has been our charge to help you fulfill your mission:

*To provide quality service to our citizens while being fiscally responsible.*

For Cumberland County Government this innovative contracting approach funded the Phase I replacement of numerous obsolete heating, ventilating air conditioning systems, computerized maintenance management system, outdated lighting components, and high flow water fixtures.

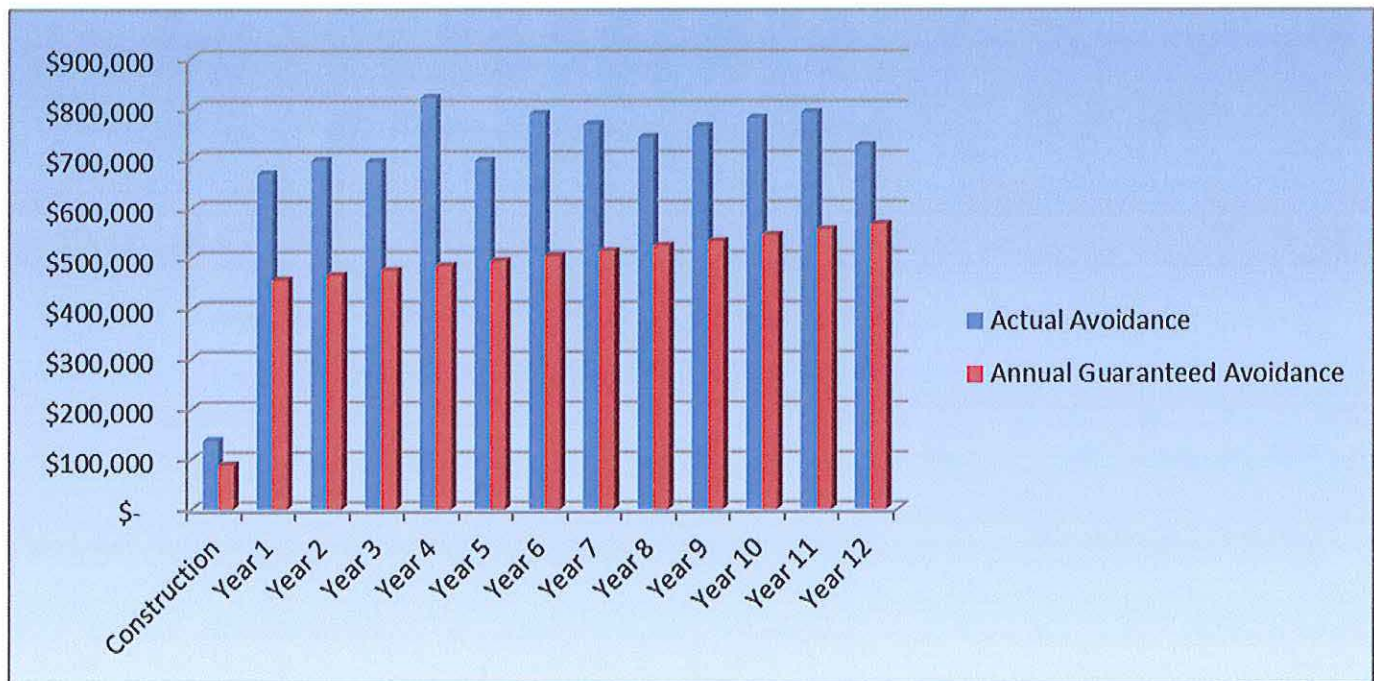
Additionally, JCI has provided a Performance Engineer for financial validation and facility and energy consulting.

### Phase Two

Using ARRA stimulus funds, Johnson Controls and Cumberland County worked together to engineer the Phase II project in 2009 which included lighting, mechanical, and controls upgrades that were not feasible during Phase I.

## Summary of Annual Results for Phase I and II

*Total Project Guarantee: \$6,216,888 over 12 years*

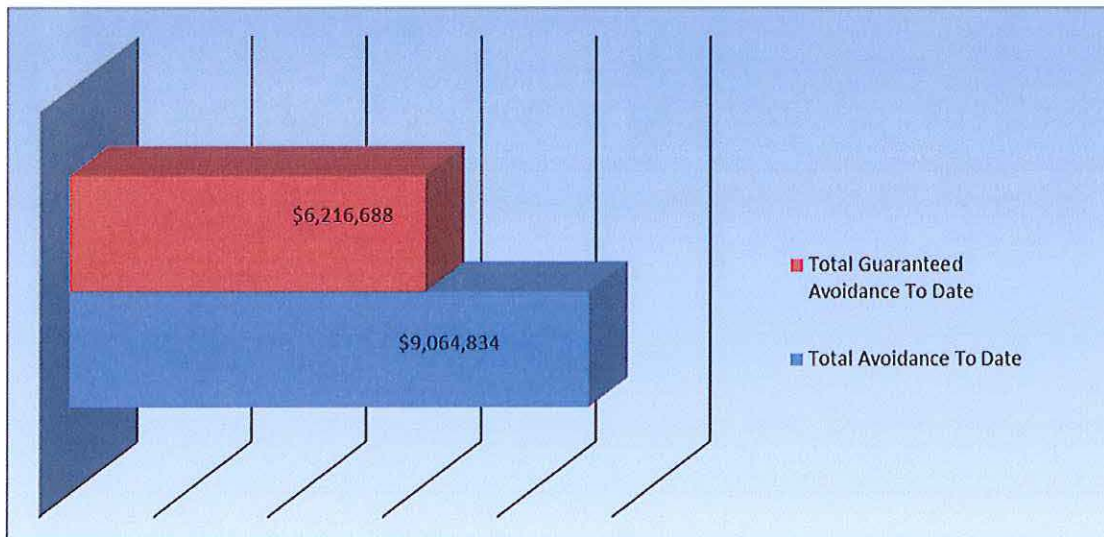


Notes:

1. Over the last couple of years, Johnson Controls has noticed degradation of equipment and tenant complacency is contributing to reductions in savings.
2. IPMVP Option C was utilized to calculate Annual Guaranteed Avoidance (see report for additional details)

## Performance Contract Final Project Results

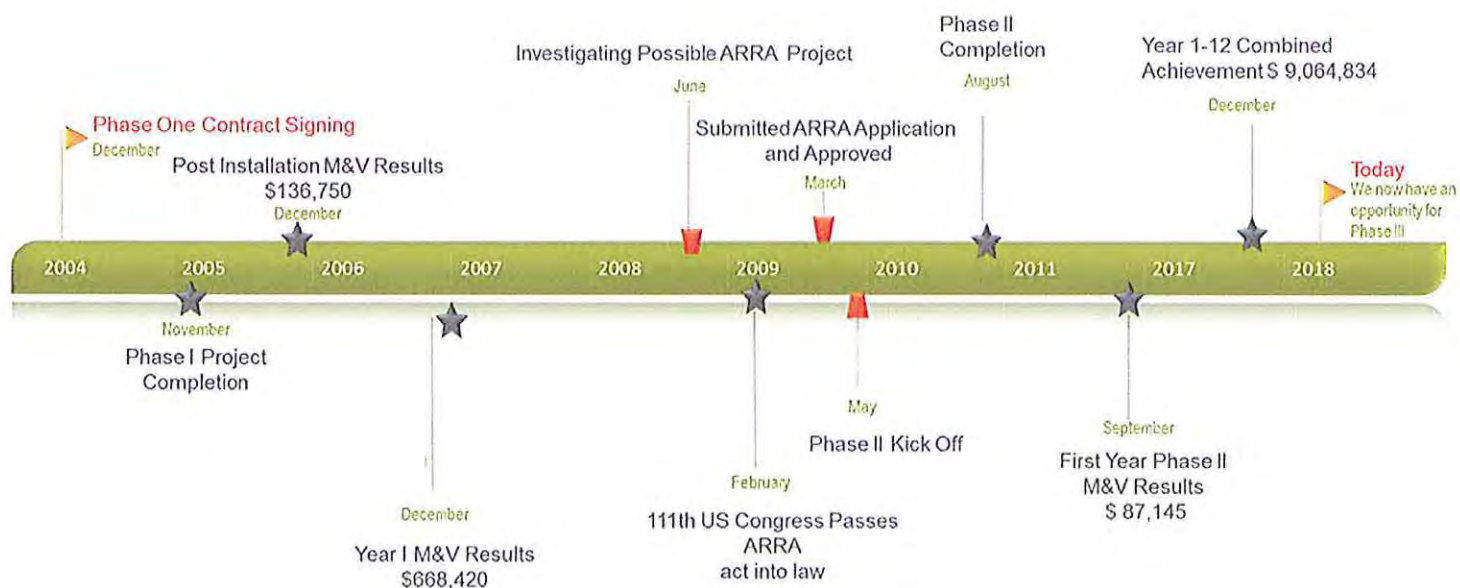
### *Combined Benefits of Phase One and Two*



*Note: Over the 12-year term Cumberland County has exceeded projections by 2.8 million dollars*



## Cumberland County Project Timeline

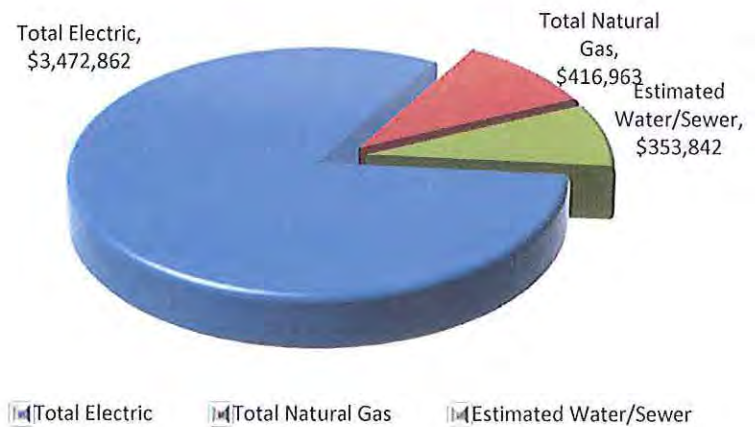


## Utility Summary 2017

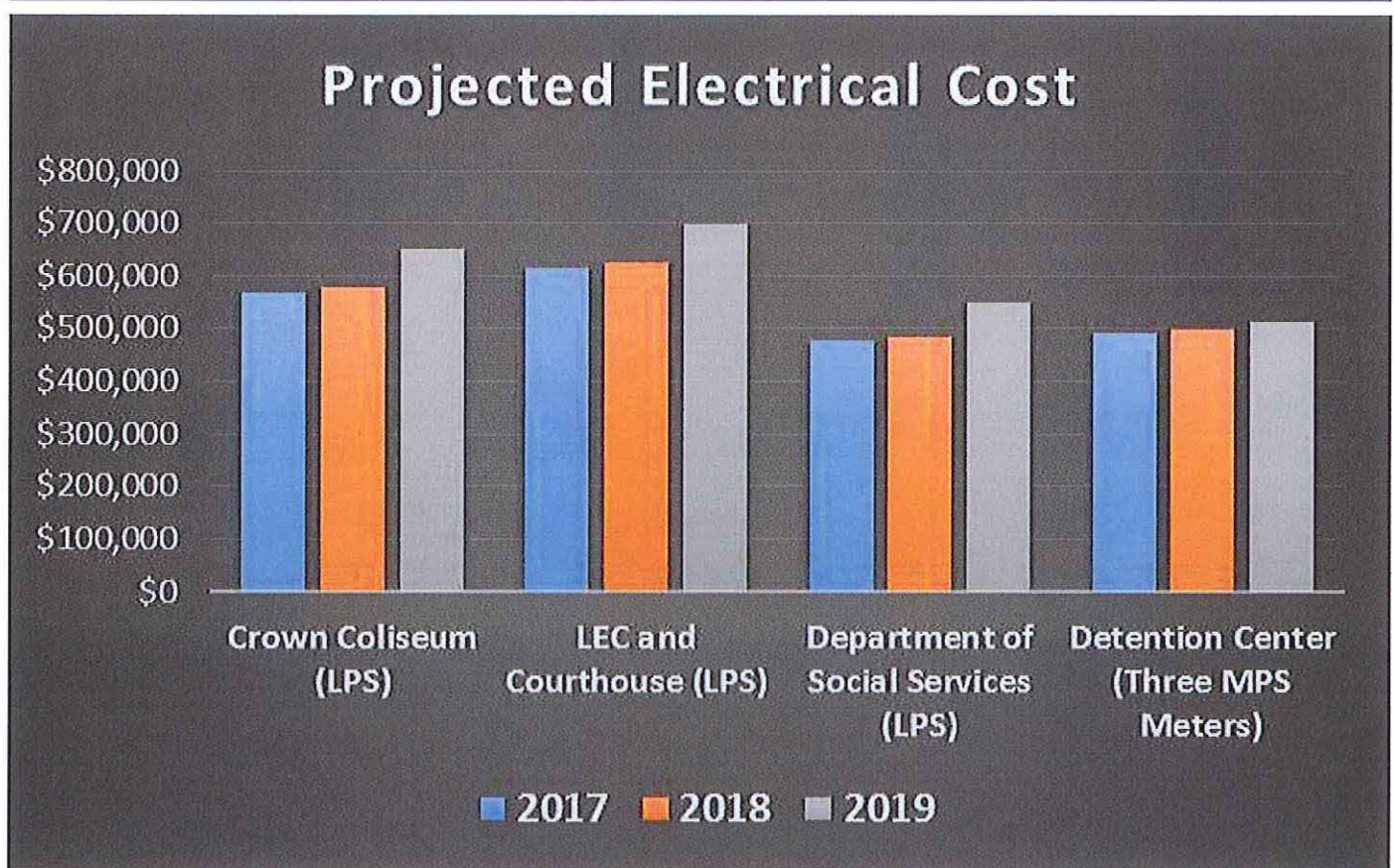
---

Summary	Utility Cost Summary
Total Electric	\$3,472,862
Total Natural Gas	\$416,963
Estimated Water/Sewer	\$353,842
<b>Totals</b>	<b>\$4,243,667</b>

Utility Summary



## PWC Projected Rate Increases





## PWC Projected Rate Increases

### Large Power Service- CP in 2019

	2017	2018	2019
kWh	\$0.0515	\$0.0525	\$0.0520
kW	\$17.00	\$17.25	\$22.11

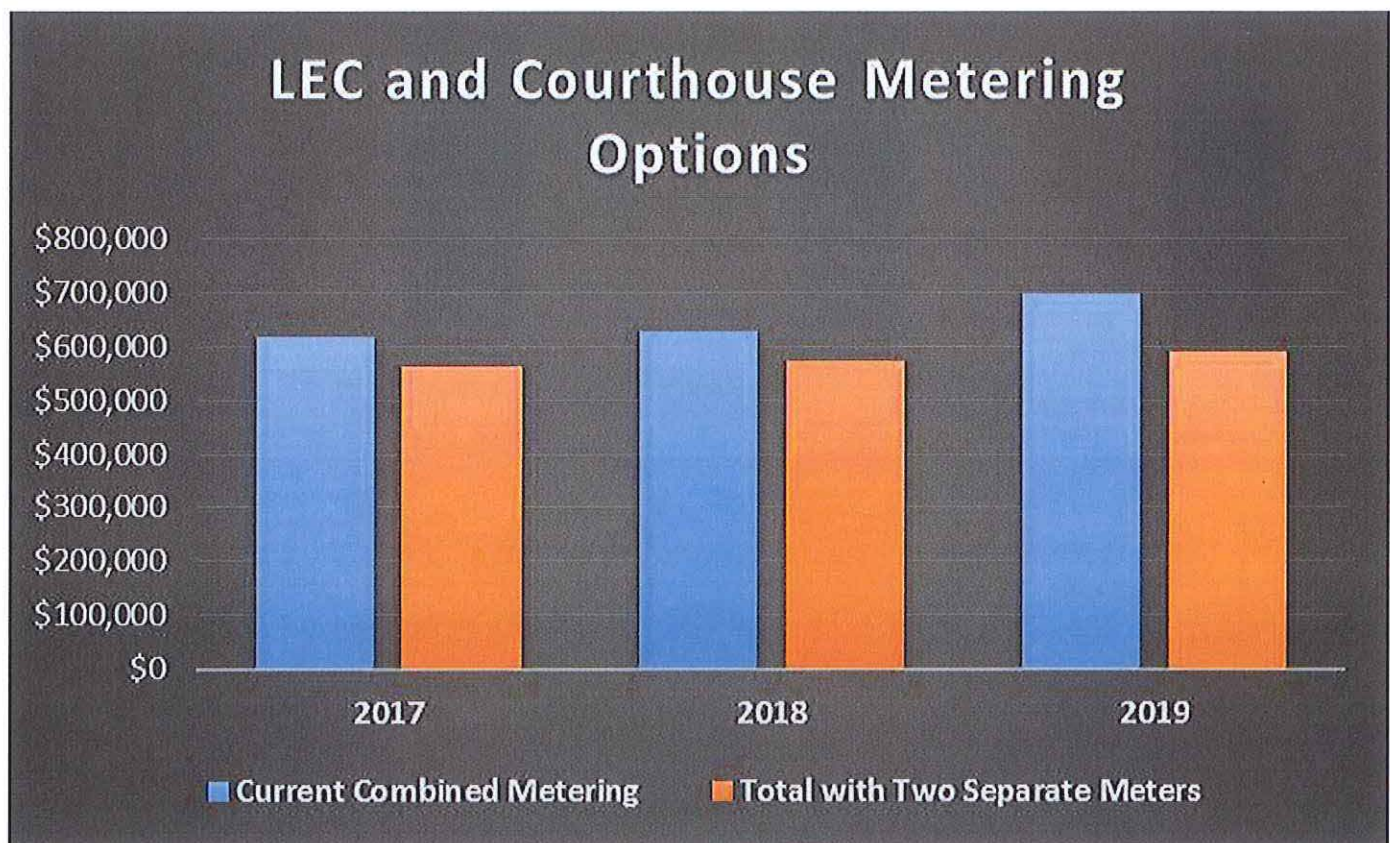
### Medium Power Service

	2017	2018	2019
kWh	\$0.0520	\$0.0520	\$0.0520
kW	\$13.50	\$14.00	\$15.25

Projected Electric Cost by Building	2017	2018	2019	Increase from 2017	Percent Increase	Rate Schedule
Crown Coliseum	\$569,114	\$578,824	\$653,211	\$84,098	14.8%	LPS
LEC and Courthouse	\$617,201	\$627,893	\$698,781	\$81,581	13.2%	LPS
Department of Social Services	\$478,358	\$486,514	\$548,710	\$70,352	14.7%	LPS
Detention Center	\$492,415	\$499,043	\$513,886	\$21,471	4.4%	MPS (Combination of three meters)
<b>Totals</b>	<b>\$2,157,087</b>	<b>\$2,192,273</b>	<b>\$2,414,588</b>	<b>\$257,501</b>	<b>11.9%</b>	

Note: Does not include riders and assumes worst case for Coincidental Peak in 2019.

## PWC Projected Rate Increases



## PWC Projected Rate Increases

---

### Metering Options

- The Law Enforcement Center and the Courthouse are currently served by one meter. With their combined demand of well over 1000 KW, this qualifies them for Large Power Service (LPS)
- These buildings had separate meters but were combined several years ago to take advantage of the more advantageous LPS rate structure at that time
- Cumberland County is currently working with PWC to meter these buildings separately so that each of the buildings could be placed on Medium Power Service (MPS)
- Separating the metering would mean a 8.8% savings in 2018 and a 15.3% Savings in 2019

LEC and Courthouse Metering Options	2017	2018	2019
Current Combined Metering	\$617,201	\$627,893	\$698,781
Total with Two Separate Meters	\$564,350	\$572,477	\$591,641
<b>Difference</b>	<b>\$52,850</b>	<b>\$55,416</b>	<b>\$107,141</b>

Note: Does not include riders and assumes worst case for Coincidental Peak in 2019.



## Potential Demand Management Solution

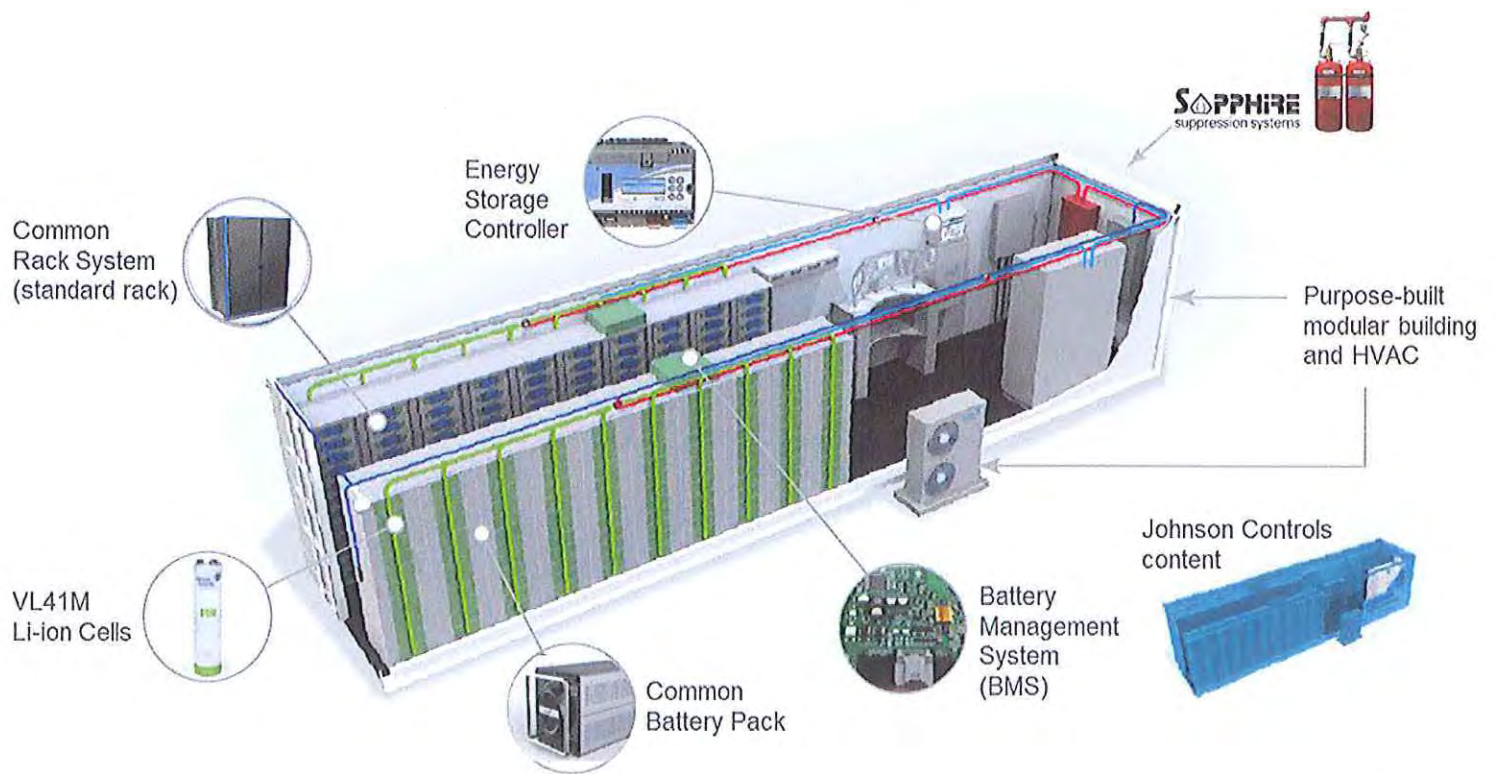
Containerized battery storage solutions scale up to deliver economical, reliable performance



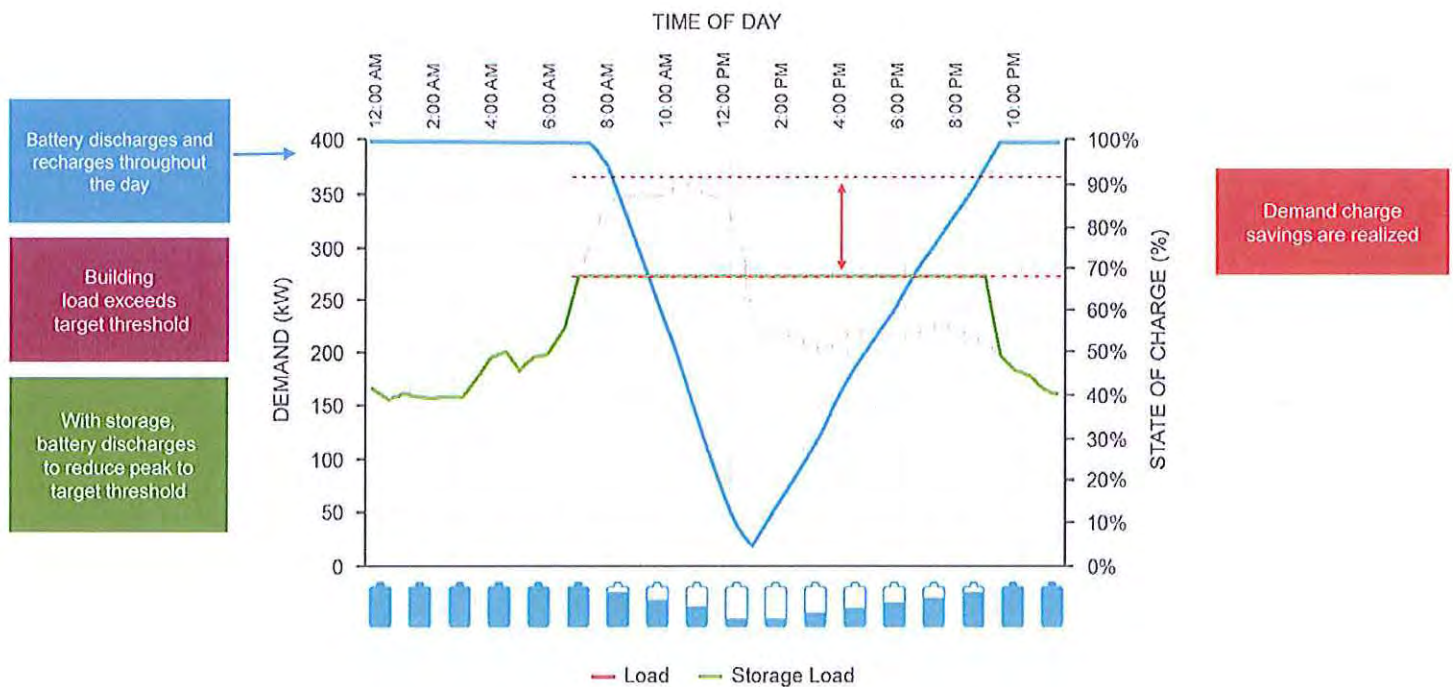
L2000 Modular Distributed Energy Storage (DES) System

- Modular capacity in 500kWh increments – up to 5MWh in 45' container
- Remote and local real-time monitoring and control
- Life up to 20 years, based on application
- Utility and building compatible

## Johnson Controls DES Solution Components



## Demand Management – How it Works





## Winning Combination: DES with Solar Photo Voltaic (PV) Power Generation

---

- The combined use of Solar Panels and DES make both more advantageous when combating the imminent Large Power Service Coincidental Peak demand charges which begin in 2019
- The DSS and Crown Coliseum facilities are committed to the Large Power Service rate and would benefit from these systems
- The potential for Demand Response can save an additional 14%
- Other facilities should be evaluated for the economic benefits of Solar PV
- Solar Photo Voltaic rebate for non-profit of \$0.75 per W up to \$75,000



# Facility Improvement Measures – Initial Findings

## County's 5 Primary Facilities



### LAW ENFORCEMENT

- Upgrade Lighting to LED
- Mechanical System Improvements
- Building Control System Upgrade
- Insulate penthouse return air plenums

### COURTHOUSE

- Upgrade Lighting to LED
- Mechanical System Improvements
- Commission and Water Balance

### DETENTION CENTER

- Upgrade Lighting to LED
- Install Electronic Water Control System
- Mechanical System Improvements

### DEPARTMENT OF SOCIAL SERVICES

- Upgrade Lighting to LED
- Mechanical System Improvements
- Building Control System Upgrade

### CROWN COLISEUM

- Upgrade Lighting to LED
- Complete migration to LED
- Mechanical System Improvements
- Implement Facility Scheduling
- Building Control System Upgrade

## LED Lighting Upgrade Opportunity

---

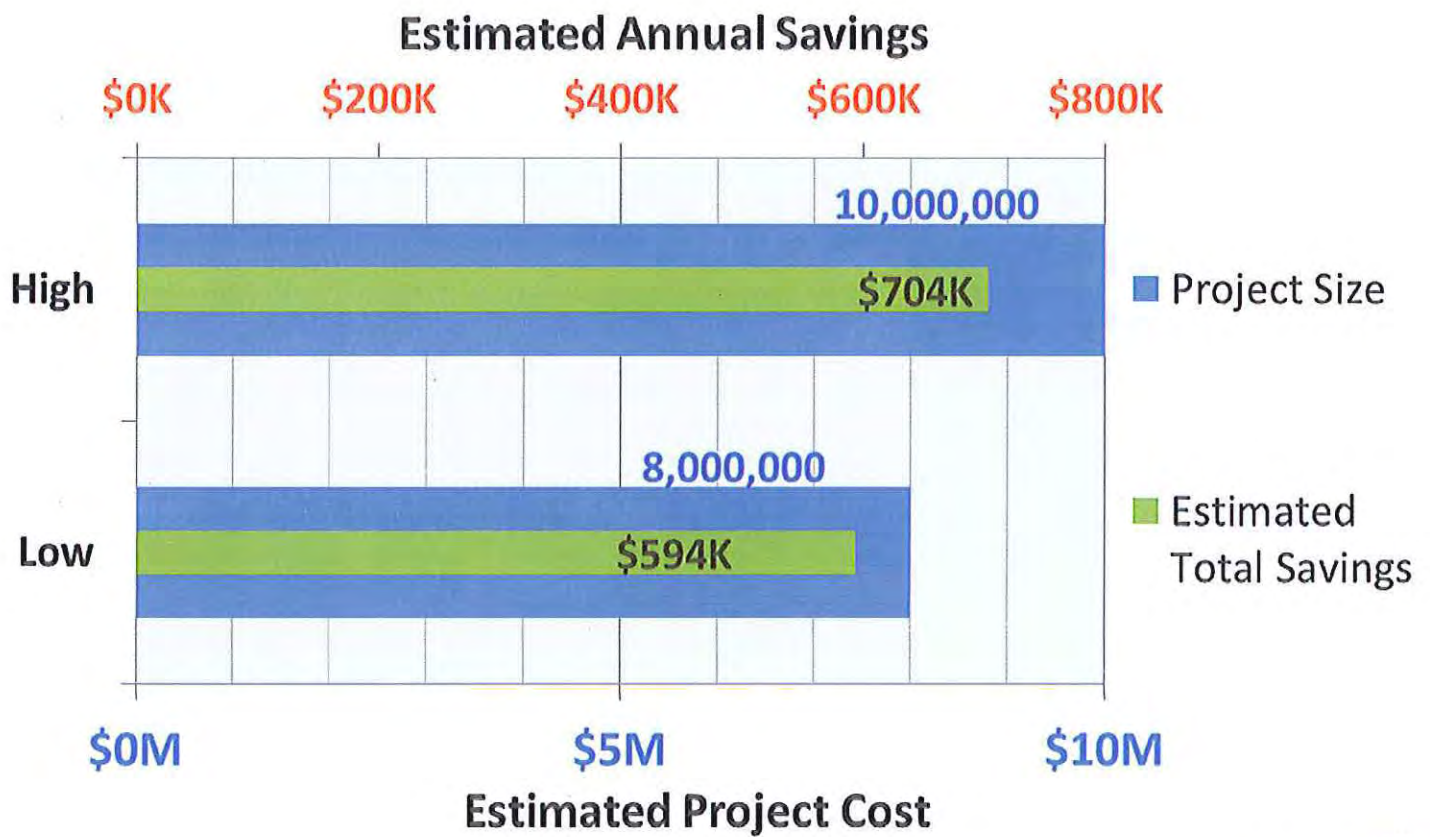
■ **Fluorescent T8 lamps will be replaced with new LED technology T8 tubes retrofit kits, or new fixtures will be installed**

- Long Life – 50,000 to 100,000+ hours.
- Highly efficient with very low wattage consumption.
- Up to 10-year lamp and fixture warranties
- Solid state lighting technology ensures that the fixtures are highly durable.
- Provides a more smooth and “complete color spectrum” light compared to fluorescent fixtures
- Cooler operation resulting in decreased heat generation
- Optimal for areas with security cameras (enhances visual acuity)
- Emit flicker-free light resulting in less headaches and other light-sensitive health concerns
- Lighting embedded controls options

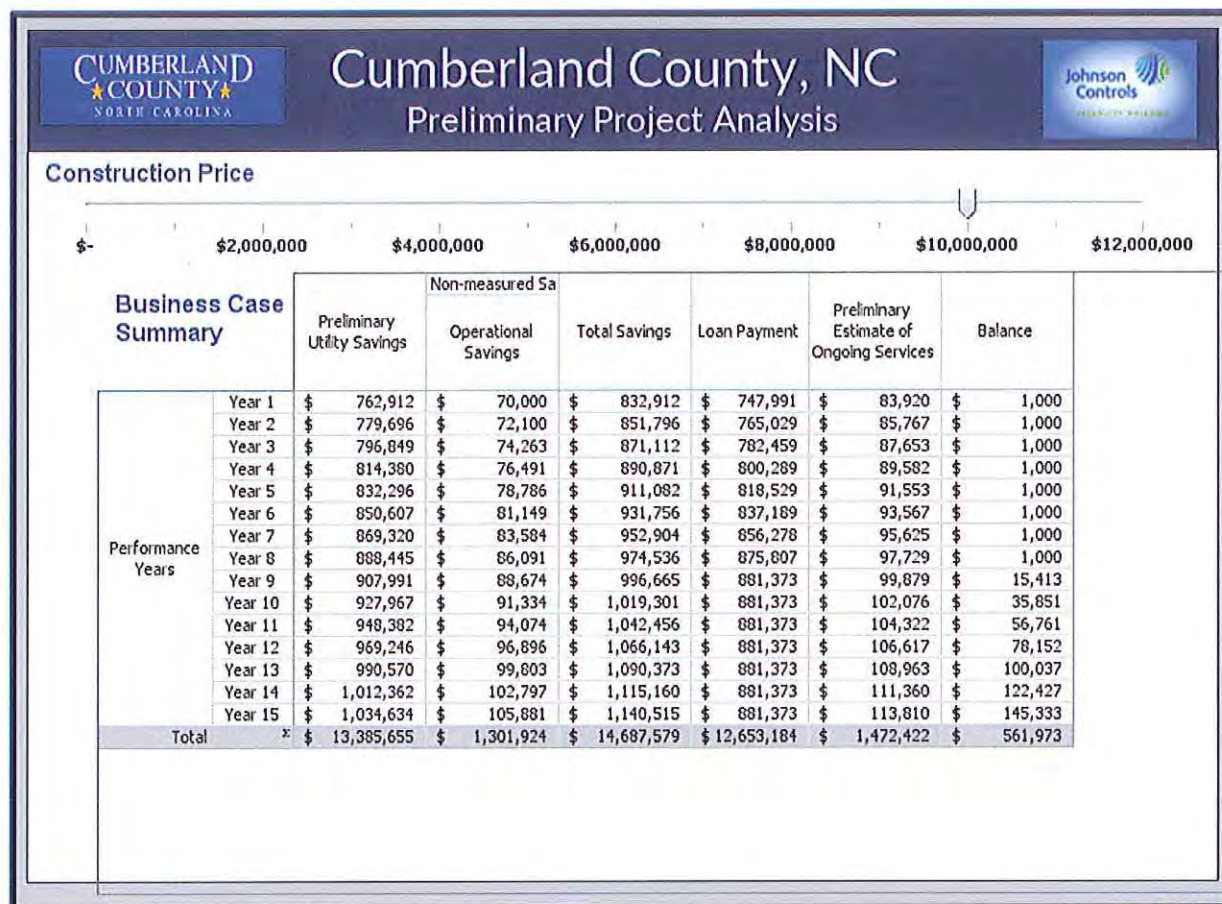




## Opportunity Overview – Project Range



## Opportunity Overview – Mid-Range Project Cash Flow



## Guaranteed Outcomes

---

- 20% - 25% Annual Utility Savings
- Improvements Funded through Utility and Operational Savings over Term
- **Budget Neutral.....Period!**
- Secure Utility Rebates and Applicable Grants
- Guaranteed Results
  - Financial Savings Guarantee
  - Performance Guarantee
  - Price Guarantee (No Change Orders on Scope of Work)



## PC Model vs Traditional Approaches

Financial/Risk Factors	Infrastructure Renewal Contract	Traditional Bid/Spec	Self-Perform
Financial Source	<u>Current Budget</u>	Capital Outlay	Capital Outlay
Savings Guarantee	Yes, generally 5-20 years	No	No
Performance Guarantee	Yes, generally 5-20 years	No	No
Cost Guarantee	Yes, <u>no change orders</u>	No	No
Design Guarantee	Yes	No	No
Equipment Selection	Best efficiency/value	Low Bid	Low Bid
Contractors	Most qualified	Low Bid	Low Bid
Risk	<u>Contractor</u>	Customer	Customer
Project Duration	6-18 months	Capital Dependent	Over extended time

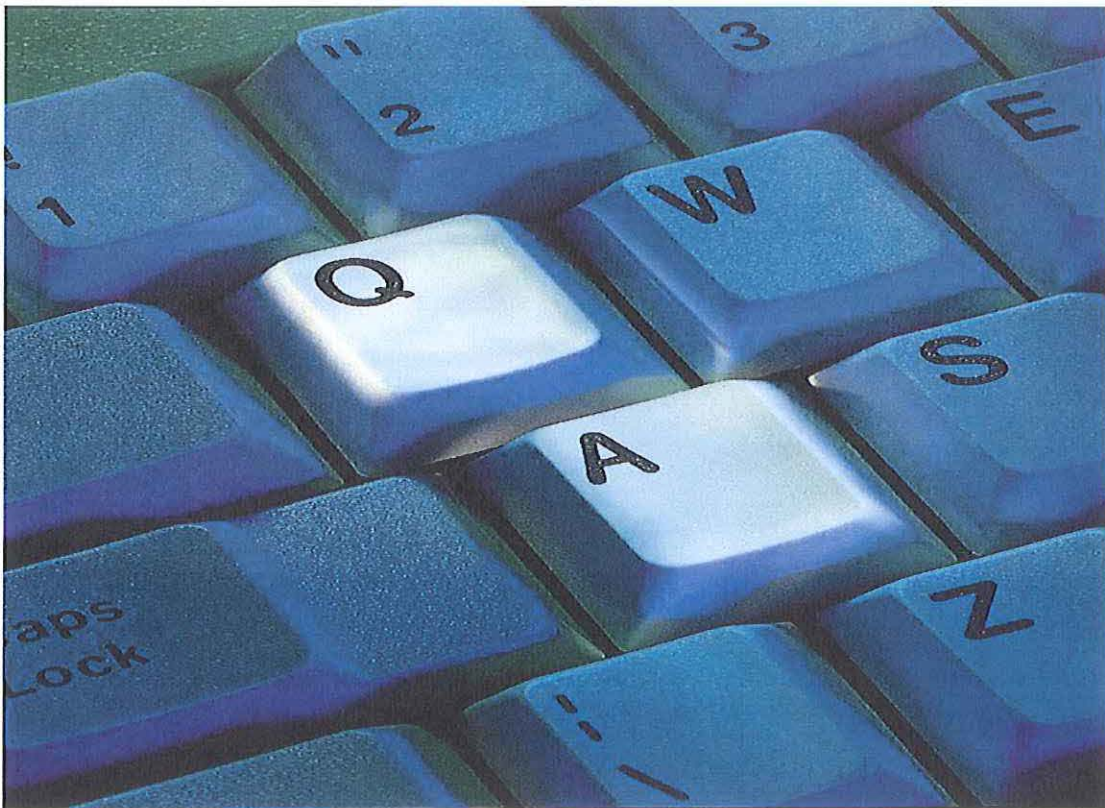
## Finance Options

---

- JCI Structured Finance Team works with the County to develop funding solution
  - Third Party Lease Purchase
  - Direct Lease Purchase w/ Johnson Controls
  - Johnson Controls Contingent Payment Program
- National Partners or Local Banks
- JCI Will Facilitate Competitive Process to Secure Best Financing Solution for the County

# Discussion

---





## Recommended Next Steps

---

- Determine Procurement Process
  - Cooperative Purchasing Agreement
  - Existing Contract Amendment
  - State RFP Process
- Select Energy Services Partner
- Implement Investment Grade Audit Contract
- Final Scope Selection
- Contract Approval
- Project Implementation



ITEM NO. 3

**CUMBERLAND**  
★ **COUNTY** ★  
NORTH CAROLINA

**ENGINEERING & INFRASTRUCTURE DEPARTMENT**

Engineering Division · Facilities Management Division · Landscaping & Grounds Division · Public Utilities Division

**MEMO FOR THE AGENDA OF THE**  
**SEPTEMBER 6, 2018 MEETING OF THE FACILITIES COMMITTEE**

**TO:** FACILITIES COMMITTEE MEMBERS  
**FROM:** JEFFERY P. BROWN, PE, E & I DIRECTOR  
**THROUGH:** AMY CANNON COUNTY MANAGER  
**DATE:** AUGUST 29, 2018  
**SUBJECT:** CONSIDERATION OF PROPOSAL FOR ANN STREET  
LANDFILL GAS COLLECTION SYSTEM EXPANSION

**Requested by:** AMY CANNON, COUNTY MANAGER

**Presenter(s):** JEFFERY P. BROWN, PE, E & I DIRECTOR

**Estimate of Committee Time Needed:** 10 MINUTES

**BACKGROUND:**

The Ann Street Landfill Gas Collection System is currently operating inefficiently. The gas extraction is not performing adequately, which impacts regulatory compliance and the ability of Solid Waste to sell landfill gas. The project includes installation of new landfill gas extraction wells, buried landfill gas piping, sumps, valves, buried air lines, pneumatic pumps and an air compressor and building.

A non-mandatory pre-bid meeting was held on August 8, 2018, in which all specialty contractors were invited to attend. The bid opening was on August 23, 2018. The lowest, responsible and responsive bid was submitted by APTIM in the amount of \$1,032,158.00. A 10% contingency is included in the contract amount.

**RECOMMENDATION/PROPOSED ACTION:**

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendation and forward it to the Board of Commissioners as a Consent Agenda Item for consideration at their September 17<sup>th</sup> meeting:

1. Accept the bids for the landfill gas collection system improvements at the Ann Street Landfill and award a contract to APTIM in the amount of \$1,032,158.00 inclusive of 10% for contingency purposes. Funding for this project is included the County's Capital Improvement Plan (CIP).

CUMBERLAND COUNTY  
Landfill Gas Collection System Expansion 2018  
BID OPENING - August 23, 2018 2:00 PM

[illegible]





ITEM NO. 4

**CUMBERLAND**  
★ **COUNTY** ★  
NORTH CAROLINA

**ENGINEERING & INFRASTRUCTURE DEPARTMENT**

Engineering Division · Facilities Management Division · Landscaping & Grounds Division · Public Utilities Division

**MEMO FOR THE AGENDA OF THE**  
**SEPTEMBER 6, 2018 MEETING OF THE FACILITIES COMMITTEE**

**TO: FACILITIES COMMITTEE MEMBERS**

**FROM: JEFFERY P. BROWN, PE, E & I DIRECTOR**

**THROUGH: AMY CANNON, COUNTY MANAGER**

**DATE: AUGUST 29, 2018**

**SUBJECT: CONSIDERATION OF ADDITIONAL FIRMS TO THE  
LIST OF QUALIFIED ARCHITECTURAL/ENGINEERING  
FIRMS**

**Requested by: AMY CANNON, COUNTY MANAGER**

**Presenter(s): JEFFERY P. BROWN, PE, E&I DIRECTOR**

**Estimate of Committee Time Needed: 10 MINUTES**

**BACKGROUND:**

On December 3, 2015, the Board of Commissioners approved the List of Qualified Architectural/Engineering Firms that could be utilized to complete professional services for the County as needed. Since that date, additional firms have approached staff to offer Statement of Qualifications (SOQs). In the original Request for Qualifications (RFQ), the County included language that new firms could be added to the List of Qualified Architectural/Engineering Firms. New firms were defined as those firms that express an interest in working with the County and did not receive or decline an invitation to submit a qualifications package in response to the County's original request. Two firms that met the RFQ's specifications were Gradient, PLLC, and Cromwell Architects Engineers, Inc.. These two firms did not submit qualifications in the original RFQ. Gradient, PLLC is a new firm, beginning in 2018. Gradient, PLLC and Cromwell Architects Engineers, Inc. are both local firms and we believe it would be in the best interest of the County to approve adding these two firms to the List of Qualified Architectural/Engineering Firms.

**RECOMMENDATION/PROPOSED ACTION:**

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendations and forward them to the Board of Commissioners as a Consent Agenda Item for consideration at their September 17<sup>th</sup> meeting:

1. Approve the addition of Cromwell Architects Engineers, Inc. and Gradient, PLLC to the List of Qualified Architectural/Engineering Firms.

Engineering & Public Utilities  
130 Gillespie Street, Suite 214  
Fayetteville, NC 28301  
(910) 678-7636

Facilities Management  
420 Mayview Street  
Fayetteville, NC 28301  
(910) 678-7699

Landscaping & Grounds  
807 Grove Street  
Fayetteville, NC 28301  
(910) 678- 7560





ITEM NO. 5.a.

**CUMBERLAND**  
**COUNTY**  
NORTH CAROLINA

**ENGINEERING & INFRASTRUCTURE DEPARTMENT**

Engineering Division · Facilities Management Division · Landscaping & Grounds Division · Public Utilities Division

**MEMO FOR THE AGENDA OF THE**  
**SEPTEMBER 6, 2018 MEETING OF THE FACILITIES COMMITTEE**

**TO:** FACILITIES COMMITTEE MEMBERS  
**FROM:** JEFFERY P. BROWN, PE, E & I DIRECTOR  
**THROUGH:** AMY CANNON, COUNTY MANAGER  
**DATE:** AUGUST 29, 2018  
**SUBJECT:** CONSIDERATION OF CONTRACT FOR PARKING LOT  
IMPROVEMENTS AT VETERAN'S SERVICES  
**Requested by:** AMY CANNON, COUNTY MANAGER  
**Presenter(s):** JEFFERY P. BROWN, PE, E&I DIRECTOR  
**Estimate of Committee Time Needed:** 10 MINUTES

**BACKGROUND:**

The Capital Improvement Plan (CIP) identified repairs for the Veteran's Services Parking lot. The project consists of removing and replacing the asphalt for the entire parking lot in which new pavement markings will be installed following placement of the new asphalt.

A pre-bid meeting was held on August 6, 2018, in which all local contractors were invited to attend. Informal bids were received on August 20, 2018 for the repairs of the Veteran's Services parking lot. The bid tab is attached. The lowest, responsible and responsive bid was submitted by Diamond Constructors, Inc., in the amount of \$135,462.23.

**RECOMMENDATION/PROPOSED ACTION:**

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendations and forward them to the Board of Commissioners as a Consent Agenda Item for consideration at their September 17<sup>th</sup> meeting:

1. Accept the bids for the parking lot improvements at Veteran's Services Parking lot and award a contract to Diamond Constructors, Inc., in the amount of \$135,462.23.
2. Establish a contingency in the amount of \$10,000 to be used for additional work recommended by the E&I Director and approved by the County Manager.

2

[illegible]





ITEM NO. 5.b.

**CUMBERLAND**  
★ **COUNTY** ★  
NORTH CAROLINA

**ENGINEERING & INFRASTRUCTURE DEPARTMENT**

Engineering Division · Facilities Management Division · Landscaping & Grounds Division · Public Utilities Division

**MEMO FOR THE AGENDA OF THE**  
**SEPTEMBER 6, 2018 MEETING OF THE FACILITIES COMMITTEE**

**TO: FACILITIES COMMITTEE MEMBERS**

**FROM: JEFFERY P. BROWN, PE, E & I DIRECTOR**

**THROUGH: AMY CANNON, COUNTY MANAGER**

**DATE: AUGUST 29, 2018**

**SUBJECT: CONSIDERATION OF CONTRACT FOR PARKING LOT  
IMPROVEMENTS AT SPRING LAKE LIBRARY AND  
FAMILY RESOURCE CENTER**

**Requested by: AMY CANNON, COUNTY MANAGER**

**Presenter(s): JEFFERY P. BROWN, PE, E&I DIRECTOR**

**Estimate of Committee Time Needed: 10 MINUTES**

**BACKGROUND:**

The Capital Improvement Plan (CIP) identified repairs for the Spring Lake Library and Family Resource Center parking lot. The project consists of milling and asphalt resurfacing for the entire parking lot.

A pre-bid meeting was held on August 13, 2018, in which all local contractors were invited to attend. Informal bids were received on August 28, 2018 for the repairs of the Spring Lake Library and Family Resource Center parking lot. The bid tab is attached. The lowest, responsible and responsive bid was submitted by Barnhill Contracting Company, in the amount of \$203,544.50.

**RECOMMENDATION/PROPOSED ACTION:**

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendations and forward them to the Board of Commissioners for its consideration as a Consent Agenda Item at their September 17<sup>th</sup> meeting:

1. Accept the bids for the parking lot improvements at Spring Lake Library and Family Resource Center parking lot and award a contract to Barnhill Contracting Company, in the amount of \$203,544.50.
2. Establish a contingency in the amount of \$10,000 to be used for additional work recommended by the E&I Director and approved by the County Manager.

CUMBERLAND COUNTY  
Spring Lake Library and Family Resource Center Parking Lot  
BID OPENING - August 28, 2018 11:00 AM

[illegible]





ITEM NO. 5.c.

**CUMBERLAND  
COUNTY**  
NORTH CAROLINA

**ENGINEERING & INFRASTRUCTURE DEPARTMENT**

Engineering Division · Facilities Management Division · Landscaping & Grounds Division · Public Utilities Division

**MEMO FOR THE AGENDA OF THE  
SEPTEMBER 6, 2018 MEETING OF THE FACILITIES COMMITTEE**

**TO: FACILITIES COMMITTEE MEMBERS**  
**FROM: JEFFERY P. BROWN, PE, E & I DIRECTOR**  
**THROUGH: AMY CANNON COUNTY MANAGER**  
**DATE: AUGUST 29, 2018**  
**SUBJECT: CONSIDERATION OF PROPOSAL FOR ROOF REPAIRS  
AT MULTIPLE COUNTY FACILITIES**  
**Requested by: AMY CANNON, COUNTY MANAGER**  
**Presenter(s): JEFFERY P. BROWN, PE, E & I DIRECTOR**  
**Estimate of Committee Time Needed: 10 MINUTES**

**BACKGROUND:**

The Animal Control, East Regional Library, North Regional Library, Spring Lake Library and Family Resource Center were identified for roof repairs included in the capital improvement installment financing plan that was approved by the Local Government Commission (LGC) on September 12, 2017.

A pre-bid meeting was held on July 10, 2018, in which all local contractors were invited to attend. Informal bids were scheduled to be received on July 25, 2018 for the proposed roof repairs. The County did not receive an adequate number of bids to open and readvertised the project. The pre-bid was held on August 9, 2018 and bid opening on August 23, 2018. The lowest, responsible and responsive bid was submitted by Triangle Roofing Services, Inc., in the amount of \$344,000.

**RECOMMENDATION/PROPOSED ACTION:**

The Engineering and Infrastructure Director and County Management recommend that the Facilities Committee approve the following recommendation and forward it to the Board of Commissioners for consideration as a Consent Agenda Item at their September 17<sup>th</sup> meeting:

1. Accept the bids for the roofing improvements at multiple county facilities and award a contract to Triangle Roofing Services, Inc., in the amount of \$ 344,000.
2. Establish a contingency in the amount of \$12,000 to be used for additional work recommended by the E&I Director and approved by the County Manager.

Engineering & Public Utilities  
130 Gillespie Street, Suite 214  
Fayetteville, NC 28301  
(910) 678-7636

Facilities Management  
420 Mayview Street  
Fayetteville, NC 28301  
(910) 678-7699

Landscaping & Grounds  
807 Grove Street  
Fayetteville, NC 28301  
(910) 678- 7560





FLEMING & ASSOCIATES, PA  
STRUCTURAL ENGINEERING • FORENSICS • ROOFING DESIGN

Principals: Stephen Fleming, PE, RRC, REWC ■ J. Ben Rogers, PE ■ Sarah Duncan, PE ■ John Kells, PE, SE

August 23, 2018

Jeffery Brown, PE / Engineering & Infrastructure Director  
Cumberland County  
140 Gillespie St.  
Fayetteville, NC 28301

Re: Roof Repairs (E. Regional Library, N. Regional Library, Spring Lake Library and FRC, Animal Services Center)  
Our Job No.: 18-60

Dear Mr. Brown,

Enclosed you will find a Certified Bid Tabulation Form for the Roof Repairs. I recommend that Cumberland County enter into a construction contract with Triangle Roofing Services, Inc. to include the base bid and alternate number two for a total contract sum of \$344,000.00.

Please call if you have questions or comments.

Sincerely,

Fleming & Associates, PA

Stephen Fleming, PE, RRC, REWC

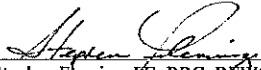


**Bid Tabulation Form**

Roof Repairs  
Cumberland County  
Bid Opening Date and Time: August 23, 2018 at 1:30pm  
Engineer's Project Number: 18-60

Contractor	Add. #1	Add. #2	Add. #3	Base Bid	Add Alt. #1	Add Alt. #2	Base Bid plus Alternate #2	Unit Prices Form	IMBP	MIBE Affidavit	Bid Bond
					Paint metal roof at E. Regional Library	FiberTite w/ 25 year warranty					
Curtis Construction Company, Inc. Lic. # 3529	Yes	Yes	Yes	\$484,300.00	\$119,900.00	\$2,600.00	\$486,900.00	Yes	Yes	Aff. A	Yes
Industrial Contract Service Corp. Lic. # 34060	Yes	Yes	Yes	\$386,320.00	\$63,600.00	\$20,300.00	\$406,620.00	Yes	Yes	Aff. A	Yes
Owens Roofing, Inc. Lic. # 24442	Yes	Yes	Yes	\$330,874.00	\$130,429.00	\$44,000.00	\$374,874.00	Yes	Yes	Aff. A	Yes
Triangle Roofing Services, Inc. Lic. # 49606	Yes	Yes	Yes	\$344,000.00	\$398,000.00	\$0.00	\$344,000.00	Yes	Yes	Aff. B	Yes

I certify that the above bids were submitted properly and are accurate as received.

  
 Stephen Fleming, PE, RRC, REWC  
 8/23/18  
 Date

Boldface type indicates the apparent lowest responsive bidder.

## CUMBERLAND COUNTY FACILITIES

ITEM NO. 6

## MONTHLY PROGRESS REPORT

Project Location	Construction Amount	Project Status	Contract Duration
Courthouse, Detention Center, Community Corrections, Headquarters Library Parking Lots	\$174,251.53	Contractor has completed Detention Center lot. Contractor working on Community Corrections and Courthouse lots	90 days
Bordeaux Library Parking Lot	\$103,431.84	Project is completed	35 days
East Regional Library Parking Lot	\$147,000.00	Entrance completed. Contractor scheduling crack seal & pavement markings	35 days
Building Envelope Repairs Project	\$551,479.00	Project scheduled to start mid-October	120 days
Crown Coliseum Scoreboard	\$1,129,884.00	Project is 98% complete	60 days
Crown Coliseum Membrane and Sealant	\$1,735,100.00	Project started on 6/25/2018. Roof membrane is being installed	180 days
Judge E. Maurice Braswell Courthouse Room 564 Renovation	\$173,497.00	Contractor has completed demolition and is framing walls	75 days
Crown Complex Stormwater Pond A	\$642,212.50	Pending Purchase Order	150 days
Crown Complex Stormwater Pond B	\$705,040.00	Contractor to mobilize on 9/4/2018	150 days
Overhills Park Water and Sewer District	\$4,131,106.59	Contractor is completing punch list items	565 days
Structural Building Envelope Repairs Project	\$226,080.00	Preconstruction meeting scheduled 9/6	90 days