City of San Leandro

Meeting Date: December 13, 2021

Staff Report

File Number: 21-691 **Agenda Section:** PUBLIC HEARINGS

Agenda Number: 5.A.

TO: City Council

FROM: Fran Robustelli
City Manager

BY: Debbie Pollart
Public Works Director

FINANCE REVIEW: Susan Hsieh
Finance Director

TITLE: STAFF REPORT for the City of San Leandro City Council to Hold a Public Hearing Pursuant to California Government Code Sections 4217.10 and 4217.18 to Adopt Certain Findings and a Resolution to Approve an Installation Agreement with Climatec, LLC for Design and Construction of Energy-Efficiency and Resiliency Projects at Various City locations for a Total Cost of $4,994,884; Appropriation of $395,828 from Account 210-18-149-5242 (Building Maintenance Fund); and Appropriation of $3,314,916 from American Rescue Plan Act (ARPA) Account 190-17-815-5240

SUMMARY AND RECOMMENDATIONS

Staff recommends that, in accordance with California Government Code sections 4217.10 and 4217.18, the City Council hold a public hearing, adopt certain findings, and authorize the City Manager to enter into an Installation Agreement with Climatec, LLC to implement energy-efficiency and resiliency projects at various City facilities and infrastructure. The total cost for the Energy Services Contract is $4,994,884, with a majority of the funding earmarked and previously approved by the City Council to be appropriated from the City's American Rescue Plan Act funds. Prior to the onset of the pandemic, the City received notification from the California Energy Commission (CEC) for approval to enter into its 1% loan program to cover a portion of this project's costs. Due to the pandemic, formal action by the City Council to accept the CEC loan was put aside. Staff is currently working to finalize a new loan agreement in the amount of $1,284,140, which will be brought to Council for consideration in early 2022. The last portion of proposed project funding, at $395,828, will be from the Building Maintenance Fund.

BACKGROUND

In December 2009 the City adopted a Climate Action Plan (CAP), with a vision to guide San Leandro towards a sustainable future that reduces greenhouse gas emissions from current levels, while promoting economic prosperity for present and future generations. That document was updated and adopted by the City Council in July of this year.

For the CAP's database year of 2005, the City's measurable municipal operations, which are made up of municipal buildings, fleet, streetlights, water/sewage operations, and municipal waste, constituted less than one percent of San Leandro's total emissions. The 2021 CAP notes that while this percentage is on the low end of the typical range, and that actions to reduce municipal energy use may have a limited impact on San Leandro's overall community emissions levels, municipal actions can help reduce operation/maintenance costs, including utility payments, and meet City Council goals by demonstrating leadership that extends beyond the magnitude of emissions actually reduced. As an example, last year's installation of the 1 MW solar array at the Water Pollution Control Plant is resulting in utility bill savings of approximately 50% (or savings of more than $250,000) annually.

ANALYSIS

These projects were originally anticipated in 2019, with the City applying to the California Energy Commission for partial funding (through a 1% loan), in addition to utilizing Building Maintenance funds and possibly General Funds. The City received notification from the CEC of the loan approval, pending acceptance by the City Council. However, with the financial uncertainties evident during the first months of the pandemic, this potential work was set aside.

Phase III of the City's on-going energy efficiency work with Climatec represents a combination of improvements identified in the 2016 Citywide assessment that were either of a lower priority, did not meet previous grant/loan requirements for funding, or both, and new opportunities for upgrades resulting from ARPA monies received by the City. This work represents a variety of infrastructure upgrades, including the following (see also Attachment B to this report):

<u>Heating, Ventilation and Air Conditioning (HVAC) and Indoor Air Quality (IAQ)</u>

- New high efficiency HVAC units with economizers and MERV-13 filters
    - City Hall
    - Fire Stations #9-13
    - History Museum
    - Main Library
    - Manor Branch Library
    - South Branch Library
    - Public Safety Building
    - Public Works Admin Building
    - San Leandro Family Aquatic Center
- New high efficiency chillers and pumps
    - City Hall
    - Public Safety Building
- New air handling units with MERV-13 filters
    - City Hall
    - Public Safety Building
- Refurbish duct heaters and condensing units, and include MERV-13 filters
    - City Hall

<u>Building Automation System (BAS)</u>

- New BAS
    - Fire Stations #9, #12, #13
    - Public Works Admin Building
- Integrate economizer control into existing BAS
    - City Hall
    - Fire Stations #9-13
    - History Museum
    - Main Library
    - Manor Branch Library
    - South Branch Library
    - Public Safety Building
    - Public Works Admin Building
    - San Leandro Family Aquatic Center
- Recommission existing BAS
    - City Hall
    - Fire Stations #10-11
    - History Museum
    - Main Library
    - Manor Branch Library
    - Public Safety Building
    - San Leandro Family Aquatic Center
- Repair problematic lighting control - Main Library

Lighting

- Interior LED lighting modernization
    - City Hall
    - Fire Stations #9-13
    - Main Library
    - Manor Branch Library
    - South Branch Library
    - Marina Community Center
    - Public Safety Building
    - Public Works Admin Building
    - San Leandro Family Aquatic Center
    - Senior Community Center
- Exterior LED lighting modernization
    - City Hall
    - Fire Station #9, 11, and 13
    - Manor Branch Library
    - Public Safety Building
    - Public Works Admin Building
    - San Leandro Family Aquatic Center
    - Senior Community Center

Pool

- New high efficiency variable frequency drive (VFD) and smart pump control system - San Leandro Family Aquatic Center

Smart City Technology

- Upgrade and expand Paradox (streetlights) controls - Citywide

Current Agency Policies

- General Plan Policy OSC-7.6: **Reducing Municipal Greenhouse Gas Emissions.** Reduce greenhouse gas emissions associated with municipal operations, including those associated with energy use, City vehicles, City recycling and composting operations, and utilities.
- 2021 Climate Action Plan Policy ME-1: **Municipal Energy Retrofits.** Continue implementing municipal energy efficiency retrofits, including all-electric buildings and public lighting retrofits.

Environmental Review

This project is determined to be Exempt under the California Environmental Quality Act (CEQA) Section 15301. *Existing Facilities*.

Legal Analysis

California Government Code section 4217 design-build energy legislation has been used hundreds of times over the past 30 years to procure projects similar to the one currently proposed. This includes the previous phases of work Climatec has performed for the City. If the City elected to design, engineer, and construct a similar program through the traditional design-bid-build approach, it would not only take much longer to implement the efficiencies, but also expose the City to change orders, scope gaps between separate contractors, and require significant upfront capital for the necessary design and engineering work.

As with the previous Climatec-led projects, competitive bidding will be done for the major components of the project. This project will also be subject to the City's Community Workforce Agreement (CWA), with full transparency on the competitive bids and resulting subcontractor selection.

The City Attorney reviewed the draft agreement, together with staff negotiated edits and changes, and with Climatec's acceptance of the City's changes, approves the agreement as to form.

Fiscal Impacts

The total cost for infrastructure improvements, including taxes and bonds, equals $4,994,884. The majority of the funding, $3,314,916, was earmarked and previously directed by the City Council to be derived from American Rescue Plan Act funds over the course of this fiscal year and next. Prior to the onset of the pandemic, the City had received notification from the California Energy Commission (CEC) for approval to enter into its 1% loan program to cover a portion of this project's costs. Due to the pandemic, formal action by the City Council to accept the CEC loan was put aside. Staff is currently working to finalize a new loan agreement in the amount of $1,284,140, which will be brought to Council for consideration in early 2022. The third portion of proposed project funding, at $395,828, derives from the Building Maintenance Fund.

Climatec estimates that in excess of $5 million dollars in operating savings will be realized over the 20-year life of the new equipment.

Budget Authority

Approval of this current agreement with Climatec requires appropriation of $395,828 from Account 210-18-149-5242 (Building Maintenance Fund), and appropriation of $3,314,916 from American Rescue Plan Act (ARPA) Account 190-17-815-5240. The City Council recently provided direction to staff on the list of ARPA programs/projects, indicating $1,900,000 in Fiscal Year 22 and $1,900,000 in Fiscal Year 23. At the time the ARPA list was formulated, staff and Climatec were still working on final project numbers. It is noted that with the need for only $3,314,916 of ARPA funds, $485,084 may be re-directed to other listed programs/projects.

ATTACHMENTS

- Attachment A - Installation Agreement
- Attachment B - Detailed Assessment

PREPARED BY: Debbie Pollart, Director, Public Works Department

INSTALLATION AGREEMENT FOR

City of San Leandro

TERMS AND CONDITIONS

ATTACHMENTS

Attachment "A" – Scope of Work

Attachment "B" – Lighting Summary

Attachment "C" – Mechanical Inventory

Attachment "D" – Technical Appendix

Attachment "E" - Community Workforce Agreement

Attachment "F" – Insurance

CLIMATEC INSTALLATION AGREEMENT

This Installation Agreement ("Agreement") dated December 6, 2021 ("Effective Date") is made by and between:

City of San Leandro
("Purchaser") with its principal place of business at
835 E. 14th Street, San Leandro, CA 94577
and
Climatec LLC
With its principal place of business at
2150 Towne Centre Place, Suite 200
Anaheim, CA 92805

Purchaser and Climatec LLC agree as follows:

1. **INSTALLATION.** Climatec LLC shall provide Purchaser with an Energy Efficiency Program, as identified in **Attachment(s) A, B, C, D, E and F** and incorporated herein by reference (hereinafter referred to as the "Work") at the total fixed price of Four Million Nine Hundred Ninety Four Thousand Eight Hundred Eighty Four and 00/100 Dollars ($4,994,884.00) including required taxes and Performance Bond (the "Contract Amount").

   Climatec LLC is responsible for the design, engineering, permits, fees, approvals (except DSA inspections unless specifically noted in Attachment A), project management, installation, startup, training, checkout, warranty, and insurance specifically associated with the Work to be performed. Climatec LLC is not responsible for any equipment, systems, controls, comfort problems, balancing, duct cleaning, deficient conditions existing prior to this Agreement, etc. not specifically included in this Agreement. Climatec LLC will provide submittals and engineered drawings (if required), for Purchaser's technical review and written approval, prior to initiating construction. As-builts will be provided. All construction and associated cleanup shall be performed and scheduled so as to minimize any disruption with any ongoing Purchaser activities. Climatec LLC requires all underground conduits between buildings to be clear of obstruction, of sufficient size to accommodate new wire and cable, and easily accessible. The Purchaser is responsible for providing Ethernet drops at each location for Energy Management System communication. This proposal offer is valid until December 20, 2021.

2. **SCOPE OF WORK.** Once this contract is executed by the Purchaser and Climatec LLC, Climatec LLC may not revise the contract in any way except by written mutual agreement with the Purchaser. Such revision constitutes an amendment subject to Section 21. Prior to the contract being signed by both parties, Climatec LLC reserves the right to revise any or all portions of the Agreement. The scope of work is defined in Attachment A.

   This Agreement is based upon the use of straight time labor only unless stated otherwise in this Agreement. Purchaser agrees to provide Climatec LLC with required field utilities (electricity, toilets, drinking water, etc.) while performing work under this Agreement without charge. Climatec LLC agrees to keep the jobsite clean of debris arising out of its own operations. Purchaser shall not back charge Climatec LLC for any cost or expenses without Climatec LLC's written consent. Unless specifically noted in the statement of the scope of the Work or services undertaken by Climatec LLC under this Agreement, Climatec LLC's obligations under this Agreement expressly exclude any work or service of any nature associated or connected with the identification, abatement, clean up, control, removal or disposal of environment Hazards or dangerous substances, to include but not to be limited to asbestos, PCBs, or mold discovered in or on the premises. Any language or provision of the Agreement elsewhere contained which may authorize or empower the Purchaser to change, modify or alter the scope of work or services to be performed by Climatec LLC shall not operate to compel Climatec LLC to perform any work relating to Hazards without Climatec LLC's express written consent.

   2.1 **Term of Agreement.** The term of this Agreement shall begin on the Effective Date and shall end on the date of completion as mutually decided between Purchaser and Climatec LLC, and Climatec LLC shall complete the work described in Attachment A on or before that date, unless the term of the Agreement is otherwise terminated or extended, as provided for in Section 8. The time provided to Climatec LLC to complete the services required by this Agreement shall not affect the Purchaser's right to terminate the Agreement, as referenced in Section 8.

2.2 **Standard of Performance.** Climatec LLC shall perform all services required pursuant to this Agreement in the manner and according to the standards observed by a competent practitioner of the profession in which Climatec LLC is engaged and applicable law.

2.3 **Assignment of Personnel.** Climatec LLC shall assign only competent personnel to perform services pursuant to this Agreement. In the event that Purchaser, in its sole discretion, at any time during the term of this Agreement, desires the reassignment of any such persons, Climatec LLC shall, immediately upon receiving notice from Purchaser of such desire of Purchaser, reassign such person or persons. In accordance with Section 4 below, nothing by way of this section shall create or be construed as creating an agency or employment relationship between Purchaser and Climatec LLC and its employees, agents, volunteers and subcontractors.

2.4 **Time.** Climatec LLC shall devote such time to the performance of services pursuant to this Agreement as may be reasonably necessary to meet the standard of performance and to satisfy Climatec LLC's obligations hereunder.

2.5 **Community Workforce Agreement.** Climatec LLC shall be required to comply with the provisions of the San Leandro Community Workforce Agreement (Attachment F) effective January 1, 2016.

3. INVOICING & PAYMENTS. Climatec LLC may invoice the Purchaser for any equipment and/or materials installed at a job site. Purchaser agrees to pay Climatec LLC amounts invoiced within 30 days upon receipt of invoice. Waivers of lien will be furnished upon request, as the work progresses; to the extent payments are received.

3.1 **Monthly Payment.** Purchaser shall make monthly payments, based on invoices received, for services satisfactorily performed, and for authorized reimbursable costs incurred. Purchaser shall have 30 days from the receipt of an invoice that complies with all of the requirements above to pay Climatec LLC.

3.2 **Final Payment.** Purchaser shall pay the last 5% of the total sum due pursuant to this Agreement within 60 days after completion of the services and submittal to Purchaser of a final invoice, if all services required have been satisfactorily performed.

3.3 **Total Payment.** Purchaser shall pay for the services to be rendered by Climatec LLC pursuant to this Agreement. Purchaser shall not pay any additional sum for any expense or cost whatsoever incurred by Climatec LLC in rendering services pursuant to this Agreement. Purchaser shall make no payment for any extra, further, or additional service pursuant to this Agreement.

In no event shall Climatec LLC submit any invoice for an amount in excess of the maximum amount of compensation provided above for the entire Agreement, unless the Agreement is amended pursuant to Section 21 prior to the submission of such an invoice by a properly executed change order or amendment.

3.4 **Payment of Taxes.** Climatec LLC is solely responsible for the payment of employment taxes incurred under this Agreement and any similar federal or state taxes.

3.5 **Payment upon Termination.** In the event that Purchaser or Climatec LLC terminates this Agreement pursuant to Section 8, Purchaser shall compensate Climatec LLC for all outstanding costs and reimbursable expenses incurred for work satisfactorily completed as of the date of written notice of termination. Climatec LLC shall maintain adequate logs and timesheets to verify costs incurred to that date.

3.6 **Authorization to Perform Services.** Climatec LLC is not authorized to perform any services or incur any costs whatsoever under the terms of this Agreement until receipt of Notice to Proceed from the Contract Administrator.

4. **INDEPENDENT CONTRACT.** It is agreed between Purchaser and Climatec LLC that Climatec LLC shall perform the Work as an independent contractor. Climatec LLC may use subcontractors to perform work hereunder, provided Climatec LLC shall fully pay said subcontractors and in all instances remain fully responsible for (a) the proper completion of this Agreement and (b) supervising such subcontractor's work and for the quality of the work they produce. As provided for in Section 28, nothing contained in this Agreement shall create or be construed as creating an agency, partnership, whether general or limited, joint venture, employment relationship or any other relationship other than an independent contractor relationship. Climatec LLC and its employees, agents and subcontractors shall have no authority, express or implied, pursuant to this Agreement to bind Purchaser to any obligation whatsoever.

5. **MATERIALS.** All materials shall be new, in compliance with all applicable laws and codes, and shall be covered by a manufacturer's warranty, if appropriate. If the materials or equipment included in this Agreement become temporarily or permanently unavailable, the time for performance of the work shall be extended to the extent thereof while the materials are temporarily unavailable, and in case of permanent unavailability, Climatec LLC shall (a) be excused from furnishing said materials or equipment, and (b) be reimbursed for the difference between the cost of the materials or equipment permanently unavailable and the cost of a reasonable substitute therefore. Purchaser shall have the right to terminate this Agreement where the unavailability of material makes the Agreement impossible to perform.

6. **COMPLETION.** The Work specified in Section 1 shall be considered completed upon approval by the Purchaser, provided that the Purchaser's approval shall not be unreasonably withheld.

7. **WARRANTY.** Climatec LLC warrants that the equipment and systems provided under this contract shall be free from defects in material and workmanship arising from normal usage for a period of one year from the date of beneficial use or eighteen months from delivery of said equipment or systems. Within the warranty period, if Purchaser provides written notice to Climatec LLC of any such defects within thirty (30) days after the appearance or discovery of such defect, Climatec LLC shall, at its option, repair or replace the defective equipment and return said equipment to Purchaser. All transportation charges incurred in connection with the warranty for equipment shall be borne by Purchaser, unless otherwise provided for in manufacturer warranties. These warranties do not extend to any equipment which has been repaired by others, abused, altered or misused, or which has not been properly and reasonably maintained. All transferable manufacturer warranties associated with the equipment will be transferred to the Purchaser. These warranties are in lieu of all other warranties, expressed or implied, including but not limited to those of merchantability and fitness for a specific purpose.

8. **LIABILITY.** Climatec LLC shall not be liable for any special, indirect, or consequential damages arising in any manner from the equipment, material, or systems furnished or the work performed pursuant to this Agreement.

9. **TAXES.** The price of this Agreement ($4,994,884.00) includes duties, sale, use, excise or other similar taxes required by federal, state or local laws in effect at the time of Agreement execution.

10. **DELAYS.** Climatec LLC shall not be liable for any delay in the performance of the work resulting from or attributed to acts or circumstance beyond Climatec LLC's control, including but not limited to acts of God, riots, labor disputes, pandemic, conditions of the premises, acts or omissions of the Purchaser, or other Contractors or delays caused by suppliers or subcontractors of Climatec LLC, etc. If Purchaser delays project for greater than 60 days, Climatec LLC can recover any cost inflation on un-billed materials that were either stored or yet to be purchased.

11. **REBATES, UTILITY INCENTIVES, AND GRANTS.** Unless otherwise stated in the project scope-of-work, or cash flow analysis, any and all rebates, incentives, grants that are earned through the course of this project from public or private utilities, municipalities, development districts or state funding are 100% the property of the Purchaser. The paperwork, inspections and verification required to collect these monies are the sole responsibility of the Purchaser. Climatec LLC agrees to assist the Purchaser where required by the jurisdiction in the form of data required for the application and authorizing signatures.

12. **TAX CREDITS, TAX DEDUCTIONS AND 179d QUALIFYING CREDITS.** Unless otherwise stated in the contract, any and all eligible tax credits or incentives that can be earned through the course of this project from State, Local or Federal agencies for energy efficient design are 100% the property of Climatec LLC or their designee. The paperwork, inspections and verification required to collect these credits are the sole responsibility

of Climatec LLC. The customer agrees to assist Climatec LLC where required by the jurisdiction in the form of data required for the application and authorizing signatures and/or transfers. In the event the Customer incurs expenses related to the processing of the applications, Climatec LLC shall reimburse these direct costs.

13. **COMPLIANCE WITH LAWS.** Climatec LLC shall comply with all applicable federal, state, and local laws and regulations. The laws of the State of California shall govern this Agreement. All licenses and permits required for the prosecution of the work shall be obtained and paid for by Climatec LLC. Purchaser agrees to provide Climatec LLC with the DIR project registration number within 5 days of execution of this Agreement as required per statute. Climatec LLC's failure to comply with any law(s) or regulation(s) applicable to the performance of the work hereunder shall constitute a breach of contract. Climatec LLC, once notified of the breach shall have a reasonable opportunity to cure the breach.

14. **DIR REGISTRATION OF CONTRACTOR AND SUBCONTRACTORS.** A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

    This Project is a public works project as defined in Labor Code section 1720. Each contractor bidding on this Project and all subcontractors (of any tier) performing any portion of the Work must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with DIR and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of the Project. For more information and up to date requirements, contractors are recommended to periodically review the DIR's website at www.dir.ca.gov. Contractor shall be solely responsible for ensuring compliance with Labor Code section 1725.5 as well as any requirements implemented by DIR applicable to its services or its subcontractors throughout the term of the Agreement and in no event shall contractor be granted increased payment from the District or any time extensions to complete the Project as a result of contractor's efforts to maintain compliance with the Labor Code or any requirements implemented by the DIR. Failure to comply with these requirements shall be deemed a material breach of this Agreement and grounds for termination for cause. The contractor and all subcontractors shall furnish certified payroll records as required pursuant Labor Code section 1776 directly to the Labor Commissioner in accordance with Labor Code section 1771.4 on at least on a monthly basis (or more frequently if required by the Purchaser or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. The Purchaser reserves the right to withhold contract payments if the Purchaser is notified, or determines as the result of its own investigation, that contractor is in violation of any of the requirements set forth in Labor Code section 1720 et seq. at no penalty or cost to the District. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE)

15. **VENUE.** In the event that either party brings any action against the other under this Agreement, the Parties agree that trial of such action shall be vested exclusively in the state courts of California in the County of Alameda or in the United States District Court for the Northern District of California.

16. **NO IMPLIED WAIVER OF BREACH.** The waiver of any breach of a specific provision of this Agreement does not constitute a waiver of any other breach of that term or any other term of this Agreement.

17. **OTHER GOVERNMENTAL REGULATIONS.** To the extent that this Agreement may be funded by fiscal assistance from another governmental entity, Climatec LLC and any subcontractors shall comply with all applicable rules and regulations to which Purchaser is bound by the terms of such fiscal assistance program provided that any such requirements are revealed and agreed to prior to signing of the Agreement.

18. **LICENSES AND PERMITS**. Climatec LLC represents and warrants to Purchaser that Climatec LLC and its employees, agents, and any subcontractors have all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required to practice their respective professions, and will maintain the same for the term of this Agreement. Climatec LLC represents and warrants to Purchaser that Climatec LLC and its employees, agents, any subcontractors shall, at their sole cost and expense, keep in effect at all times during the term of this Agreement

any licenses, permits, and approvals that are legally required to practice their respective professions. In addition to the foregoing, Climatec LLC and any subcontractors shall obtain and maintain during the term of this Agreement valid Business Licenses from Purchaser.

19. **NONDISCRIMINATION AND EQUAL OPPORTUNITY.** Climatec LLC shall not discriminate, on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, marital status, sex, or sexual orientation, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Climatec LLC under this Agreement. Climatec LLC shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of any services that are the subject of this Agreement, including but not limited to the satisfaction of any positive obligations required of Climatec LLC thereby.

20. **TERMINATION.** Purchaser may cancel this Agreement at any time and without cause upon written notification to Climatec LLC. Climatec LLC may cancel this Agreement upon 30-days' written notice to Purchaser and shall include in such notice the reasons for cancellation. In the event of termination, Climatec LLC shall be entitled to compensation for undisputed services performed to the effective date of termination; Purchaser, however, may condition payment of such compensation upon Climatec LLC delivering to Purchaser any or all documents, photographs, computer software, video and audio tapes, and other materials provided to Climatec LLC or prepared by or for Climatec LLC or the Purchaser in connection with this Agreement.

21. **AMENDMENTS.** The Parties may amend this Agreement only by a writing signed by all the Parties.

22. **OPTIONS UPON BREACH BY CLIMATEC LLC.** If Climatec LLC materially breaches any of the terms of this Agreement, and, after a reasonable opportunity to cure such breach does not result in an acceptable cure, the Purchaser's remedies shall include, but are not limited to, the following:

a. Immediately terminate the Agreement;
b. Retain the plans, specifications, drawings, reports, design documents, and any other work product prepared by Climatec LLC pursuant to this Agreement;
c. Retain a different contractor to complete the work described in Exhibit A not finished by Climatec LLC; or
d. Charge Climatec LLC the difference between the costs to complete the work described in Attachment A that is unfinished at the time of breach and the amount that Purchaser would have paid Climatec LLC pursuant to Section 2 if Climatec LLC had completed the work.

23. **KEEPING AND STATUS OF RECORDS.**

23.1 **Records Created as Part of Consultant's Performance.** All reports, data, maps, models, charts, studies, surveys, photographs, memoranda, plans, studies, specifications, records, files, or any other documents or materials, in electronic or any other form, that Consultant prepares or obtains pursuant to this Agreement and that relate to the matters covered hereunder shall be the property of the Purchaser. Climatec LLC hereby agrees to deliver those documents to the Purchaser upon termination of the Agreement. It is understood and agreed that the documents and other materials, including but not limited to those described above, prepared pursuant to this Agreement are prepared specifically for the Purchaser and are not necessarily suitable for any future or other use. Purchaser and Climatec LLC agree that, until final approval by Purchaser, all data, plans, specifications, reports and other documents are confidential and will not be released to third parties without prior written consent of both Parties.

23.2 **Consultant's Books and Records.** Climatec LLC shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to Purchaser under this Agreement for a minimum of 3 years, or for any longer period required by law, from the date of final payment to Climatec LLC under this Agreement.

23.3 **Inspection and Audit of Records.** Any records or documents that Subsection 23 of this Agreement requires Consultant to maintain shall be made available for inspection, audit, and/or copying at any time during regular business hours, upon oral or written request of the Purchaser. Under California Government Code Section 8546.7, if the amount of public funds expended under this Agreement exceeds

$10,000.00, the Agreement shall be subject to the examination and audit of the State Auditor, at the request of Purchaser or as part of any audit of the Purchaser, for a period of 3 years after final payment under the Agreement.

24. **DISPUTES.** Written notice of any Dispute must be provided to the other party, describing specific details of the dispute relating to changes in Work or claim for additional compensation, within seven (7) days of the occurrence of the condition. This notice must be provided via certified mail. For a reasonable period commencing on the day written notice of Dispute was provided, but not to exceed thirty (30) days, the parties shall in good faith attempt to resolve the Dispute. If the parties are unable to resolve the Dispute during this period, the parties shall proceed to binding arbitration. The arbitrator shall be neutral and mutually acceptable. The arbitrator shall determine all rights and obligations under this Agreement and the award of the arbitrator shall be final, binding, and enforceable. Any award issued pursuant to this provision may be enforced in a court of competent jurisdiction subject to Section 15, and each party hereby consents to that jurisdiction. All venues for arbitration shall be in Alameda County.

25. **CHANGE ORDER (Mid-Performance Amendments)**. Climatec LLC and the Purchaser recognize that:
    a. Purchaser may desire a mid-job change in the specifications or scope that would add time and cost to the specified work.
    b. Other provisions of the Agreement may be difficult to carry out because of unforeseen events, such as material shortage or labor strikes. If these or other events beyond the control of the parties reasonably require adjustments to this Agreement, the parties shall make a good faith attempt to agree on all necessary particulars. Such agreements shall be put in writing, signed by the parties and added to this Agreement. Failure to reach agreement shall be deemed a dispute to be resolved as agreed in section 24 of this Agreement.

26. **INSURANCE.** Climatec LLC will maintain comprehensive liability and other insurance in amounts not less than those set forth below. Such insurance shall protect Climatec LLC and the Purchaser against any claims, losses, liabilities and expenses arising from the Work, whether performed by Climatec LLC or any employees, agents and subcontractor of Climatec LLC. The coverage shall include:
    a. Workmen's Compensation and Employers Liability Insurance - $1,000,000 each accident; $1,000,000 each employee/disease; and $1,000,000 policy limit.
    b. Comprehensive or Commercial General Liability - Bodily injury liability of $1,000,000 per occurrence and general aggregate liability of $2,000,000 per occurrence.
    c. Comprehensive Automobile Insurance – Combined single limit of $1,000,000 per occurrence.
    d. Professional Liability Insurance in the amount of $1,000,000 covering errors and omissions.
    e. Builders Risk in the amount of $250,000.
    f. Umbrella coverage of $8,000,000 to provide additional coverage to meet Purchaser's requirements above the limits noted in a, b, c.
    g. A Certificate of Insurance in the amounts specified will be provided and will include an Additional Insured Endorsement, a waiver of subrogation endorsement, and a primary insurance endorsement.

26.1 **Additional Requirements.** Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. Purchaser, its officers, officials, employees, and volunteers are to be covered as additional insureds as respect to liability arising out of work or operations performed by Climatec LLC under this Agreement.

b. For any claims related to this Agreement or the work hereunder, Climatec LLC's insurance coverage shall be primary insurance as respects Purchaser, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by Purchaser shall be excess of the Consultant's insurance and shall not contribute with it.

26.2 **Remedies.** In addition to any other remedies Purchaser may have if Climatec LLC fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, Purchaser may, at its sole option exercise any of the following remedies, which are alternatives to other remedies Purchaser may have and are not the exclusive remedy for Climatec LLC's breach:

- Obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement;

- Order Climatec LLC to stop work under this Agreement or withhold any payment that becomes due to Climatec LLC hereunder, or both stop work and withhold any payment, until Climatec LLC demonstrates compliance with the requirements hereof; and/or
- Terminate this Agreement.

If the Purchaser requires that Climatec LLC maintain any special insurance coverage, policy, amendment, or rider, the Purchaser shall pay the additional cost.

27. **INDEMNITY.** Climatec LLC shall indemnify, defend with counsel acceptable to Purchaser, and hold harmless Purchaser and its officers, elected officials, employees, agents and volunteers from and against any and all liability, loss, damage, claims, expenses, and costs (including without limitation, reasonable attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature (except 3rd party consequential claims) arising out of or in connection with Climatec LLC's performance of the services called for or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the negligence or misconduct of Purchaser.

    Notwithstanding the forgoing, to the extent this Agreement is a "construction contract" as defined by California Civil Code Section 2782, as may be amended from time to time, such duties of Climatec LLC to indemnify shall not apply when to do so would be prohibited by California Civil Code Section 2782.

    Climatec LLC must respond within 30 days to the tender of any claim for defense and indemnity by the Purchaser. If the Climatec LLC fails to accept or rejects a tender of defense and indemnity for a covered claim within 30 days, in addition to any other remedy authorized by law, so much of the money due the Climatec LLC under and by virtue of this Agreement as shall reasonably be considered necessary by the Purchaser, may be retained by the Purchaser until disposition has been made of the claim or suit for damages, or until the Climatec LLC accepts or rejects the tender of defense, whichever occurs first.

28. **STATUS OF CLIMATEC LLC.**

    28.1 **Independent Contractor.** At all times during the term of this Agreement, Climatec LLC shall be an independent contractor and shall not be an employee of Purchaser. Purchaser shall have the right to control Climatec LLC only insofar as the results of Climatec LLC's services rendered pursuant to this Agreement and assignment of personnel pursuant to Subsection 2.3; however, otherwise Purchaser shall not have the right to control the means by which Climatec LLC accomplishes services rendered pursuant to this Agreement. Notwithstanding any other City, state, or federal policy, rule, regulation, law, or ordinance to the contrary, Climatec LLC and any of its employees, agents, and subcontractors providing services under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any and all claims to, any compensation, benefit, or any incident of employment by Purchaser, including but not limited to eligibility to enroll in the California Public Employees Retirement System (PERS) which would be available as an employee of Purchaser and entitlement to any contribution to be paid by Purchaser for employer contributions and/or employee contributions for PERS benefits.

    28.2 **Climatec LLC Not an Agent.** Except as Purchaser may specify in writing, Climatec LLC shall have no authority, express or implied, to act on behalf of Purchaser in any capacity whatsoever as an agent. Climatec LLC shall have no authority, express or implied, pursuant to this Agreement to bind Purchaser to any obligation whatsoever.

29. **OCCUPATIONAL SAFETY AND HEALTH.** The Parties hereto agree to notify each other immediately upon becoming aware of any alleged violation of, the Occupational Safety and Health Act (OSHA) relating in any way to the project or project site.

30. **ENTIRE AGREEMENT.** This Agreement, including attachments A through F, upon acceptance, shall constitute the entire Agreement between the parties and supersedes any prior representations or understandings.

31. **CHANGES.** No change or modification of any of the terms and conditions stated herein shall be binding upon Climatec LLC unless accepted by Climatec LLC in writing.

32. **SEVERABILITY.** If one or more of the provisions of this Agreement are held to be unenforceable under laws, such provision(s) shall be excluded from these terms and conditions and the remaining terms and conditions shall be interpreted as if such provision were so excluded and shall be enforced in accordance to their terms and conditions.

33. **COUNTERPARTS.** This Agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument. A signature on a copy of this Agreement received by either party by facsimile or portable document format (PDF) is binding upon the other party as an original. The parties shall treat a photocopy of such facsimile as a duplicate original.

34. **ASSIGNMENT.** Climatec LLC retains the right to assign its rights and obligations of this Agreement with written consent of Purchaser.

35. **SUCCESSORS AND ASSIGNS.** The provisions of this Agreement shall inure to the benefit of and shall apply to and bind the successors and assigns of the Parties.

36. **CONFLICT OF INTEREST.** Climatec LLC may serve other clients, but none whose activities within the corporate limits of Purchaser or whose business, regardless of location, would place Climatec LLC in a "conflict of interest," as that term is defined in the Political Reform Act, codified at California Government Code Section 81000 *et seq*.

    Climatec LLC shall not employ any City official in the work performed pursuant to this Agreement. No officer, official, or employee of Purchaser shall have any financial interest in this Agreement that would violate California Government Code Section 1090 *et seq*.

    Climatec LLC hereby warrants that it is not now, nor has it been in the previous 12 months, an employee, agent, appointee, or official of the Purchaser. If Climatec LLC was an employee, agent, appointee, or official of the Purchaser in the previous 12 months, Climatec LLC warrants that it did not participate in any manner in the forming of this Agreement. Climatec LLC understands that, if this Agreement is made in violation of California Government Code Section 1090 *et seq*., the entire Agreement is void and Climatec LLC will not be entitled to any compensation for services performed pursuant to this Agreement, including reimbursement of expenses, and Climatec LLC will be required to reimburse Purchaser for any sums paid to the Climatec LLC. Climatec LLC understands that, in addition to the foregoing, it may be subject to criminal prosecution for a violation of California Government Code Section 1090 *et seq.,* and, if applicable, will be disqualified from holding public office in the State of California.

37. **ACKNOWLEDGMENT.** Both Climatec LLC and the Purchaser acknowledge having read this Agreement and all contract documents incorporated herein and have executed this Agreement on the date written above.

38. **APPROVAL.** Each party represents that the person that has executed this Agreement on its behalf is authorized to do so.

IN WITNESS WHEREOF, the parties have caused their duly authorized officers to execute this Agreement effective as of the date first above written.

City of San Leandro	**Climatec LLC**
Signature	Signature
Print Name	Print Name
Title	Title
Date	Date

Attachment "A"

Scope of Work

City-Wide

Smart City Controls

- Upgrade the existing Paradox street lighting control system, and expand that control system to address nine hundred ninety-five (995) existing LED street lights.

The Scope of Work includes:

- Upgrade the existing Paradox system to Neptune generation.
- Installation of nine hundred ninety-five (995) new smart lighting nodes.
- Installation of up to eight (8) new smart gateways.
- Integration of the new controls into the existing Paradox central management suite (CMS).

The Scope of Work excludes:

- Undisclosed electrical upgrades/modifications including but not limited to repairs to the City's existing fiber-optic network.
- Fiber connections to the existing network must be functioning to all gateways in order to complete the upgrade process.
- Replacement of existing LED light fixtures or lamps.

City Hall

Controls

- Recommission the existing Johnson Controls building automation system (BAS).

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace one (1) roof-mounted air-cooled chiller and two (2) chilled water pumps with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing chiller and pumps per EPA guidelines.
- Installation of one (1) new air-cooled chiller and two (2) new chilled water pumps.
- Disconnection/reconnection of the existing electrical service.
- Disconnection/reconnection of existing chilled water piping (at inlet and outlet of unit).

- Replacement of existing spring isolators on existing equipment curb.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new unit.
- Final engineering will determine new chiller design specifications.

The Scope of Work excludes:

- Electrical upgrades/modifications not specifically included in the scope.
- Repairs and/or modifications to either the existing structural support or to the roofing.
- Repairs such as, but not limited to, water leaks, expansion tanks, piping, valves/actuators, chiller water feed, associated water circulating pumps and associated controls, not specifically included in the scope.

- Replace one (1) air handling unit with a new high efficiency unit of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing unit per EPA guidelines.
- Installation of one (1) new air handling unit with chilled water coil and variable frequency drive (VFD).
- Necessary piping modifications at the inlet and outlet of the replacement unit.
- Replacement of one (1) chilled water control valve.
- Duct modifications needed to install unit.
- Disconnection/reconnection of the existing electrical service.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new unit.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Unforeseen repairs to existing equipment such as, but not limited to, water leaks, piping, valves/actuators, and associated controls not listed in above scope.
- Asbestos removal or remediation.

- Refurbish twelve (12) existing fan coil units. Please refer to the HVAC Mechanical Inventory for equipment information.

The Scope of Work includes:

- Replacement of the existing blower motors.
- Replacement of the existing belts and adjustment of pulleys.
- Clean the interior of each unit and coil.
- Perform air flow measurements at the inlet and outlet of each unit.
- Start-up and testing of the units.
- Documentation of equipment deficiencies and recommendations for any further repairs.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Replacement the fan coil units or controls on the units.
- Replacement of existing hot water or chilled water coils and control valves.

- Any unforeseen repairs such as, but not limited to, existing water leaks and piping.

- Replace four (4) ductless split system units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

  The Scope of Work includes:
  - Removal and proper disposal of the existing units per EPA guidelines.
  - Proper disposal or containment of refrigerant.
  - Installation of four (4) new split system units with programmable thermostats.
  - Disconnection/reconnection of the existing electrical service.
  - Disconnection/reconnection of existing condensate drain lines (installation of new condensate pump as required).
  - Start-up/testing of the new units.

  The Scope of Work excludes:
  - Undisclosed electrical and structural upgrades/modifications.

Lighting

- Retrofit existing interior T8 fluorescent, compact fluorescent (CF) and incandescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building and pole-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Fire Station #9

Controls

- Provide and install a new building automation system (BAS) to control two (2) HVAC units.

  The Scope of Work includes:
  - Disconnection and removal of the existing thermostats.
  - Installation of new control wiring as necessary.
  - Installation of new wall mounted temperature sensors.
  - Engineering, programming, commissioning, documentation, graphics, and start-up.
  - Integration to the City's existing Johnson Controls BAS network server.

  The Scope of Work excludes:
  - Any required upgrades or improvements to the existing network.
  - Controls for existing evaporative cooling units, heating only units, ductless split system units, and window AC units.

Mechanical

- Replace one (1) packaged HVAC unit with a new high efficiency unit of similar size and capacity.

  The Scope of Work includes:
  - Removal and proper disposal of the existing unit per EPA guidelines.
  - Proper disposal or containment of refrigerant.

- Installation of one (1) new packaged rooftop unit.
- Duct/curb modifications needed to install unit.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of a new electrical disconnect.
- Installation of economizer and MERV 13 filters as per manufacturer's recommendations.
- Protective coil coatings.
- Condensate connections.
- Connection to the new BAS.
- Start-up/testing of the new unit.

The Scope of Work excludes:

- Electrical and structural upgrades/modifications not specifically included in the scope.
- Roofing other than repairs required for new roof curb adapters.

Lighting

- Retrofit existing interior T8 fluorescent and incandescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Fire Station #10

Controls

- Recommission the existing Johnson Controls BAS.

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace three (3) split system HVAC units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of three (3) new split system units.
- Duct modifications needed to install units.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Disconnection/reconnection of existing condensate drain lines.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.

Lighting

- Retrofit existing interior T8 fluorescent and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Fire Station #11

Controls

- Recommission the existing Johnson Controls BAS.

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace three (3) split system HVAC units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of three (3) new split system units.
- Duct modifications needed to install units.

- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Disconnection/reconnection of existing condensate drain lines.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.

Lighting

- Retrofit existing interior T8 fluorescent and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Detail in Attachment B for detailed information on lighting scope, quantities, and locations.

Fire Station #12

Controls

- Provide and install a new building automation system (BAS) to control five (5) HVAC units.

The Scope of Work includes:

- Disconnection and removal of the existing thermostats.
- Installation of new control wiring as necessary.
- Installation of new wall mounted temperature sensors.
- Engineering, programming, commissioning, documentation, graphics, and start-up.
- Integration to the City's existing Johnson Controls BAS network server.

The Scope of Work excludes:

- Any required upgrades or improvements to the existing network.
- Controls for existing evaporative cooling units, heating only units, ductless split system units, and window AC units.

Mechanical

- Replace five (5) packaged HVAC units with new high efficiency units of similar size and capacity.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of five (5) new packaged units.
- Duct/curb modifications needed to install units.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Installation of economizers and MERV 13 filters as per manufacturer's recommendations.

- Disconnection/reconnection of existing condensate drain lines.
- Connection to the new BAS.
- Start-up/testing of the new units.

The Scope of Work excludes:

- Electrical and structural upgrades/modifications not specifically included in the scope.

Lighting

- Retrofit existing interior T8 fluorescent and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Fire Station #13

Controls

- Provide and install a new building automation system (BAS) to control one (1) HVAC unit.

The Scope of Work includes:

- Disconnection and removal of the existing thermostat.
- Installation of new control wiring as necessary.
- Installation of new wall mounted temperature sensor.
- Engineering, programming, commissioning, documentation, graphics, and start-up.
- Integration to the City's existing Johnson Controls BAS network server.

The Scope of Work excludes:

- Any required upgrades or improvements to the existing network.
- Controls for existing evaporative cooling units, heating only units, ductless split system units, and window AC units.

Mechanical

- Replace one (1) packaged HVAC unit with a new high efficiency unit of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing unit per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of one (1) new packaged unit.
- Necessary duct/curb modifications.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnect.
- Protective coil coatings on the new unit.
- Installation of economizer and MERV 13 filters as per manufacturer's recommendations.
- Disconnection/reconnection of existing condensate drain line.
- Connection to the new BAS.
- Start-up/testing of the new unit.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Roofing other than repairs required for new roof curb adapters.

Lighting

- Retrofit existing interior T8 fluorescent and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

History Museum

Controls

- Recommission the existing Johnson Controls BAS.

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace three (3) packaged HVAC units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of three (3) new packaged units.
- Duct/curb modifications needed to install units.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Installation of economizers and MERV 13 filters as per manufacturer's recommendations.
- Disconnection/reconnection of existing condensate drain lines.
- Disconnection/reconnection to the existing BAS.

- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Roofing other than repairs required for new roof curb adapters.

Main Library

Controls

- Recommission the existing Johnson Controls BAS.

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace two (2) packaged HVAC units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of two (2) new packaged units.
- Duct/curb modifications needed to install units.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Installation of economizers and MERV 13 filters as per manufacturer's recommendations.
- Disconnection/reconnection of existing condensate drain lines.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Roofing other than repairs required for new roof curb adapters.

Lighting

- Retrofit existing interior T8 fluorescent, incandescent, and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Troubleshoot and Repair one (1) existing lighting control panel (Panel R2A located in Conference Room 212). (This is to correct an issue within the panel only.)

  The Scope of Work includes:
  - Identify deficiencies associated with the existing lighting control panel.
  - Repair and/or replace inoperable components within the lighting control panel.
  - Test and verify operation of the panel.

  The Scope of Work excludes:
  - Repair or replacement of existing electrical components outside of the lighting control panel including but not limited to low voltage wiring, low voltage switches, and lighting systems not included in the lighting scope of work.

Manor Branch Library

Controls

- Recommission the existing Johnson Controls BAS.

  The Scope of Work includes:
  - Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
  - Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
  - Verify valve and/or damper actuators are operating correctly according to the control signals.
  - Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
  - Provide a system start-up and report indicating system deficiencies.

  The Scope of Work excludes:
  - Any repair or replacement of existing control system components.

Mechanical

- Replace one (1) packaged air conditioning unit with a new high efficiency unit of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

  The Scope of Work includes:
  - Removal and proper disposal of the existing unit per EPA guidelines.
  - Proper disposal or containment of refrigerant.
  - Installation of one (1) new packaged variable air volume (VAV) unit.
  - Duct/curb modifications needed to install unit.
  - Disconnection/reconnection of the existing electrical service.

- Installation of new electrical disconnect.
- Protective coil coatings on the new unit.
- Installation of economizer and MERV 13 filters as per manufacturer's recommendations.
- Disconnection/reconnection of existing condensate drain line.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new unit.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Roofing other than repairs required for new roof curb adapters.

- Replace one (1) ductless split system unit with a new high efficiency unit of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing unit per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of one (1) new split system unit with programmable thermostat.
- Disconnection/reconnection of the existing electrical service.
- Disconnection/reconnection of existing condensate drain line (installation of new condensate pump as required).
- Start-up/testing of the new unit.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.

Lighting

- Retrofit existing interior T5 fluorescent, incandescent, and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building and pole-mounted CF and high-intensity discharge (HID) lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Marina Community Center

Lighting

- Retrofit existing interior T8 fluorescent and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Public Safety

Controls

- Recommission the existing Johnson Controls BAS.

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.
- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace one (1) water-cooled chiller, one (1) chilled water pump, and one (1) condenser water pump with new high efficiency units of similar size and capacity.

  The Scope of Work includes:

  - Removal and proper disposal of the existing chiller and pumps per EPA requirements.
  - Installation of one (1) new water-cooled chiller and two (2) new pumps.
  - Disconnection/reconnection of the existing electrical service.
  - Disconnection/reconnection of existing chilled water and condenser water piping (at inlet and outlet of unit).
  - Disconnection/reconnection to the existing BAS.
  - Start-up/testing of the new units.
  - Final engineering will determine new chiller design specifications.

  The Scope of Work excludes:

  - Electrical upgrades/modifications not specifically included in the scope.
  - Repairs such as, but not limited to, water leaks, expansion tanks, piping, valves/actuators, chiller water feed, associated water circulating pumps and associated controls, not specifically included in the scope.

- Replace four (4) roof-mounted air handling units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

  The Scope of Work includes:

  - Removal and proper disposal of the existing units per EPA guidelines.
  - Installation of four (4) new air handling units.
  - Necessary piping modifications at the inlet and outlet of each replacement unit.
  - Replacement of existing control valves at the new units.
  - Duct/curb modifications needed to install units.
  - Disconnection/reconnection of the existing electrical service.
  - Disconnection/reconnection to the existing controls.

- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Roofing other than repairs required for new roof curb adapters.
- Unforeseen repairs to existing equipment such as, but not limited to, water leaks, piping, valves/actuators, and associated controls not listed in above scope.
- Asbestos removal or remediation.

- Replace one (1) ductless split system unit with a new high efficiency unit of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing unit per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of one (1) new split system unit with programmable thermostat.
- Disconnection/reconnection of the existing electrical service.
- Disconnection/reconnection of existing condensate drain line (installation of new condensate pump as required).
- Start-up/testing of the new unit.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.

Lighting

- Retrofit existing interior T8 fluorescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Public Works

Controls

- Expand the existing Johnson Controls BAS to three (3) HVAC units serving the Parks, Building Maintenance, and Shop buildings.

The Scope of Work includes:

- Disconnection and removal of the existing thermostats.
- Installation of new control wiring as necessary.
- Installation of new wall mounted temperature sensors.
- Engineering, programming, commissioning, documentation, graphics, and start-up.
- Integration to the City's existing Johnson Controls BAS network server.

The Scope of Work excludes:

- Any required upgrades or improvements to the existing network.

- Controls for existing evaporative cooling units, heating only units, ductless split system units, and window AC units.

Mechanical

- Replace four (4) packaged HVAC units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of four (4) new packaged units.
- Duct/curb modifications needed to install units.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Installation of economizers and MERV 13 filters as per manufacturer's recommendations.
- Disconnection/reconnection of existing condensate drain lines.
- Connection to the existing, or new, BAS.
- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Roofing other than repairs required for new roof curb adapters.

Lighting

- Retrofit existing interior T8 fluorescent, T12 fluorescent, and CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior T8 fluorescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

San Leandro Aquatic Center

Controls

- Recommission the existing Johnson Controls BAS.

The Scope of Work includes:

- Verify control components wired to each controller, including disconnecting wire to confirm failures are reporting correctly.
- Verify operation of all phases for each piece of HVAC equipment connected to the BAS in heating, cooling and/or economizer modes.
- Verify valve and/or damper actuators are operating correctly according to the control signals.
- Reprogram equipment occupied/unoccupied schedules and set points according to facility occupied hours.

- Provide a system start-up and report indicating system deficiencies.

The Scope of Work excludes:

- Any repair or replacement of existing control system components.

Mechanical

- Replace four (4) packaged HVAC units with new high efficiency units of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

The Scope of Work includes:

- Removal and proper disposal of the existing units per EPA guidelines.
- Proper disposal or containment of refrigerant.
- Installation of four (4) new packaged units.
- Duct/curb modifications needed to install units.
- Disconnection/reconnection of the existing electrical and gas service.
- Installation of new electrical disconnects.
- Protective coil coatings on the new units.
- Installation of economizers and MERV 13 filters as per manufacturer's recommendations.
- Disconnection/reconnection of existing condensate drain lines.
- Disconnection/reconnection to the existing BAS.
- Start-up/testing of the new units.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.

Pool Circulation Pump

- Provide and install a new aquatic management system equipped with a variable frequency drive (VFD) to control the existing Recreation Pool circulation pump.

The Scope of Work includes:

- Installation of a new aquatic management system with VFD to control one (1) existing 20 HP pool circulation pump.
- The system will work in tandem with the existing filter and chemical controls.
- Start-up/testing of the new system.
- Final engineering to determine VFD specifications.

The Scope of Work excludes:

- Undisclosed electrical and structural upgrades/modifications.
- Replacement and/or repair of the existing filtration equipment, chemical control systems, and pool heating equipment.

Lighting

- Retrofit existing interior T8 fluorescent, T12 fluorescent, CF, and incandescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Senior Community Center

Lighting

- Retrofit existing interior T8 fluorescent, CF, and incandescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

- Retrofit existing exterior building-mounted CF lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

South Branch Library

Mechanical

- Replace one (1) split system HVAC unit with a new high efficiency unit of similar size and capacity. Please refer to the HVAC Mechanical Inventory for equipment size and location.

  The Scope of Work includes:
  - Removal and proper disposal of the existing unit per EPA guidelines.
  - Proper disposal or containment of refrigerant.
  - Installation of one (1) new split system unit.
  - Duct modifications needed to install unit.
  - Disconnection/reconnection of the existing electrical service.
  - Installation of new electrical disconnect.
  - Protective coil coatings on the new unit.
  - Disconnection/reconnection of existing condensate drain line.
  - Disconnection/reconnection to the existing Johnson Controls thermostat.
  - Start-up/testing of the new unit.

  The Scope of Work excludes:
  - Undisclosed electrical and structural upgrades/modifications.

Lighting

- Retrofit existing interior T8 fluorescent lighting systems with new high efficiency LED lighting systems. Please see the Lighting Summary in Attachment B for detailed information on lighting scope, quantities, and locations.

Attachment "B"

Lighting Summary

City of San Leandro - Lighting Detail Report

(sorted by building, floor, area)

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-15 Rm - 109	2x2x 3L rec trf pblc, Biax 22", CF ballast	13	115	1.495	2,300	3,439	13	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.663	2,300	1,525	0.832	1,914
Rf#-16 Rm - Kitchen	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-17 Rm - Rec Conf	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-18 Rm - 107 - Rec Open Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	17	115	1.955	2,300	4,497	17	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.867	2,300	1,994	1.088	2,502
Rf#-19 Rm - Office - Dong	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-20 Rm - Office - Brandt	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,300	469	0.256	589
Rf#-21 Rm - Gallery	2x2x 3L rec trf pblc, Biax 22", CF ballast	13	115	1.495	2,300	3,439	13	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.663	2,300	1,525	0.832	1,914
Rf#-22 Rm - Store	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	1,500	518	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	1,500	230	0.192	288
Rf#-23 Rm - 112 - Council	LED - not counted, LED ?w, n/a		0	0	600	0	0	DND - DND: (do not do, fixtures left as is)	0	0	600	0	0	0
Rf#-24 Rm - AV	2x2x 3L rec trf pblc, Biax 22", CF ballast	1	115	0.115	2,300	265	1	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.051	2,300	117	0.064	147
Rf#-25 Rm - Traffic	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-26 Rm - Store	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	1,500	345	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.102	1,500	153	0.128	192
Rf#-27 Rm - Hall - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	5	115	0.575	2,300	1,323	5	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.255	2,300	586	0.32	736
Rf#-28 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-29 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-30 Rm - Office - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-31 Rm - Office - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-32 Rm - Office - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-33 Rm - Office - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-34 Rm - Office - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-35 Rm - Office - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294

City of San Leandro - Lighting Detail Report

(sorted by building, floor, area)

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-36 Rm - Printer - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-37 Rm - Conf - Engineering	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-38 Rm - 102 - Open Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	40	115	4.6	2,300	10,580	40	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	2.04	2,300	4,692	2.56	5,888
Rf#-39 Rm - Conf	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-40 Rm - Office - Smith	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-41 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-42 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-43 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-44 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-45 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	2,300	704	0.384	883
Rf#-46 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-47 Rm - Copy	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-48 Rm - Engineering Inspection	2x2x 3L rec trf pblc, Biax 22", CF ballast	18	115	2.07	2,300	4,761	18	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.918	2,300	2,111	1.152	2,650
Rf#-49 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-50 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-51 Rm - Printer	2x2x 3L rec trf pblc, Biax 22", CF ballast	8	115	0.92	2,300	2,116	8	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.408	2,300	938	0.512	1,178
Rf#-52 Rm - Board Room	DND (do not do, left as is), LED 12w?, n/a		12	0	1,500	0	0	DND - DND: (do not do, fixtures left as is)	12	0	1,500	0	0	0
Rf#-53 Rm - Board Room overflow	Inc. 1L track light, Inc. 50w P20, n/a	17	50	0.85	1,500	1,275	17	RL051/b20 - (1) LED 5w R20 screw in lamp, 4000K	5	0.085	1,500	128	0.765	1,148
Rf#-54 Rm - B RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,500	413	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,500	147	0.076	266
Rf#-55 Rm - B RR	CF 2L rec can 6", CFP-26w, CF ballast	3	66	0.198	3,500	693	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,500	126	0.162	567
Rf#-56 Rm - G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,500	413	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,500	147	0.076	266
Rf#-57 Rm - G RR	CF 2L rec can 6", CFP-26w, CF ballast	3	66	0.198	3,500	693	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,500	126	0.162	567
Rf#-58 Rm - Msc Halls	CF 2L rec can 6", CFP-26w, CF ballast	228	66	15.048	4,000	60,192	228	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	2.736	4,000	10,944	12.312	49,248

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-59 Rm - Msc Halls	2x2x 3L rec trf pblc, Biax 22", CF ballast	10	115	1.15	2,300	2,645	10	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.51	2,300	1,173	0.64	1,472
Rf#-60 Rm - Ext - Bldg Front - Pole Mount	LED 1L post top Deco Box (GC), LED 45w CC, n/a	2	45	0.09	4,380	394	2	DND - DND: (do not do, fixtures left as is)	45	0.09	4,380	394	0	0
Rf#-61 Rm - Ext - Bldg Front - Wall Mount	LED 1L flood, knuckle (Lith), LED 19w, n/a	4	19	0.076	4,380	333	4	DND - DND: (do not do, fixtures left as is)	19	0.076	4,380	333	0	0
Rf#-62 Rm - Ext - Bldg North - Pole Mount	LED 1L post top Deco Box (GC), LED 45w CC, n/a	2	45	0.09	4,380	394	2	DND - DND: (do not do, fixtures left as is)	45	0.09	4,380	394	0	0
Rf#-63 Rm - Ext - Bldg North	LED 1L sm square (XTR), LED 17w, n/a	2	17	0.034	4,380	149	2	DND - DND: (do not do, fixtures left as is)	17	0.034	4,380	149	0	0
Rf#-64 Rm - Ext- Bldg Back - Pole Mount	LED 1L post top Deco Box (GC), LED 45w CC, n/a	1	45	0.045	4,380	197	1	DND - DND: (do not do, fixtures left as is)	45	0.045	4,380	197	0	0
Rf#-65 Rm - Ext - Bldg Back - Stairs	LED 1L post top Deco Box (GC), LED 45w CC, n/a	3	45	0.135	4,380	591	3	DND - DND: (do not do, fixtures left as is)	45	0.135	4,380	591	0	0
Rf#-66 Rm - Ext - Bldg Back - Wall Mount	CF 2L wm sconce, CFP-32w, CF ballast	2	70	0.14	4,380	613	2	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.044	4,380	193	0.096	420
Rf#-67 Rm - North Parking - Pole Mount	LED 1L post top Deco Box (GC), LED 45w CC, n/a	12	45	0.54	4,380	2,365	12	DND - DND: (do not do, fixtures left as is)	45	0.54	4,380	2,365	0	0
Rf#-68 Rm - North Parking - Pole Mount	CFL 1L flood, knuckle, CFP-42w, CF ballast	4	45	0.18	4,380	788	4	NL030/fld - New LED flood, knuckle mount, 50,000-Hr L70 rated life, 30w	30	0.12	4,380	526	0.06	263
Rf#-69 Rm - North Parking - Pergola	LED 1L silver box (City), LED 30w?, n/a	5	30	0.15	4,380	657	5	DND - DND: (do not do, fixtures left as is)	30	0.15	4,380	657	0	0
Rf#-132 Rm - B RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,500	413	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,500	147	0.076	266
Rf#-133 Rm - B RR	CF 2L rec can 6", CFP-26w, CF ballast	3	66	0.198	3,500	693	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,500	126	0.162	567
Rf#-134 Rm - G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,500	413	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,500	147	0.076	266
Rf#-135 Rm - G RR	CF 2L rec can 6", CFP-26w, CF ballast	3	66	0.198	3,500	693	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,500	126	0.162	567
2nd Floor														
Rf#-70 Rm - Lobby - Mayor	2x2x 3L rec trf pblc, Biax 22", CF ballast	10	115	1.15	2,300	2,645	10	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.51	2,300	1,173	0.64	1,472
Rf#-71 Rm - Conference	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,300	469	0.256	589
Rf#-72 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-73 Rm - Copy	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-74 Rm - Hall	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-75 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-76 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-77 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-78 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-79 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-80 Rm - City Manager	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	2,300	704	0.384	883
Rf#-81 Rm - Mayor	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	2,300	704	0.384	883
Rf#-82 Rm - Lobby - Schools	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-83 Rm - Open Office - Schools	2x2x 3L rec trf pblc, Biax 22", CF ballast	24	115	2.76	2,300	6,348	24	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	1.224	2,300	2,815	1.536	3,533
Rf#-84 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,300	469	0.256	589
Rf#-85 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-86 Rm - Superintendent	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	2,300	704	0.384	883
Rf#-87 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-88 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-89 Rm - Office - Z	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-90 Rm - Office - Clark	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-91 Rm - Store	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-92 Rm - Files	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-93 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-94 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-95 Rm - Glenns	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-96 Rm - Open Office - IMS	2x2x 3L rec trf pblc, Biax 22", CF ballast	21	115	2.415	2,300	5,555	21	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	1.071	2,300	2,463	1.344	3,091
Rf#-97 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-98 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.153	2,300	352	0.192	442
Rf#-99 Rm - Office - Ryan	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442

W* = wall switch sensor; C* = ceiling sensor; E* = existing sensor, L* Dimming Control

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-100 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-101 Rm - Kitchen	2x2x 3L rec trf pblc, Biax 22", CF ballast	1	115	0.115	2,300	265	1	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.051	2,300	117	0.064	147
Rf#-102 Rm - Computer	2x2x 3L rec trf pblc, Biax 22", CF ballast	12	115	1.38	2,300	3,174	12	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.612	2,300	1,408	0.768	1,766
Rf#-103 Rm - Server	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-104 Rm - IT Store	2x2x 3L rec trf pblc, Biax 22", CF ballast	8	115	0.92	2,300	2,116	8	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.408	2,300	938	0.512	1,178
Rf#-105 Rm - Hall	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,300	469	0.256	589
Rf#-106 Rm - 204 - Training	2x2x 3L rec trf pblc, Biax 22", CF ballast	8	115	0.92	2,300	2,116	8	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.408	2,300	938	0.512	1,178
Rf#-107 Rm - Records	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	1,500	1,035	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	1,500	459	0.384	576
Rf#-108 Rm - Kitchen	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.102	2,300	235	0.128	294
Rf#-109 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-110 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-111 Rm - Records	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-112 Rm - S11	2x2x 3L rec trf pblc, Biax 22", CF ballast	1	115	0.115	1,500	173	1	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.051	1,500	76	0.064	96
Rf#-113 Rm - S13	2x2x 3L rec trf pblc, Biax 22", CF ballast	1	115	0.115	2,300	265	1	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.051	2,300	117	0.064	147
Rf#-114 Rm - 207 - HR	2x2x 3L rec trf pblc, Biax 22", CF ballast	14	115	1.61	2,300	3,703	14	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.714	2,300	1,642	0.896	2,061
Rf#-115 Rm - Records	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	1,500	345	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	1,500	153	0.128	192
Rf#-116 Rm - Office - Hung	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-117 Rm - Office - Taran	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-118 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-119 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	2,300	704	0.384	883
Rf#-120 Rm - Conf	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-121 Rm - 211	2x2x 3L rec trf pblc, Biax 22", CF ballast	17	115	1.955	2,300	4,497	17	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.867	2,300	1,994	1.088	2,502
Rf#-122 Rm - Conf	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589

W* = wall switch sensor; C* = ceiling sensor; E* = existing sensor, L* Dimming Control

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-123 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	2,300	529	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.102	2,300	235	0.128	294
Rf#-124 Rm - Conference - Finance	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,300	704	0.384	883
Rf#-125 Rm - Hall	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-126 Rm - Copy	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-127 Rm - Open	2x2x 3L rec trf pblc, Biax 22", CF ballast	3	115	0.345	2,300	794	3	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.153	2,300	352	0.192	442
Rf#-128 Rm - Director Finance	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,300	1,587	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.306	2,300	704	0.384	883
Rf#-129 Rm - Asst Finance	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-130 Rm - Budget	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-131 Rm - Payroll	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,300	1,058	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life e-oDS10	51	0.204	2,300	469	0.256	589
Rf#-136 Rm - MSC Halls	2x2x 3L rec trf pblc, Biax 22", CF ballast	10	115	1.15	2,300	2,645	10	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.51	2,300	1,173	0.64	1,472
Rf#-137 Rm - Msc Halls	CF 2L rec can 6", CFP-26w, CF ballast	162	66	10.692	3,500	37,422	162	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	1.944	3,500	6,804	8.748	30,618
Basement														
Rf#-1 Rm - Evidence	2x4x 3L sm box, F32T8 32w, electronic ballast	17	90	1.53	1,500	2,295	17	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.5355	1,500	803	0.9945	1,492
Rf#-2 Rm - Vault	2x4x 3L sm box, F32T8 32w, electronic ballast	3	90	0.27	1,500	405	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	1,500	142	0.1755	263
Rf#-3 Rm - Fire Files	2x4x 3L sm box, F32T8 32w, electronic ballast	6	90	0.54	1,500	810	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	1,500	284	0.351	526
Rf#-4 Rm - Crime Lab	2x4x 3L sm box, F32T8 32w, electronic ballast	6	90	0.54	1,500	810	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	1,500	284	0.351	526
Rf#-5 Rm - Storage CMO	2x4x 3L sm box, F32T8 32w, electronic ballast	8	90	0.72	1,500	1,080	8	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.252	1,500	378	0.468	702
Rf#-6 Rm - Storage Engineering	2x4x 3L sm box, F32T8 32w, electronic ballast	13	90	1.17	1,500	1,755	13	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.4095	1,500	614	0.7605	1,141
Rf#-7 Rm - Central Services	2x4x 3L rec trf, F32T8 32w, electronic ballast	22	90	1.98	2,200	4,356	22	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.693	2,200	1,525	1.287	2,831
Rf#-8 Rm - Janitor Storage	2x4x 3L rec trf, F32T8 32w, electronic ballast	6	90	0.54	500	270	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	500	94	0.351	176
Rf#-9 Rm - Boiler	2x4x 3L rec trf, F32T8 32w, electronic ballast	4	90	0.36	500	180	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	500	63	0.234	117
Rf#-10 Rm - Files	2x4x 3L rec trf, F32T8 32w, electronic ballast	7	90	0.63	1,000	630	7	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.2205	1,000	220	0.4095	410
Rf#-11 Rm - B RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,500	413	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,500	147	0.076	266

City Hall -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-12 Rm - B RR	CF 2L rec can 6", CFP-26w, CF ballast	3	66	0.198	3,500	693	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,500	126	0.162	567
Rf#-13 Rm - G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,500	413	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,500	147	0.076	266
Rf#-14 Rm - G RR	CF 2L rec can 6", CFP-26w, CF ballast	3	66	0.198	3,500	693	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,500	126	0.162	567
	Qty and kW for City Hall :	**1,103**		**100.0**			**1,103**			**36.8**			**63.2**	
			kWh for City Hall :			**265,347**						**92,142**		**173,215**

Downtown Parking Garage -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main														
1st Floor														
Rf#-1 Rm - North Stair	LED 2L wm wp FCO (Lun), LED 15w pin, n/a	3	30	0.09	4,380	394	3	DND - DND: (do not do, fixtures left as is)	30	0.09	4,380	394	0	0
Rf#-2 Rm - North Stair	LED 1L wm wp FCO EMR (LUN), LED 15w pin, n/a	3	15	0.045	8,760	394	3	DND - DND: (do not do, fixtures left as is)	15	0.045	8,760	394	0	0
Rf#-3 Rm - North Stair	1x8x 4L sm vapor tight (ALE kit), LED 68w, LED Driver 0-10v	1	68	0.068	8,760	596	1	DND - DND: (do not do, fixtures left as is) e-Fxt	68	0.068	8,760	596	0	0
Rf#-4 Rm - North Stair	1x4x 2L sm vapor tight (ALE kit) emr, LED 36w, LED Driver 0-10v	1	36	0.036	8,760	315	1	DND - DND: (do not do, fixtures left as is) e-Fxt	36	0.036	8,760	315	0	0
Rf#-5 Rm - Middle Stair	LED 1L wm wp FCO EMR (LUN), LED 15w pin, n/a	3	15	0.045	4,380	197	3	DND - DND: (do not do, fixtures left as is)	15	0.045	4,380	197	0	0
Rf#-6 Rm - Middle Stair	LED 1L wm wp FCO EMR (LUN), LED 15w pin, n/a	2	15	0.03	8,760	263	2	DND - DND: (do not do, fixtures left as is)	15	0.03	8,760	263	0	0
Rf#-7 Rm - South Stair	LED 1L wm wp FCO EMR (LUN), LED 15w pin, n/a	4	15	0.06	4,380	263	4	DND - DND: (do not do, fixtures left as is)	15	0.06	4,380	263	0	0
Rf#-8 Rm - South Stair	LED 1L wm wp FCO EMR (LUN), LED 15w pin, LED Driver 0-10v	3	15	0.045	8,760	394	3	DND - DND: (do not do, fixtures left as is)	15	0.045	8,760	394	0	0
Rf#-9 Rm - South Stair	1x8x 4L sm vapor tight (ALE kit) EMR, LED 68w, LED Driver 0-10v	1	68	0.068	8,760	596	1	DND - DND: (do not do, fixtures left as is) e-Fxt	68	0.068	8,760	596	0	0
Rf#-10 Rm - South Stair	1x4x 2L sm vapor tight (ALE kit) emr, LED 36w, LED Driver 0-10v	1	36	0.036	8,760	315	1	DND - DND: (do not do, fixtures left as is) e-Fxt	36	0.036	8,760	315	0	0
Rf#-11 Rm - Elevator 1	LED 1l sm can (GC), LED 8.5w A19, n/a	6	8.5	0.051	8,760	447	6	DND - DND: (do not do, fixtures left as is)	8	0.051	8,760	447	0	0
Rf#-12 Rm - Elevator 2	LED 1l sm can (GC), LED 8.5w A19, n/a	6	8.5	0.051	8,760	447	6	DND - DND: (do not do, fixtures left as is)	8	0.051	8,760	447	0	0
Rf#-13 Rm - Parking Levels 1-4	1x8x 4L sm vapor tight (ALE kit), LED 68w, LED Driver 0-10v	68	68	4.624	8,760	40,506	68	DND - DND: (do not do, fixtures left as is) e-Fxt	68	4.624	8,760	40,506	0	0
Rf#-14 Rm - Parking Levels 1-4	1x8x 4L sm vapor tight (ALE kit) EMR, LED 68w, LED Driver 0-10v	40	68	2.72	8,760	23,827	40	DND - DND: (do not do, fixtures left as is) e-Fxt	68	2.72	8,760	23,827	0	0
4th Floor														
Rf#-15 Rm - Parking Level 4 - Roof	LED 1L are light, SQ (VIS BSX), LED 81w, LED Driver 0-10v	6	81	0.486	4,380	2,129	6	DND - DND: (do not do, fixtures left as is) e-oemB	81	0.486	4,380	2,129	0	0
Qty and kW for Downtown Parking Garage :		**148**		**8.5**			**148**			**8.5**			**0.0**	
kWh for Downtown Parking Garage :						**71,083**						**71,083**		

Farrelly Pool -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - All Interior Space	DND (do not do, left as is), n/a, n/a		0	0	2,500	0	0	DND - DND: (do not do, fixtures left as is)	0	0	2,500	0	0	0
Rf#-2 Rm - All Exterior Space	DND (do not do, left as is), n/a, n/a		0	0	4,380	0	0	DND - DND: (do not do, fixtures left as is)	0	0	4,380	0	0	0
Qty and kW for Farrelly Pool :				**0.0**						**0.0**			**0.0**	
kWh for Farrelly Pool :														

Fire Station #10 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Lobby	LED 1L map track light (GC), LED 7.5w MR16, n/a	4	7.5	0.03	2,500	75	4	DND - DND: (do not do, fixtures left as is)	8	0.03	2,500	75	0	0
Rf#-2 Rm - Garage Bays	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	42	59	2.478	4,400	10,903	42	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.882	4,400	3,881	1.596	7,022
Rf#-3 Rm - Room 127	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	2	59	0.118	2,500	295	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.076	190
Rf#-4 Rm - Room 126	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	12	59	0.708	2,500	1,770	12	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.252	2,500	630	0.456	1,140
Rf#-5 Rm - Room 125	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-6 Rm - kitchen	1x4x 2L pm radial wp, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-7 Rm - kitchen	CF 1L rec can HZ, CFP-26w, CF ballast	3	30	0.09	2,500	225	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	2,500	90	0.054	135
Rf#-8 Rm - TV/dining area	CF 6L pm deco HZ, CFP-26w, CF ballast	2	198	0.396	2,500	990	2	RL0116/h - (6) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	66	0.132	2,500	330	0.264	660
Rf#-9 Rm - TV/dining area	CF 4L deco HZ, CFP-26w, CF ballast	4	132	0.528	2,500	1,320	4	RL0114/h - (4) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	44	0.176	2,500	440	0.352	880
Rf#-10 Rm - hallway	CF 1L wm sonce, CFP-26w, CF ballast	7	30	0.21	2,500	525	7	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.077	2,500	192	0.133	332
Rf#-11 Rm - storage room (tshirts on wall)	1x4x 2L sm strip (City), LED 15w?, n/a		30	0	500	0	0	DND - DND: (do not do, fixtures left as is)	30	0	500	0	0	0
Rf#-12 Rm - small work room	1x4x 2L sm strip (City), LED 15w?, n/a		30	0	2,500	0	0	DND - DND: (do not do, fixtures left as is)	30	0	2,500	0	0	0
Rf#-13 Rm - B RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-14 Rm - B RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-15 Rm - Janitor Storage	1x4x 1L sm strip, F32T8 32w, electronic ballast	2	31	0.062	500	31	2	RLT841dw - (1) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	10	0.021	500	10	0.041	20
Rf#-16 Rm - G RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-17 Rm - G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-18 Rm - Linen Room	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	2,500	295	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.076	190
Rf#-19 Rm - RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-20 Rm - RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-21 Rm - Map hallway	1x4x 2L sm wall wash, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95

Fire Station #10 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - entry lobby	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95
Rf#-23 Rm - Capitains Office	2x4x 2L sm box, F32T8 32w, electronic ballast	2	59	0.118	1,500	177	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	1,500	63	0.076	114
Rf#-24 Rm - Capitans Sleeping area	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-25 Rm - Capitans Sleeping area	1x4x 2L wm wrap, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-26 Rm - Sleeping Room #1	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-27 Rm - Sleeping Room #1	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-28 Rm - Sleeping Room #1	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-29 Rm - Sleeping Room #2	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-30 Rm - Sleeping Room #2	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-31 Rm - Sleeping Room #2	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-32 Rm - Sleeping Room #3	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-33 Rm - Sleeping Room #3	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-34 Rm - Sleeping Room #3	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-35 Rm - Sleeping Room #4	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-36 Rm - Sleeping Room #4	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-37 Rm - Sleeping Room #4	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-38 Rm - Ext - Flag Pole	LED 1L flood, knuckle (Lith), LED 19w, n/a	3	19	0.057	4,380	250	3	DND - DND: (do not do, fixtures left as is)	19	0.057	4,380	250	0	0
Rf#-39 Rm - Ext - Pole Mount	LED 1L show box SqP BK (VIS BSX), LED 81w, LED Driver 0-10v	4	81	0.324	4,380	1,419	4	DND - DND: (do not do, fixtures left as is) E-FSP211	81	0.324	4,380	1,419	0	0
Qty and kW for Fire Station #10 :		**127**		**7.3**			**127**			**2.9**			**4.4**	
kWh for Fire Station #10 :						**21,294**						**8,687**		**12,602**

Fire Station #11 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Garage Bays	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	42	59	2.478	4,400	10,903	42	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.882	4,400	3,881	1.596	7,022
Rf#-2 Rm - Room 127	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	2	59	0.118	2,500	295	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.076	190
Rf#-3 Rm - Room 126	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	12	59	0.708	2,500	1,770	12	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.252	2,500	630	0.456	1,140
Rf#-4 Rm - Room 125	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-5 Rm - kitchen	1x4x 2L pm radial wp, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-6 Rm - kitchen	CF 1L rec can HZ, CFP-26w, CF ballast	3	30	0.09	2,500	225	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	2,500	90	0.054	135
Rf#-7 Rm - TV/dining area	CF 6L pm deco HZ, CFP-26w, CF ballast	2	198	0.396	2,500	990	2	RL0116/h - (6) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	66	0.132	2,500	330	0.264	660
Rf#-8 Rm - TV/dining area	CF 4L deco HZ, CFP-26w, CF ballast	4	132	0.528	2,500	1,320	4	RL0114/h - (4) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	44	0.176	2,500	440	0.352	880
Rf#-9 Rm - hallway	CF 1L wm sonce HZ, CFP-26w, CF ballast	7	30	0.21	2,500	525	7	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.077	2,500	192	0.133	332
Rf#-10 Rm - B RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-11 Rm - B RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-12 Rm - Janitor Storage	1x4x 1L sm strip, F32T8 32w, electronic ballast	2	31	0.062	500	31	2	RLT841dw - (1) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	10	0.021	500	10	0.041	20
Rf#-13 Rm - G RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-14 Rm - G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-15 Rm - Linen Room	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	2,500	295	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.076	190
Rf#-16 Rm - RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-17 Rm - RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-18 Rm - Map hallway	1x4x 2L sm wall wash, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95
Rf#-19 Rm - entry lobby	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95
Rf#-20 Rm - Capitains Office	2x4x 2L sm box, F32T8 32w, electronic ballast	2	59	0.118	1,500	177	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	1,500	63	0.076	114
Rf#-21 Rm - Capitans Sleeping area	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19

Fire Station #11 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Capitans Sleeping area	1x4x 2L wm wrap, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-23 Rm - Sleeping Room #1	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-24 Rm - Sleeping Room #1	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-25 Rm - Sleeping Room #1	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-26 Rm - Sleeping Room #2	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-27 Rm - Sleeping Room #2	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-28 Rm - Sleeping Room #2	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-29 Rm - Sleeping Room #3	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-30 Rm - Sleeping Room #3	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-31 Rm - Sleeping Room #3	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-32 Rm - Sleeping Room #4	2x4x 2L sm box, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-33 Rm - Sleeping Room #4	1x4x 2L wm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-34 Rm - Sleeping Room #4	Inc. 1L rec can, Inc. 20w Red A19, n/a	1	20	0.02	500	10	1	DND - DND: (do not do, fixtures left as is)	20	0.02	500	10	0	0
Rf#-35 Rm - Ext-Bldg Mnt (walls)	CF 2L wm wall pack (triangle), CFP-32w, CF ballast	15	66	0.99	4,380	4,336	15	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.33	4,380	1,445	0.66	2,891
Rf#-36 Rm - Ext - Flag Pole	LED 1L flood, knuckle (Lith), LED 19w, n/a	2	19	0.038	4,380	166	2	DND - DND: (do not do, fixtures left as is)	19	0.038	4,380	166	0	0
Rf#-37 Rm - Ext - Pole Mount	LED 1L show box SqP BZ (VIS BSX), LED 81w, LED Driver 0-10v	4	81	0.324	4,380	1,419	4	DND - DND: (do not do, fixtures left as is) E-FSP211	81	0.324	4,380	1,419	0	0
Qty and kW for Fire Station #11 :		**137**		**8.3**			**137**			**3.2**			**5.1**	
					kWh for Fire Station #11 :	**25,472**						**9,973**		**15,493**

Fire Station #12 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Garage Bays	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	28	59	1.652	4,400	7,269	28	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.588	4,400	2,587	1.064	4,682
Rf#-2 Rm - Garage Bays	1x4x 2L wall wash, F32T8 32w, electronic ballast	2	59	0.118	4,400	519	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	4,400	185	0.076	334
Rf#-3 Rm - shop work area	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	5	59	0.295	2,500	738	5	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.105	2,500	262	0.19	475
Rf#-4 Rm - laundry	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	2	59	0.118	2,500	295	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.076	190
Rf#-5 Rm - weights	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	8	59	0.472	2,500	1,180	8	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.168	2,500	420	0.304	760
Rf#-6 Rm - storage	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-7 Rm - electrical room	2x4x 2L fxt, F32T8 32w, electronic ballast	6	59	0.354	500	177	6	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.126	500	63	0.228	114
Rf#-8 Rm - Conf Room	2x4x 3L rec trf, F32T8 32w, electronic ballast	6	90	0.54	2,500	1,350	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	2,500	472	0.351	878
Rf#-9 Rm - hallway	CF 1L wm sonce, CFP-26w, CF ballast	6	30	0.18	2,500	450	6	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.066	2,500	165	0.114	285
Rf#-10 Rm - hallway	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	2,500	450	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,500	158	0.117	292
Rf#-11 Rm - Capitains Office	2x4x 3L rec trf, F32T8 32w, electronic ballast	4	90	0.36	1,500	540	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	1,500	189	0.234	351
Rf#-12 Rm - Capitans Sleeping area #1	2x4x 3L rec trf, F32T8 32w, electronic ballast	4	90	0.36	500	180	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	500	63	0.234	117
Rf#-13 Rm - front lobby	2x4x 3L rec trf, F32T8 32w, electronic ballast	5	90	0.45	2,500	1,125	5	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.1575	2,500	394	0.2925	731
Rf#-14 Rm - TV/dining area	2x4x 3L rec trf, F32T8 32w, electronic ballast	6	90	0.54	2,500	1,350	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	2,500	472	0.351	878
Rf#-15 Rm - TV/dining area	CF 2L rec can 6", CFP-26w, CF ballast	2	66	0.132	2,500	330	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,500	60	0.108	270
Rf#-16 Rm - kitchen	2x4x 3L rec trf, F32T8 32w, electronic ballast	10	90	0.9	2,500	2,250	10	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.315	2,500	788	0.585	1,462
Rf#-17 Rm - B/G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-18 Rm - hallway	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	2,500	295	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.076	190
Rf#-19 Rm - B/G RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	2,000	236	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,000	84	0.076	152
Rf#-20 Rm - Capitains Office	2x4x 3L rec trf, F32T8 32w, electronic ballast	4	90	0.36	1,500	540	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	1,500	189	0.234	351
Rf#-21 Rm - Capitans Sleeping area #2	2x4x 3L rec trf, F32T8 32w, electronic ballast	4	90	0.36	500	180	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	500	63	0.234	117

Fire Station #12 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Dorm Room #1	2x4x 3L rec trf, F32T8 32w, electronic ballast	12	90	1.08	500	540	12	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.378	500	189	0.702	351
Rf#-23 Rm - ? Room	CF 2L rec can 6", CFP-26w, CF ballast	2	66	0.132	2,500	330	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,500	60	0.108	270
Rf#-24 Rm - W RR	CF 2L rec can 6", CFP-26w, CF ballast	2	66	0.132	2,000	264	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,000	48	0.108	216
Rf#-25 Rm - hallway	2x2x3L rec trf, F17T8 17w, electronic ballast	2	47	0.094	2,500	235	2	RLT823dw - (3) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,500	105	0.052	130
Rf#-26 Rm - locker room	2x4x 2L rec trf, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95
Rf#-27 Rm - M RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	10	59	0.59	2,000	1,180	10	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.21	2,000	420	0.38	760
Rf#-28 Rm - Ext - Wall Mount - Back	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Rf#-29 Rm - Ext - Various	LED 1L sm square (XTR), LED 17w, n/a	12	17	0.204	4,380	894	12	DND - DND: (do not do, fixtures left as is)	17	0.204	4,380	894	0	0
Qty and kW for Fire Station #12 :		**153**		**10.1**			**153**			**3.7**			**6.4**	
					kWh for Fire Station #12 :	**23,440**						**8,817**		**14,622**

Fire Station #13 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Front Office	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	1,500	168	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	1,500	63	0.07	105
Rf#-2 Rm - Garage Bays	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	18	59	1.062	4,400	4,673	18	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.378	4,400	1,663	0.684	3,010
Rf#-3 Rm - TV/dining area	1x4x 2L rec trf, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-4 Rm - TV/dining area	1x4x 2L sm strip cove, F32T8 32w, electronic ballast	3	59	0.177	2,500	443	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	2,500	158	0.114	285
Rf#-5 Rm - kitchen	1x4x 3L sm wp, F32T8 32w, electronic ballast	3	90	0.27	2,500	675	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	2,500	236	0.1755	439
Rf#-6 Rm - B RR	CF 1L rec square, CFP-26w, CF ballast	1	30	0.03	2,000	60	1	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.011	2,000	22	0.019	38
Rf#-7 Rm - B RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-8 Rm - B RR	1x4x 3L sm wp, F32T8 32w, electronic ballast	1	90	0.09	2,000	180	1	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0315	2,000	63	0.0585	117
Rf#-9 Rm - G RR	CF 1L rec square, CFP-26w, CF ballast	1	30	0.03	2,000	60	1	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.011	2,000	22	0.019	38
Rf#-10 Rm - G RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	1	59	0.059	2,000	118	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,000	42	0.038	76
Rf#-11 Rm - G RR	1x4x 3L sm wp, F32T8 32w, electronic ballast	1	90	0.09	2,000	180	1	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0315	2,000	63	0.0585	117
Rf#-12 Rm - Dorm Room #1	2x4x 2L sm box, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-13 Rm - Dorm Room #2	2x4x 2L sm box, F32T8 32w, electronic ballast	6	59	0.354	500	177	6	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.126	500	63	0.228	114
Rf#-14 Rm - ? Room	1x4x 2L sm strip, F32T8 32w, electronic ballast	4	59	0.236	500	118	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	500	42	0.152	76
Rf#-15 Rm - Ext-Bldg Mnt (eves)	CF 2L sm square, CFP-26w, CF ballast	2	66	0.132	4,380	578	2	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.044	4,380	193	0.088	385
Rf#-16 Rm - Ext-Bldg Mnt (eves)	CF 1L flood, CFP-35w BR30, CF ballast	2	35	0.07	4,380	307	2	NL030/fld - New LED flood, knuckle mount, 50,000-Hr L70 rated life, 30w	30	0.06	4,380	263	0.01	44
Rf#-17 Rm - Ext-Bldg Mnt (eves)	CF 1L wm jelly jar, CFP-26w, CF ballast	2	30	0.06	4,380	263	2	NL012/wp - New LED wall pack full, 50,000-Hr L70 rated life, 12w, built in photo cell	15	0.03	4,380	131	0.03	131
Rf#-18 Rm - Ext-Bldg Mnt (walls)	CF 1L rec square, CFP-26w, CF ballast	1	30	0.03	4,380	131	1	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.011	4,380	48	0.019	83
Rf#-19 Rm - Ext-Bldg Mnt (walls)	CF 1L rec can , CFP-16w BR30, CF ballast	2	16	0.032	4,380	140	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	4,380	105	0.008	35
Rf#-20 Rm - Ext-Bldg Mnt (walls)	CF 2L wm wall pack FCO, CFP-32w, CF ballast	2	66	0.132	4,380	578	2	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.044	4,380	193	0.088	385
Rf#-21 Rm - Ext - Flag Pole	LED 1L flood (GC), LED 8.5w R30, n/a	1	8.5	0.0085	4,380	37	1	DND - DND: (do not do, fixtures left as is)	8	0.0085	4,380	37	0	0

Fire Station #13 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Ext - Sign	LED 1L flood (GC), LED 8.5w R30, n/a	4	8.5	0.034	4,380	149	4	DND - DND: (do not do, fixtures left as is)	8	0.034	4,380	149	0	0
Rf#-23 Rm - Ext - Flood	LED 1L flood, knuckle (Lith), LED 19w, n/a	2	19	0.038	4,380	166	2	DND - DND: (do not do, fixtures left as is)	19	0.038	4,380	166	0	0
Rf#-24 Rm - Ext - Wall Mount	LED 1L sm square (XTR), LED 17w, n/a	1	17	0.017	4,380	74	1	DND - DND: (do not do, fixtures left as is)	17	0.017	4,380	74	0	0
Qty and kW for Fire Station #13 :		**66**		**3.5**			**66**			**1.4**			**2.1**	
					kWh for Fire Station #13 :	**10,043**						**4,069**		**5,972**

Fire Station #9 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - weight room	2x4x 2L rec trf, F32T8 32w, electronic ballast	5	59	0.295	2,500	738	5	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.105	2,500	262	0.19	475
Rf#-2 Rm - garage bay	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	32	59	1.888	4,400	8,307	32	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.672	4,400	2,957	1.216	5,350
Rf#-3 Rm - garage bay	1x8x 2L sm ind hood, F32T8 32w, electronic ballast	16	59	0.944	4,400	4,154	16	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.336	4,400	1,478	0.608	2,675
Rf#-4 Rm - hallway	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95
Rf#-5 Rm - laundry	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,500	148	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.038	95
Rf#-6 Rm - Fitness Room	1x4x 2L sm wp, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-7 Rm - Fitness Room	1x4x 2L sm strip cove, F32T8 32w, electronic ballast	12	59	0.708	2,500	1,770	12	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.252	2,500	630	0.456	1,140
Rf#-8 Rm - Front lobby	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	2,500	450	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,500	158	0.117	292
Rf#-9 Rm - reception desk area	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	2,500	450	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,500	158	0.117	292
Rf#-10 Rm - Capt Office #1	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	1,500	270	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	1,500	94	0.117	176
Rf#-11 Rm - Capt Office #1 Sleep area	2x4x 2L ms box, F32T8 32w, electronic ballast	2	59	0.118	1,500	177	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	1,500	63	0.076	114
Rf#-12 Rm - Capt Office #1 RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	950	112	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	950	40	0.076	72
Rf#-13 Rm - Capt Office #2	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	1,500	270	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	1,500	94	0.117	176
Rf#-14 Rm - Capt Office #2 Sleep area	2x4x 2L ms box, F32T8 32w, electronic ballast	2	59	0.118	1,500	177	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	1,500	63	0.076	114
Rf#-15 Rm - Capt Office #2 RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	950	112	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	950	40	0.076	72
Rf#-16 Rm - turn out hallway	2x4x 3L rec trf, F32T8 32w, electronic ballast	3	90	0.27	2,500	675	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	2,500	236	0.1755	439
Rf#-17 Rm - Dorm Room #1	2x4x 3L rec trf, F32T8 32w, electronic ballast	3	90	0.27	500	135	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	500	47	0.1755	88
Rf#-18 Rm - Dorm Room #2	2x4x 3L rec trf, F32T8 32w, electronic ballast	6	90	0.54	500	270	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	500	94	0.351	176
Rf#-19 Rm - Locker	1x4x 2L sm wp, F32T8 32w, electronic ballast	4	59	0.236	2,500	590	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,500	210	0.152	380
Rf#-20 Rm - Locker	1x4x 2L sm wp, F32T8 32w, electronic ballast	5	59	0.295	2,500	738	5	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.105	2,500	262	0.19	475
Rf#-21 Rm - TV Room	2x4x 3L rec trf, F32T8 32w, electronic ballast	6	90	0.54	2,500	1,350	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	2,500	472	0.351	878

Fire Station #9 -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - TV Room	Inc. 1L rec can, Inc. 52w A19, n/a	6	52	0.312	2,500	780	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	2,500	180	0.24	600
Rf#-23 Rm - Kitchen	2x4x 4L rec can, F32T8 32w, electronic ballast	2	112	0.224	2,500	560	2	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.084	2,500	210	0.14	350
Rf#-24 Rm - Kitchen	2x2x3L rec trf, F17T8 17w, electronic ballast	1	47	0.047	2,500	118	1	RLT823dw - (3) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,500	52	0.026	65
Rf#-25 Rm - Ext - Wall Mount @ BBQ	CF 2L wm vandal, CFP-26w, CF ballast	3	30	0.09	4,380	394	3	NL012/wp - New LED wall pack full, 50,000-Hr L70 rated life, 12w, built in photo cell	15	0.045	4,380	197	0.045	197
Rf#-26 Rm - Ext - Pole Mount	LED 1L flood, cobra KM GY (VIS BSX), LED 54w, LED Driver 0-10v	1	54	0.054	4,380	237	1	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.054	4,380	237	0	0
Rf#-27 Rm - Ext - Bldg Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	1	54	0.054	4,380	237	1	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.054	4,380	237	0	0
Qty and kW for Fire Station #9 :		**128**		**8.3**			**128**			**3.0**			**5.3**	
kWh for Fire Station #9 :						**23,954**						**8,785**		**15,166**

History Museum -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - All Interior Space	DND (do not do, left as is), n/a, n/a		0	0	2,500	0	0	DND - DND: (do not do, fixtures left as is)	0	0	2,500	0	0	0
Rf#-2 Rm - All Exterior Space	DND (do not do, left as is), n/a, n/a		0	0	4,380	0	0	DND - DND: (do not do, fixtures left as is)	0	0	4,380	0	0	0
Qty and kW for History Museum :				**0.0**						**0.0**			**0.0**	
kWh for History Museum :														

Main Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - entry lobby	LED 1L floods (city), LED 12w P38 3K, n/a		12	0	4,400	0	0	DND - DND: (do not do, fixtures left as is)	12	0	4,400	0	0	0
Rf#-2 Rm - Bookmark Café	DND (do not do, left as is) (City), LED ?w, n/a		0	0	2,000	0	0	DND - DND: (do not do, fixtures left as is)	0	0	2,000	0	0	0
Rf#-3 Rm - Bookstore Room	1x4x 2L rec trf (stack), F32T8 32w, electronic ballast	6	59	0.354	1,638	580	6	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.126	1,638	206	0.228	373
Rf#-4 Rm - Bookstore Room	1x2x 1L wall washer, F17T8 17w, electronic ballast	7	16	0.112	1,638	183	7	RLT821dw - (1) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	7	0.049	1,638	80	0.063	103
Rf#-5 Rm - storage room in Bookstore	1x4x 2L sm strip, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-6 Rm - Small meeting room	DND (do not do, left as is) (City), LED ?w, n/a		0	0	1,500	0	0	DND - DND: (do not do, fixtures left as is)	0	0	1,500	0	0	0
Rf#-7 Rm - Small meeting room	CF 2L rec can hz, CFP-26w, CF ballast	5	66	0.33	1,500	495	5	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.06	1,500	90	0.27	405
Rf#-8 Rm - Staff Hall (to book return)	1x4x 1L sm strip, F32T8 32w, electronic ballast	8	31	0.248	4,400	1,091	8	RLT841dw - (1) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	10	0.084	4,400	370	0.164	722
Rf#-9 Rm - B/G RR lobby	CF 2L rec can hz, CFP-26w, CF ballast	1	66	0.066	4,400	290	1	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.012	4,400	53	0.054	238
Rf#-10 Rm - B RR	CF 2L rec can hz, CFP-26w, CF ballast	3	66	0.198	4,400	871	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	4,400	158	0.162	713
Rf#-11 Rm - B RR	1x4x 2L sm strip cove, F32T8 32w, electronic ballast	5	59	0.295	4,400	1,298	5	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.105	4,400	462	0.19	836
Rf#-12 Rm - G RR	CF 2L rec can hz, CFP-26w, CF ballast	3	66	0.198	4,400	871	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	4,400	158	0.162	713
Rf#-13 Rm - G RR	1x4x 2L sm strip cove, F32T8 32w, electronic ballast	5	59	0.295	4,400	1,298	5	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.105	4,400	462	0.19	836
Rf#-14 Rm - hall towards lecture hallway	CF 2L rec can hz, CFP-26w, CF ballast	4	66	0.264	4,400	1,162	4	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.048	4,400	211	0.216	950
Rf#-15 Rm - Stairwell (E side of Lecture rm)	CF 2L rec can hz, CFP-26w, CF ballast	8	66	0.528	8,760	4,625	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	8,760	841	0.432	3,784
Rf#-16 Rm - Mary Brown Room	2x4x 4L rec trf, F32T8 32w, electronic ballast	3	112	0.336	1,800	605	3	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.126	1,800	227	0.21	378
Rf#-17 Rm - Mary Brown Room	CF 2L rec can hz, CFP-26w, CF ballast	12	66	0.792	1,800	1,426	12	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.144	1,800	259	0.648	1,166
Rf#-18 Rm - storage room	2x4x 2L rec trf, F32T8 32w, electronic ballast	4	59	0.236	500	118	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	500	42	0.152	76
Rf#-19 Rm - Trustee Room	(est) 1x4x 2L pm ind/dir, F32T8 32w, electronic ballast	4	59	0.236	1,800	425	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	1,800	151	0.152	274
Rf#-20 Rm - Trustee Room	CF 2L rec can hz, CFP-26w, CF ballast	8	66	0.528	1,800	950	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	1,800	173	0.432	778
Rf#-21 Rm - Art Gallery Hall (around Lecture Hall)	LED 1L floods (city), LED 12w P38 3K, n/a		12	0	4,400	0	0	DND - DND: (do not do, fixtures left as is)	12	0	4,400	0	0	0

Main Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Lecture Room	CF 1L wm step light, CFP-18w, CF ballast	26	20	0.52	1,800	936	26	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.286	1,800	515	0.234	421
Rf#-23 Rm - Lecture Room (high ceiling)	LED 1L rec can (city), LED 12w P38 3K, n/a	19	12	0.228	1,200	274	19	DND - DND: (do not do, fixtures left as is)	12	0.228	1,200	274	0	0
Rf#-24 Rm - Lecture Room (high ceiling)	Inc. 1L rec can, Inc. 65w P38, n/a	20	65	1.3	1,200	1,560	20	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.24	1,200	288	1.06	1,272
Rf#-25 Rm - Lecture Room (lower ceiling)	LED 1L rec can (city), LED 12w P38 3K, n/a	18	12	0.216	1,200	259	18	DND - DND: (do not do, fixtures left as is)	12	0.216	1,200	259	0	0
Rf#-26 Rm - Stairwell (W side of Lecture rm)	CF 2L rec can hz, CFP-26w, CF ballast	8	66	0.528	8,760	4,625	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	8,760	841	0.432	3,784
Rf#-27 Rm - Karp Lobby	1x4x 1L sm strip (cove), F32T8 32w, electronic ballast	18	31	0.558	2,000	1,116	18	RLT841dw - (1) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	10	0.189	2,000	378	0.369	738
Rf#-28 Rm - Karp Lobby	1x2x 1L sm strip (cove), F17T8 17w, electronic ballast	4	16	0.064	2,000	128	4	Remove - Remove existing fixutres from service	0	0	2,000	0	0.064	128
Rf#-29 Rm - M RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	4	59	0.236	4,400	1,038	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	4,400	370	0.152	669
Rf#-30 Rm - W RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	4	59	0.236	4,400	1,038	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	4,400	370	0.152	669
Rf#-31 Rm - Karp Room	1x4x 2L pm box ind/dir, F32T8 32w, electronic ballast	120	59	7.08	1,200	8,496	120	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	2.52	1,200	3,024	4.56	5,472
Rf#-32 Rm - Karp Room	1x4x 2L sm box, F32T8 32w, electronic ballast	16	59	0.944	1,200	1,133	16	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.336	1,200	403	0.608	730
Rf#-33 Rm - chair storage	2x4x 2L sm box, F32T8 32w, electronic ballast	3	59	0.177	500	89	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	500	32	0.114	57
Rf#-34 Rm - chair storage	2x4x 4L rec trf, F32T8 32w, electronic ballast	3	112	0.336	500	168	3	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.126	500	63	0.21	105
Rf#-35 Rm - short hall to next room	1x4x 2L sm wp, F32T8 32w, electronic ballast	3	59	0.177	4,400	779	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	4,400	277	0.114	502
Rf#-36 Rm - Estudillo Room	1x4x 2L pm box ind/dir, F32T8 32w, electronic ballast	76	59	4.484	1,200	5,381	76	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	1.596	1,200	1,915	2.888	3,466
Rf#-37 Rm - kitchen	1x4x 4L sm wp, F32T8 32w, electronic ballast	4	112	0.448	2,500	1,120	4	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.168	2,500	420	0.28	700
Rf#-38 Rm - kitchen	4x4x 8L fxt, F32T8 32w, electronic ballast	1	224	0.224	2,500	560	1	RLT848dw - (8 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	84	0.084	2,500	210	0.14	350
Rf#-39 Rm - Library Main Room	CF 1L rec can hz, CFP-26w, CF ballast	55	30	1.65	3,510	5,792	55	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.66	3,510	2,317	0.99	3,475
Rf#-40 Rm - Library Main Room	CF 2L rec can hz, CFP-26w, CF ballast	66	66	4.356	3,510	15,290	66	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.792	3,510	2,780	3.564	12,510
Rf#-41 Rm - Library Main Room	1x2x 1L rec wall wash, Biax 16", CF ballast	27	34	0.918	3,510	3,222	27	RL0181/bx - (1) LED BIAX PL-L lamp, direct wire, 120/277v, 18w, 16", 50,000-Hr L70 rated life	18	0.486	3,510	1,706	0.432	1,516
Rf#-42 Rm - Library Main Room	1x4x 2L pm ind/dir, F32T8 32w, electronic ballast	119	59	7.021	3,510	24,644	119	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	2.499	3,510	8,771	4.522	15,872
Rf#-43 Rm - Library Main Room	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	60	59	3.54	3,510	12,425	60	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	1.26	3,510	4,423	2.28	8,003
Rf#-44 Rm - Library Main Room (2nd Fl Clg)	LED 1L rec can 8" (GC), LED 12w, n/a	40	12	0.48	4,400	2,112	40	DND - DND: (do not do, fixtures left as is)	12	0.48	4,400	2,112	0	0

W* = wall switch sensor; C* = ceiling sensor; E* = existing sensor, L* Dimming Control

Main Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-45 Rm - Library front desk	1x4x 2L wm sconce, F32T8 32w, electronic ballast	9	59	0.531	3,510	1,864	9	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.189	3,510	663	0.342	1,200
Rf#-46 Rm - Library front desk	CF 1L rec can hz, CFP-26w, CF ballast	6	30	0.18	3,510	632	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	3,510	253	0.108	379
Rf#-47 Rm - back hallway	CF 2L rec can hz, CFP-26w, CF ballast	2	66	0.132	4,400	581	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	4,400	106	0.108	475
Rf#-48 Rm - Newspaper Archive Room	1x4x 2L sm strip, F32T8 32w, electronic ballast	18	59	1.062	2,000	2,124	18	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.378	2,000	756	0.684	1,368
Rf#-49 Rm - Children's Area	CF 1L rec can hz, CFP-26w, CF ballast	13	30	0.39	3,510	1,369	13	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.156	3,510	548	0.234	821
Rf#-50 Rm - Children's Area	CF 2L rec can hz, CFP-26w, CF ballast	29	66	1.914	3,510	6,718	29	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.348	3,510	1,221	1.566	5,497
Rf#-51 Rm - Children's Area	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	3	59	0.177	3,510	621	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	3,510	221	0.114	400
Rf#-52 Rm - Children's Area (2nd Fl Clg)	LED 1L rec can 8" (GC), LED 12w, n/a	42	12	0.504	4,400	2,218	42	DND - DND: (do not do, fixtures left as is)	12	0.504	4,400	2,218	0	0
Rf#-53 Rm - 110 office area	CF 2L rec can hz, CFP-26w, CF ballast	7	66	0.462	3,100	1,432	7	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.084	3,100	260	0.378	1,172
Rf#-54 Rm - hall in above	1x4x 2L rec fxt, F32T8 32w, electronic ballast	2	59	0.118	4,400	519	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	4,400	185	0.076	334
Rf#-55 Rm - hall in above	CF 2L rec can hz, CFP-26w, CF ballast	3	66	0.198	4,400	871	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	4,400	158	0.162	713
Rf#-56 Rm - B RR	1x4x 2L sm strip (cove), F32T8 32w, electronic ballast	3	59	0.177	4,400	779	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	4,400	277	0.114	502
Rf#-57 Rm - B RR	CF 2L rec can hz, CFP-26w, CF ballast	1	66	0.066	4,400	290	1	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.012	4,400	53	0.054	238
Rf#-58 Rm - G RR	1x4x 2L sm strip (cove), F32T8 32w, electronic ballast	3	59	0.177	4,400	779	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	4,400	277	0.114	502
Rf#-59 Rm - G RR	CF 2L rec can hz, CFP-26w, CF ballast	1	66	0.066	4,400	290	1	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.012	4,400	53	0.054	238
Rf#-60 Rm - Staff Room	2x4x 2L rec trf, F32T8 32w, electronic ballast	2	59	0.118	4,400	519	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	4,400	185	0.076	334
Rf#-61 Rm - Library B B	2x4x 2L rec trf, F32T8 32w, electronic ballast	8	59	0.472	3,510	1,657	8	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.168	3,510	590	0.304	1,067
Rf#-62 Rm - 125 office area	2x4x 2L rec trf, F32T8 32w, electronic ballast	4	59	0.236	3,100	732	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	3,100	260	0.152	471
Rf#-63 Rm - 125 office area	CF 2L rec can hz, CFP-26w, CF ballast	7	66	0.462	3,100	1,432	7	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.084	3,100	260	0.378	1,172
Rf#-64 Rm - bullpen area	2x4x 2L rec trf, F32T8 32w, electronic ballast	26	59	1.534	4,400	6,750	26	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.546	4,400	2,402	0.988	4,347
Rf#-65 Rm - Office #1	2x4x 2L rec trf, F32T8 32w, electronic ballast	2	59	0.118	3,100	366	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,100	130	0.076	236
Rf#-66 Rm - Office #1	1x2x 1L rec wall wash, Biax 16", CF ballast	2	34	0.068	3,100	211	2	RL0181/bx - (1) LED BIAX PL-L lamp, direct wire, 120/277v, 18w, 16", 50,000-Hr L70 rated life	18	0.036	3,100	112	0.032	99
Rf#-67 Rm - Staff area near dock	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	7	90	0.63	3,500	2,205	7	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.2205	3,500	772	0.4095	1,433

Main Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-68 Rm - Mail Area	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	2	90	0.18	3,500	630	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast E-PS10	32	0.063	3,500	220	0.117	410
Rf#-69 Rm - Concern Office	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	2	90	0.18	3,500	630	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	3,500	220	0.117	410
Rf#-70 Rm - Locker	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	1	90	0.09	3,500	315	1	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0315	3,500	110	0.0585	205
Rf#-71 Rm - Staff Area	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	4	90	0.36	3,500	1,260	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	3,500	441	0.234	819
Rf#-112 Rm - Ext - Eve Mount	LED 1L rec can (GC), LED 8.5w R30, n/a	64	8.5	0.544	4,380	2,383	64	DND - DND: (do not do, fixtures left as is)	8	0.544	4,380	2,383	0	0
Rf#-113 Rm - Ext - Eve Mount	LED 1L wm sconce (GC), LED 8.5w R30, n/a	18	8.5	0.153	4,380	670	18	DND - DND: (do not do, fixtures left as is)	8	0.153	4,380	670	0	0
Rf#-114 Rm - Ext - Eve Mount	LED 1L wm wall sonce (GC), LED 8.5w A19, n/a	18	8.5	0.153	4,380	670	18	DND - DND: (do not do, fixtures left as is)	8	0.153	4,380	670	0	0
Rf#-115 Rm - Ext - Eve Mount	LED 1L rec can (City), LED 15w?, n/a	15	15	0.225	4,380	986	15	DND - DND: (do not do, fixtures left as is)	15	0.225	4,380	986	0	0
Rf#-116 Rm - Ext - Ground - Trees	LED 1L rec ground mount (GC), LED 16.5w A21, n/a	36	16.5	0.594	4,380	2,602	36	DND - DND: (do not do, fixtures left as is)	16	0.594	4,380	2,602	0	0
Rf#-117 Rm - Ext - Ground - Flag Poles	LED 1L rec ground mount (GC), LED 16.5w A21, n/a	3	16.5	0.0495	4,380	217	3	DND - DND: (do not do, fixtures left as is)	16	0.0495	4,380	217	0	0
Rf#-118 Rm - Ext - Ground	LED 1L rec ground mount (GC), LED 8.5w A19, n/a	5	8.5	0.0425	4,380	186	5	DND - DND: (do not do, fixtures left as is)	8	0.0425	4,380	186	0	0
Rf#-119 Rm - Ext - Pole Mount - Parking	LED 1L show box SqP BZ (VIS BSX), LED 81w, LED Driver 0-10v	16	81	1.296	4,380	5,676	16	DND - DND: (do not do, fixtures left as is) E-FSP211	81	1.296	4,380	5,676	0	0
Rf#-120 Rm - Ext - Pole Mount - Parking	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	3	54	0.162	4,380	710	3	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.162	4,380	710	0	0
2nd Floor														
Rf#-72 Rm - Conf Rm C	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	6	90	0.54	2,500	1,350	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	2,500	472	0.351	878
Rf#-73 Rm - Conf Rm C	CF 1L rec can hz, CFP-26w, CF ballast	2	30	0.06	2,000	120	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,000	48	0.036	72
Rf#-74 Rm - hallway area	CF 2L rec can hz, CFP-26w, CF ballast	17	66	1.122	4,400	4,937	17	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.204	4,400	898	0.918	4,039
Rf#-75 Rm - Conf Rm B	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	8	90	0.72	2,500	1,800	8	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.252	2,500	630	0.468	1,170
Rf#-76 Rm - Conf Rm B	CF 1L rec can hz, CFP-26w, CF ballast	2	30	0.06	2,000	120	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,000	48	0.036	72
Rf#-77 Rm - Lobby	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	8	90	0.72	4,400	3,168	8	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.252	4,400	1,109	0.468	2,059
Rf#-78 Rm - Lobby	CF 2L rec can hz, CFP-26w, CF ballast	6	66	0.396	4,400	1,742	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	4,400	317	0.324	1,426
Rf#-79 Rm - Auditorium hallway	CF 1L rec can hz, CFP-26w, CF ballast	7	30	0.21	4,400	924	7	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.084	4,400	370	0.126	554
Rf#-80 Rm - Room S228	1x4x 2L sm strip, F32T8 32w, electronic ballast	16	59	0.944	2,500	2,360	16	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.336	2,500	840	0.608	1,520

Main Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-81 Rm - Staff Lounge	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	3	90	0.27	4,400	1,188	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	4,400	416	0.1755	772
Rf#-82 Rm - Staff Lounge	CF 1L rec can hz, CFP-26w, CF ballast	8	30	0.24	4,400	1,056	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	4,400	422	0.144	634
Rf#-83 Rm - E Room	CF 1L rec can hz, CFP-26w, CF ballast	2	30	0.06	4,400	264	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	4,400	106	0.036	158
Rf#-84 Rm - Room 229 Lobby	CF 1L rec can hz, CFP-26w, CF ballast	7	30	0.21	4,400	924	7	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.084	4,400	370	0.126	554
Rf#-85 Rm - History Room	CF 1L rec can hz, CFP-26w, CF ballast	10	30	0.3	728	218	10	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.12	728	87	0.18	131
Rf#-86 Rm - History Room	1x2x 1L rec wall wash, Biax 22", CF ballast	8	30	0.24	728	175	8	RL0171/bx - (1) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	17	0.136	728	99	0.104	76
Rf#-87 Rm - History Room	CF 6L pm deco, Biax 22", CF ballast	4	216	0.864	728	629	4	RL0176/bx - (6) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	102	0.408	728	297	0.456	332
Rf#-88 Rm - History Room	CF 2L wm sconce, CFP-26w, CF ballast	2	66	0.132	728	96	2	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.044	728	32	0.088	64
Rf#-89 Rm - M RR 225	CF 1L rec can hz, CFP-26w, CF ballast	3	30	0.09	4,400	396	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	4,400	158	0.054	238
Rf#-90 Rm - M RR 225	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	4,400	519	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	4,400	185	0.076	334
Rf#-91 Rm - W RR 224	CF 1L rec can hz, CFP-26w, CF ballast	3	30	0.09	4,400	396	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	4,400	158	0.054	238
Rf#-92 Rm - W RR 224	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	4,400	519	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	4,400	185	0.076	334
Rf#-93 Rm - Room 223a	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	10	90	0.9	3,510	3,159	10	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.315	3,510	1,106	0.585	2,053
Rf#-94 Rm - Room 223a	CF 1L rec can hz, CFP-26w, CF ballast	5	30	0.15	3,510	527	5	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.06	3,510	211	0.09	316
Rf#-95 Rm - Room 221	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	2	90	0.18	3,510	632	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	3,510	221	0.117	411
Rf#-96 Rm - Room 221	CF 1L rec can hz, CFP-26w, CF ballast	2	30	0.06	3,510	211	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,510	84	0.036	126
Rf#-97 Rm - Room 222	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	2	90	0.18	3,510	632	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	3,510	221	0.117	411
Rf#-98 Rm - Room 222	CF 1L rec can hz, CFP-26w, CF ballast	2	30	0.06	3,510	211	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,510	84	0.036	126
Rf#-99 Rm - Room 212 workroom?	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	8	90	0.72	3,510	2,527	8	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.252	3,510	885	0.468	1,643
Rf#-100 Rm - Room 207	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	3	90	0.27	3,510	948	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	3,510	332	0.1755	616
Rf#-101 Rm - Room 207	CF 1L rec can hz, CFP-26w, CF ballast	2	30	0.06	3,510	211	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,510	84	0.036	126
Rf#-102 Rm - short hallway	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	2	90	0.18	4,400	792	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	4,400	277	0.117	515
Rf#-103 Rm - short hallway	CF 2L rec can hz, CFP-26w, CF ballast	12	66	0.792	4,400	3,485	12	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.144	4,400	634	0.648	2,851

Main Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-104 Rm - Room 209	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	2	90	0.18	3,510	632	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	3,510	221	0.117	411
Rf#-105 Rm - Room 210	2x4x 3L rec trf PBLC, F32T8 32w, electronic ballast	4	90	0.36	3,510	1,264	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	3,510	442	0.234	821
Rf#-106 Rm - Room 206	1x4x 2L sm strip, F32T8 32w, electronic ballast	3	59	0.177	3,510	621	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	3,510	221	0.114	400
Rf#-107 Rm - Library Main Room	CF 1L rec can hz, CFP-26w, CF ballast	57	30	1.71	3,510	6,002	57	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.684	3,510	2,401	1.026	3,601
Rf#-108 Rm - Library Main Room	CF 2L rec can hz, CFP-26w, CF ballast	105	66	6.93	3,510	24,324	105	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	1.26	3,510	4,423	5.67	19,902
Rf#-109 Rm - Library Main Room	1x2x 1L rec wall wash, Biax 16", CF ballast	9	34	0.306	3,510	1,074	9	RL0181/bx - (1) LED BIAX PL-L lamp, direct wire, 120/277v, 18w, 16", 50,000-Hr L70 rated life	18	0.162	3,510	569	0.144	505
Rf#-110 Rm - Library Main Room	1x4x 2L pm ind/dir, F32T8 32w, electronic ballast	185	59	10.915	3,510	38,312	185	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	3.885	3,510	13,636	7.03	24,675
Rf#-111 Rm - Library Main Room	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	60	59	3.54	3,510	12,425	60	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	1.26	3,510	4,423	2.28	8,003
Qty and kW for Main Library :		**1,789**		**89.8**			**1,789**			**31.9**			**57.9**	
		kWh for Main Library :				**281,283**						**100,474**		**180,812**

Manor Branch Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Entry area	CF 1L semi rec can Deco lens, CFP-26w, CF ballast	8	30	0.24	2,860	686	8	RL0111/v - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life, Vertical mount	11	0.088	2,860	252	0.152	435
Rf#-2 Rm - Main Library space	CF 3L pm low bay, CFP-32w, CF ballast	24	101	2.424	2,860	6,933	24	RL0123/v - (3) LED 4 pin lamp, direct wire, 120/277v, 12w, Vertical lamp, 50,000-Hr L70 rated life	36	0.864	2,860	2,471	1.56	4,462
Rf#-3 Rm - Main Library space	CF 1L pm deco lens, CFP-26w, CF ballast	7	30	0.21	2,860	601	7	RL0111/v - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life, Vertical mount	11	0.077	2,860	220	0.133	380
Rf#-4 Rm - Main Library space	CF 1L semi rec can Deco lens, CFP-26w, CF ballast	7	30	0.21	2,860	601	7	RL0111/v - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life, Vertical mount	11	0.077	2,860	220	0.133	380
Rf#-5 Rm - Main Library space	1x4x 2L rec trf volumetirc, FP28T5 28w, electronic ballast	30	64	1.92	2,860	5,491	30	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.78	2,860	2,231	1.14	3,260
Rf#-6 Rm - Main Library space	CF 1L rec can HZ, CFP-26w, CF ballast	8	30	0.24	2,860	686	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	2,860	275	0.144	412
Rf#-7 Rm - Main Library space	CF 2L rec can 6" HZ, CFP-26w, CF ballast	4	66	0.264	2,860	755	4	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.048	2,860	137	0.216	618
Rf#-8 Rm - Study Room B	1x4x 2L rec trf volumetirc, FP28T5 28w, electronic ballast	4	64	0.256	1,500	384	4	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.104	1,500	156	0.152	228
Rf#-9 Rm - Study Room A	1x4x 2L rec trf volumetirc, FP28T5 28w, electronic ballast	4	64	0.256	1,500	384	4	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.104	1,500	156	0.152	228
Rf#-10 Rm - RR lobby area	CF 2L rec can 6" HZ, CFP-26w, CF ballast	2	66	0.132	2,860	378	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,860	69	0.108	309
Rf#-11 Rm - B RR	CF 2L rec can 6" HZ, CFP-26w, CF ballast	2	66	0.132	3,000	396	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,000	72	0.108	324
Rf#-12 Rm - B RR	1x4x 2L sm fxt, FP28T5 28w, electronic ballast	4	64	0.256	3,000	768	4	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.104	3,000	312	0.152	456
Rf#-13 Rm - G RR	CF 2L rec can 6" HZ, CFP-26w, CF ballast	2	66	0.132	3,000	396	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,000	72	0.108	324
Rf#-14 Rm - G RR	1x4x 2L sm fxt, FP28T5 28w, electronic ballast	4	64	0.256	3,000	768	4	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.104	3,000	312	0.152	456
Rf#-15 Rm - Hall to P Room	CF 2L rec can 6" HZ, CFP-26w, CF ballast	2	66	0.132	3,000	396	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,000	72	0.108	324
Rf#-16 Rm - P Room	CF 1L pm deco lens, CFP-26w, CF ballast	12	30	0.36	1,500	540	12	RL0111/v - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life, Vertical mount	11	0.132	1,500	198	0.228	342
Rf#-17 Rm - P Room	CF 2L rec can 6" HZ, CFP-26w, CF ballast	4	66	0.264	1,500	396	4	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.048	1,500	72	0.216	324
Rf#-18 Rm - P Room	Inc. 1L track, Inc. 50w P20, n/a	6	50	0.3	1,500	450	6	RL051/b20 - (1) LED 5w R20 screw in lamp, 4000K	5	0.03	1,500	45	0.27	405
Rf#-19 Rm - Staff Desk area	1x4x 2L rec trf volumetirc, FP28T5 28w, electronic ballast	4	64	0.256	3,000	768	4	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.104	3,000	312	0.152	456
Rf#-20 Rm - Staff Desk area	CF 2L rec can 6" HZ, CFP-26w, CF ballast	3	66	0.198	3,000	594	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	3,000	108	0.162	486
Rf#-21 Rm - Staff M RR	1x4x 2L sm fxt, FP28T5 28w, electronic ballast	1	64	0.064	950	61	1	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.026	950	25	0.038	36

Manor Branch Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Staff W RR	1x4x 2L sm fxt, FP28T5 28w, electronic ballast	1	64	0.064	950	61	1	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.026	950	25	0.038	36
Rf#-23 Rm - break room	2x4x 2L rec trf, FP28T5 28w, electronic ballast	6	64	0.384	3,000	1,152	6	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.156	3,000	468	0.228	684
Rf#-24 Rm - Electrical room (ext S Side)	1x4x 2L sm fxt, FP28T5 28w, electronic ballast	2	64	0.128	500	64	2	RLT542Ldw - (2) 4' LED T5 lamp 13w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	26	0.052	500	26	0.076	38
Rf#-25 Rm - Ext-Bldg Mnt (walls)	CF 1L rec wall pack (hypack), CFP-32w, CF ballast	6	35	0.21	4,380	920	6	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.066	4,380	289	0.144	631
Rf#-26 Rm - Ext-Bldg Mnt (walls)	CF 1L wm jelly jar, CFP-26w, CF ballast	4	30	0.12	4,380	526	4	NL012/wp - New LED wall pack full, 50,000-Hr L70 rated life, 12w, built in photo cell	15	0.06	4,380	263	0.06	263
Rf#-27 Rm - Ext-Bldg Mnt (eves)	CF 2L rec can 6" HZ, CFP-26w, CF ballast	2	66	0.132	4,380	578	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	4,380	105	0.108	473
Rf#-28 Rm - Ext-Pole Mnt (front sidewalk)	HPS 1L gooseneck, HPS 50w, HID ballast	2	68	0.136	4,380	596	2	RL0141/s - (1) LED 14w CC style screw in lamp, 120/277, 50,000-Hr rated life	14	0.028	4,380	123	0.108	473
Rf#-29 Rm - Ext-Pole Mn (parking lot)	LED 1L decorative head (GC), LED 27w CC, n/a	4	27	0.108	4,380	473	4	DND - DND: (do not do, fixtures left as is)	27	0.108	4,380	473	0	0
Qty and kW for Manor Branch Library :		**169**		**9.8**			**169**			**3.4**			**6.3**	
kWh for Manor Branch Library :						**26,800**						**9,559**		**17,243**

Marina Community Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Main Hallways	LED 1L wall pack FCO (XTOR), LED 30w, n/a	14	30	0.42	3,600	1,512	14	DND - DND: (do not do, fixtures left as is)	30	0.42	3,600	1,512	0	0
Rf#-2 Rm - Entry Desk	LED 1L track light (GC), LED 8.5w A19, n/a	5	8.5	0.0425	3,500	149	5	DND - DND: (do not do, fixtures left as is)	8	0.0425	3,500	149	0	0
Rf#-3 Rm - Office by front door	2x4x 4L rec trf, F32T8 32w, electronic ballast	2	112	0.224	2,300	515	2	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.084	2,300	193	0.14	322
Rf#-4 Rm - RR by front door	CF 2L rec can HZ, CFP-26w, CF ballast	1	66	0.066	1,500	99	1	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.012	1,500	18	0.054	81
Rf#-5 Rm - Presentation Room B	2x4x 4L rec trf, F32T8 32w, electronic ballast	12	112	1.344	2,800	3,763	12	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.504	2,800	1,411	0.84	2,352
Rf#-6 Rm - reception desk area	CF 2L rec can HZ, CFP-26w, CF ballast	2	66	0.132	3,600	475	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,600	86	0.108	389
Rf#-7 Rm - Reception Office	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	2,500	280	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	2,500	105	0.07	175
Rf#-8 Rm - Meeting Room C	1x4x 2L sm wp, F32T8 32w, electronic ballast	30	59	1.77	2,800	4,956	30	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.63	2,800	1,764	1.14	3,192
Rf#-9 Rm - J1	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-10 Rm - Meeting Room B	1x4x 2L sm wp, F32T8 32w, electronic ballast	25	59	1.475	2,800	4,130	25	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.525	2,800	1,470	0.95	2,660
Rf#-11 Rm - Lydia's Office	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	2,500	280	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	2,500	105	0.07	175
Rf#-12 Rm - Office to left of above	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	2,500	280	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	2,500	105	0.07	175
Rf#-13 Rm - Meeting Room A	1x4x 2L sm wp, F32T8 32w, electronic ballast	24	59	1.416	2,800	3,965	24	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.504	2,800	1,411	0.912	2,554
Rf#-14 Rm - Meeting Room A	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	2,800	314	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	2,800	118	0.07	196
Rf#-15 Rm - electrical rm in Room A	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-16 Rm - storage room	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-17 Rm - Copy Room	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,800	165	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,800	59	0.038	106
Rf#-18 Rm - Presentation Room A	2x4x 4L sm box, F32T8 32w, electronic ballast	12	112	1.344	2,800	3,763	12	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.504	2,800	1,411	0.84	2,352
Rf#-19 Rm - S5	1x4x 4L sm wp, F32T8 32w, electronic ballast	3	112	0.336	1,500	504	3	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.126	1,500	189	0.21	315
Rf#-20 Rm - S6	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	500	56	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	500	21	0.07	35
Rf#-21 Rm - S7	1x4x 4L sm wp, F32T8 32w, electronic ballast	1	112	0.112	1,500	168	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	1,500	63	0.07	105

Marina Community Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - back hallway	2x4x 3L sm box, F32T8 32w, electronic ballast	3	90	0.27	3,600	972	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	3,600	340	0.1755	632
Rf#-23 Rm - J2	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-24 Rm - S8	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-25 Rm - M RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	3	59	0.177	3,000	531	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	3,000	189	0.114	342
Rf#-26 Rm - W RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	3	59	0.177	3,000	531	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	3,000	189	0.114	342
Rf#-27 Rm - Titan Main Hall	LED 3L Chandelier (GC), LED 8.5w A19, n/a	54	25.5	1.377	3,000	4,131	54	DND - DND: (do not do, fixtures left as is)	26	1.377	3,000	4,131	0	0
Rf#-28 Rm - Kitchen	LED 1L flat panel, LED 30w?, n/a		30	0	2,000	0	0	DND - DND: (do not do, fixtures left as is)	30	0	2,000	0	0	0
Rf#-29 Rm - Patio Room	2x4x 3L rec trf, F32T8 32w, electronic ballast	6	90	0.54	2,200	1,188	6	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.189	2,200	416	0.351	772
Rf#-30 Rm - West Entry lobby (to Titan Hall)	CF 2L rec can HZ, CFP-26w, CF ballast	6	66	0.396	3,600	1,426	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	3,600	259	0.324	1,166
Rf#-31 Rm - M RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	3	59	0.177	3,000	531	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	3,000	189	0.114	342
Rf#-32 Rm - M RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	1	59	0.059	3,000	177	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	3,000	63	0.038	114
Rf#-33 Rm - W RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	3	59	0.177	3,000	531	3	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.063	3,000	189	0.114	342
Rf#-34 Rm - W RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	1	59	0.059	3,000	177	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	3,000	63	0.038	114
Rf#-35 Rm - Misc Mech, elec, storage (NW corner)	(est) 1x4x 2L sm wp, F32T8 32w, electronic ballast	5	59	0.295	500	148	5	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.105	500	52	0.19	95
Rf#-36 Rm - Ext - Front Wall	LED 1L sm square (XTR), LED 17w, n/a	4	17	0.068	4,380	298	4	DND - DND: (do not do, fixtures left as is)	17	0.068	4,380	298	0	0
Rf#-37 Rm - Ext - Front Wall	LED 1L wall pack FCO (XTOR), LED 30w, n/a	3	30	0.09	4,380	394	3	DND - DND: (do not do, fixtures left as is)	30	0.09	4,380	394	0	0
Rf#-38 Rm - Ext-Front Wall	LED 1L gooseneck (GC), LED 7.5w MR16, n/a	12	7.5	0.09	4,380	394	12	DND - DND: (do not do, fixtures left as is)	8	0.09	4,380	394	0	0
Rf#-39 Rm - Ext - Front Entrances Ceiling	LED 1L sm square (XTR), LED 17w, n/a	4	17	0.068	4,380	298	4	DND - DND: (do not do, fixtures left as is)	17	0.068	4,380	298	0	0
Rf#-40 Rm - Ext - Back Ceiling	LED 1L sm square (XTR), LED 17w, n/a	1	17	0.017	4,380	74	1	DND - DND: (do not do, fixtures left as is)	17	0.017	4,380	74	0	0
Rf#-41 Rm - Ext - back	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	5	30	0.15	4,380	657	5	DND - DND: (do not do, fixtures left as is)	30	0.15	4,380	657	0	0
Rf#-42 Rm - Ext - Front Lawn	LED 1L post top BK (VIS PGR), LED 52w, LED Driver 0-10v	3	52	0.156	4,380	683	3	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.156	4,380	683	0	0
Rf#-43 Rm - Ext - Pole Mount - Parking	LED 1L show box SqP BZ (VIS BSX), LED 81w, LED Driver 0-10v	8	81	0.648	4,380	2,838	8	DND - DND: (do not do, fixtures left as is) E-FSP211	81	0.648	4,380	2,838	0	0
Rf#-44 Rm - Ext - Pole Mount - Parking	LED 1L flood, BK KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0

Marina Community Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-45 Rm - Ext - Roof Mount	LED 1L flood, knuckle (Lith), LED 19w, n/a	2	19	0.038	4,380	166	2	DND - DND: (do not do, fixtures left as is)	19	0.038	4,380	166	0	0
Qty and kW for Marina Community Center :		**276**		**14.9**			**276**			**7.4**			**7.5**	
kWh for Marina Community Center :						**42,199**						**22,617**		**19,578**

Public Safety -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Bike Barn														
1st Floor														
Rf#-51 Rm - Main Room	1x4x 1L vapor tight (ALE LSR), LED 36w, LED Driver 0-10v	8	36	0.288	8,760	2,523	8	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.288	8,760	2,523	0	0
2nd Floor														
Rf#-52 Rm - Office Area	1x4x 1L sm wrap (ALE LSR), LED 36w, LED Driver 0-10v	1	36	0.036	8,760	315	1	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.036	8,760	315	0	0
Building/Area: Main Building														
1st Floor														
Rf#-6 Rm - North Stair	2x2x 1L rec trf vol (ALE), LED 30w, LED Driver 0-10v	3	30	0.09	8,760	788	3	DND - DND: (do not do, fixtures left as is)	30	0.09	8,760	788	0	0
Rf#-7 Rm - Lunch	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	8	36	0.288	8,760	2,523	8	DND - DND: (do not do, fixtures left as is) e-L-DS	36	0.288	8,760	2,523	0	0
Rf#-8 Rm - Hall by lunch room	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is)	36	0.072	8,760	631	0	0
Rf#-9 Rm - Traffic	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	3	36	0.108	8,760	946	3	DND - DND: (do not do, fixtures left as is)	36	0.108	8,760	946	0	0
Rf#-10 Rm - Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is)	36	0.072	3,500	252	0	0
Rf#-11 Rm - Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-12 Rm - Records	2x2x 1L rec trf vol (ALE), LED 30w, LED Driver 0-10v	36	30	1.08	3,800	4,104	36	DND - DND: (do not do, fixtures left as is) e-L-DS	30	1.08	3,800	4,104	0	0
Rf#-13 Rm - Watch	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	8,760	631	0	0
Rf#-14 Rm - Finger print room	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	8,760	631	0	0
Rf#-15 Rm - Lieutenant	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	7	36	0.252	3,500	882	7	DND - DND: (do not do, fixtures left as is)	36	0.252	3,500	882	0	0
Rf#-16 Rm - Volunteer	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is)	36	0.072	3,500	252	0	0
Rf#-17 Rm - Dispach office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	4	36	0.144	8,760	1,261	4	DND - DND: (do not do, fixtures left as is)	36	0.144	8,760	1,261	0	0
Rf#-18 Rm - Dispach	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	6	36	0.216	8,760	1,892	6	DND - DND: (do not do, fixtures left as is)	36	0.216	8,760	1,892	0	0
Rf#-19 Rm - Server room	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	5	36	0.18	500	90	5	DND - DND: (do not do, fixtures left as is)	36	0.18	500	90	0	0
Rf#-20 Rm - Ext - Bldg Front - Pole Mount	LED 1L post top Deco (GC), LED 27w CC, n/a	6	27	0.162	4,380	710	6	DND - DND: (do not do, fixtures left as is)	27	0.162	4,380	710	0	0
Rf#-21 Rm - Ext - Bldg Front - Ceiling Mount	LED 1L rec can 10" (GC), LED 23.5w, n/a	8	23.5	0.188	4,380	823	8	DND - DND: (do not do, fixtures left as is)	24	0.188	4,380	823	0	0
Rf#-22 Rm - Ext - Bldg Front - Wall Mount	CF 2L wm sconce, CFP-26w, CF ballast	4	60	0.24	4,380	1,051	4	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.088	4,380	385	0.152	666

Public Safety -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-23 Rm - Ext - Bldg Front - Ceiling Mount	LED 1L sm square (XTR), LED 17w, n/a	13	17	0.221	4,380	968	13	DND - DND: (do not do, fixtures left as is)	17	0.221	4,380	968	0	0
Rf#-24 Rm - Ext - Bldg Front - Ceiling Mount	LED 1L sm square (GC), LED 8.5w A19, n/a	13	8.5	0.1105	4,380	484	13	DND - DND: (do not do, fixtures left as is)	8	0.1105	4,380	484	0	0
Rf#-25 Rm - Ext - Bldg Side - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
2nd Floor														
Rf#-26 Rm - Chief	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	4	36	0.144	3,500	504	4	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.144	3,500	504	0	0
Rf#-27 Rm - main hall way	2x2x 1L rec trf vol (ALE), LED 30w, LED Driver 0-10v	4	30	0.12	8,760	1,051	4	DND - DND: (do not do, fixtures left as is)	30	0.12	8,760	1,051	0	0
Rf#-28 Rm - Captain 1	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-29 Rm - Captain 2	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-30 Rm - Admin	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	4	36	0.144	8,760	1,261	4	DND - DND: (do not do, fixtures left as is)	36	0.144	8,760	1,261	0	0
Rf#-31 Rm - HALLWAY	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is)	36	0.072	8,760	631	0	0
Rf#-32 Rm - Support	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	8,760	631	0	0
Rf#-33 Rm - Admin	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	8,760	631	0	0
Rf#-34 Rm - Conf	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	4	36	0.144	3,800	547	4	DND - DND: (do not do, fixtures left as is)	36	0.144	3,800	547	0	0
Rf#-35 Rm - Admin	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	8,760	631	0	0
Rf#-36 Rm - Pro Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-37 Rm - Jerry	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-38 Rm - Sandy	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-39 Rm - Detective	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	3	36	0.108	8,760	946	3	DND - DND: (do not do, fixtures left as is)	36	0.108	8,760	946	0	0
Rf#-40 Rm - Interview	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	5	36	0.18	8,760	1,577	5	DND - DND: (do not do, fixtures left as is)	36	0.18	8,760	1,577	0	0
Rf#-41 Rm - CID	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	8,760	631	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	8,760	631	0	0
Rf#-42 Rm - 207	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,500	252	0	0
Rf#-43 Rm - Bullpen	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	8	36	0.288	8,760	2,523	8	DND - DND: (do not do, fixtures left as is) E-L-D	36	0.288	8,760	2,523	0	0
Rf#-44 Rm - Interview	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is)	36	0.072	3,500	252	0	0

City of San Leandro - Lighting Detail Report

(sorted by building, floor, area)

Public Safety -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-45 Rm - Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is)	36	0.072	3,500	252	0	0
Rf#-46 Rm - Interview	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	3,500	207	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	3,500	74	0.038	133
Rf#-47 Rm - Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,500	252	2	DND - DND: (do not do, fixtures left as is)	36	0.072	3,500	252	0	0
Rf#-48 Rm - Classroom	1x4x 1L sm wp (Tex 209), LED 32w, n/a	12	32	0.384	3,500	1,344	12	DND - DND: (do not do, fixtures left as is) e-L-DS	32	0.384	3,500	1,344	0	0
Rf#-49 Rm - STORAGE	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	500	36	2	DND - DND: (do not do, fixtures left as is)	36	0.072	500	36	0	0
Rf#-50 Rm - Ext - Rail Mount	LED 1L small deco box (GC), LED 8.5w A19, n/a	13	8.5	0.1105	4,380	484	13	DND - DND: (do not do, fixtures left as is)	8	0.1105	4,380	484	0	0
Basement														
Rf#-1 Rm - Squad	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,800	274	2	DND - DND: (do not do, fixtures left as is)	36	0.072	3,800	274	0	0
Rf#-2 Rm - Gun Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	2	36	0.072	3,800	274	2	DND - DND: (do not do, fixtures left as is) e-ODS10	36	0.072	3,800	274	0	0
Rf#-3 Rm - Gun Range	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	4	36	0.144	3,800	547	4	DND - DND: (do not do, fixtures left as is)	36	0.144	3,800	547	0	0
Rf#-4 Rm - Jail Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	9	36	0.324	8,760	2,838	9	DND - DND: (do not do, fixtures left as is)	36	0.324	8,760	2,838	0	0
Rf#-5 Rm - Jail Office	2x4x 1L rec trf vol (ALE), LED 36w, LED Driver 0-10v	1	36	0.036	3,500	126	1	DND - DND: (do not do, fixtures left as is)	36	0.036	3,500	126	0	0
Building/Area: South Office														
1st Floor														
Rf#-53 Rm - All Interior Space (current Rmdle)	DND (do not do, left as is), n/a, n/a		0	0	3,500	0	0	DND - DND: (do not do, fixtures left as is)	0	0	3,500	0	0	0
Rf#-54 Rm - Ext - Bldg Front - Stairs	LED 1L post top Deco Box (GC), LED 45w CC, n/a	2	45	0.09	4,380	394	2	DND - DND: (do not do, fixtures left as is)	45	0.09	4,380	394	0	0
Rf#-55 Rm - Ext - Bldg Side - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Rf#-56 Rm - Ext - Bldg Side - Ceiling Mount	LED 1L sm square (XTR), LED 17w, n/a	1	17	0.017	4,380	74	1	DND - DND: (do not do, fixtures left as is)	17	0.017	4,380	74	0	0
Rf#-57 Rm - Ext - Pergola	LED 1L silver box (City), LED 15w?, n/a	1	15	0.015	4,380	66	1	DND - DND: (do not do, fixtures left as is)	15	0.015	4,380	66	0	0
Rf#-58 Rm - South Parking Lot - Pole Mount	LED 1L flood, cobra KM GY (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Rf#-59 Rm - South Parking Lot - Pergola	LED 1L silver box (City), LED 15w?, n/a	1	15	0.015	4,380	66	1	DND - DND: (do not do, fixtures left as is)	15	0.015	4,380	66	0	0
Qty and kW for Public Safety :		**252**		**7.8**			**252**			**7.6**			**0.2**	
kWh for Public Safety :						**43,306**						**42,507**		**799**

Public Works -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Admin Office														
1st Floor														
Rf#-1 Rm - entry lobby	2x2x 2L rec trf pblc, Biax 22", CF ballast	1	66	0.066	3,120	206	1	RL0172/bx - (2) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	34	0.034	3,120	106	0.032	100
Rf#-2 Rm - reception desk area	2x2x 2L rec trf pblc, Biax 22", CF ballast	8	66	0.528	3,120	1,647	8	RL0172/bx - (2) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	34	0.272	3,120	849	0.256	799
Rf#-3 Rm - 1st office to left (CCW)	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,700	1,242	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,700	551	0.256	691
Rf#-4 Rm - R Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,700	1,242	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,700	551	0.256	691
Rf#-5 Rm - short hallway	2x2x 2L rec trf pblc, FB31T8 32w, electronic ballast	3	59	0.177	3,120	552	3	RLT822udw - (3) 2' LED T8 "U" lamp 12w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing	24	0.072	3,120	225	0.105	328
Rf#-6 Rm - break room	2x2x 2L rec trf pblc, FB31T8 32w, electronic ballast	6	59	0.354	2,850	1,009	6	RLT822udw - (3) 2' LED T8 "U" lamp 12w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing	24	0.144	2,850	410	0.21	598
Rf#-7 Rm - Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,700	1,242	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,700	551	0.256	691
Rf#-8 Rm - storage	2x2x 3L rec trf pblc, Biax 22", CF ballast	2	115	0.23	500	115	2	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.102	500	51	0.128	64
Rf#-9 Rm - short hallway	2x2x 2L rec trf pblc, FB31T8 32w, electronic ballast	5	59	0.295	3,120	920	5	RLT822udw - (3) 2' LED T8 "U" lamp 12w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing	24	0.12	3,120	374	0.175	546
Rf#-10 Rm - L Office	2x2x 3L rec trf pblc, Biax 22", CF ballast	6	115	0.69	2,700	1,863	6	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.306	2,700	826	0.384	1,037
Rf#-11 Rm - short hallway	2x2x 3L rec trf pblc, Biax 22", CF ballast	8	115	0.92	3,120	2,870	8	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.408	3,120	1,273	0.512	1,597
Rf#-12 Rm - M RR/locker	1x4x 2L sm vapor tight, LED 14w? Type B, n/a	10	28	0.28	1,400	392	10	DND - DND: (do not do, fixtures left as is)	28	0.28	1,400	392	0	0
Rf#-13 Rm - Conf Room	2x2x 3L rec trf pblc, Biax 22", CF ballast	4	115	0.46	2,850	1,311	4	RL0173/bx - (3) LED BIAX PL-L lamp, direct wire, 120/277v, 17.5w, 22", 50,000-Hr L70 rated life	51	0.204	2,850	581	0.256	730
Rf#-14 Rm - W RR/locker	1x4x 2L sm vapor tight, LED 14w? Type B, n/a	10	28	0.28	1,400	392	10	DND - DND: (do not do, fixtures left as is)	28	0.28	1,400	392	0	0
Rf#-15 Rm - Meeting Room	2x2x 3L rec trf pblc, F17T8 17w, electronic ballast	9	47	0.423	2,850	1,206	9	RLT823dw - (3) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.189	2,850	539	0.234	667
Rf#-16 Rm - Custodial	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-17 Rm - short hall to reception	2x2x 3L rec trf pblc, F17T8 17w, electronic ballast	2	47	0.094	3,120	293	2	RLT823dw - (3) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,120	131	0.052	162
Rf#-18 Rm - Plans Printer Rm	2x2x 3L rec trf pblc, F17T8 17w, electronic ballast	2	47	0.094	2,700	254	2	RLT823dw - (3) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,700	113	0.052	140
Rf#-19 Rm - Room to right of above	2x2x 3L rec trf pblc, F17T8 17w, electronic ballast	2	47	0.094	2,700	254	2	RLT823dw - (3) 2' LED T8 lamp 9w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,700	113	0.052	140
Rf#-20 Rm - Traffic Entry area	2x4x 3L sm box, F32T8 32w, electronic ballast	1	90	0.09	2,700	243	1	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0315	2,700	85	0.0585	158
Rf#-21 Rm - Office #1	2x4x 3L sm box, F32T8 32w, electronic ballast	2	90	0.18	2,700	486	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,700	170	0.117	316

Public Works -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Office #2	2x4x 3L sm box, F32T8 32w, electronic ballast	4	90	0.36	2,700	972	4	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.126	2,700	340	0.234	632
Rf#-23 Rm - Ext - Ceiling Mount	LED 1L rec can 10" (GC), LED 23.5w, n/a	8	23.5	0.188	4,380	823	8	DND - DND: (do not do, fixtures left as is)	24	0.188	4,380	823	0	0

Building/Area: Auto Shop

1st Floor

Rf#-53 Rm - Garage Bays	LED 1L pm high bay (FSC), LED 158w, LED Driver 0-10v	17	158	2.686	2,850	7,655	17	DND - DND: (do not do, fixtures left as is) E-FSP211	158	2.686	2,850	7,655	0	0
Rf#-54 Rm - workroom off garage bays	1x4x 3L sm wp, F32T8 32w, electronic ballast	12	90	1.08	2,850	3,078	12	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.378	2,850	1,077	0.702	2,001
Rf#-55 Rm - short hallway	1x4x 3L sm wp, F32T8 32w, electronic ballast	2	90	0.18	3,120	562	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	3,120	197	0.117	365
Rf#-56 Rm - Office #1	2x4x 3L rec trf, F32T8 32w, electronic ballast	5	90	0.45	2,700	1,215	5	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.1575	2,700	425	0.2925	790
Rf#-57 Rm - Office #2	2x4x 3L rec trf, F32T8 32w, electronic ballast	1	90	0.09	2,700	243	1	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0315	2,700	85	0.0585	158
Rf#-58 Rm - parts	1x4x 3L sm wp, F32T8 32w, electronic ballast	10	90	0.9	2,850	2,565	10	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.315	2,850	898	0.585	1,667
Rf#-59 Rm - M/W Restroom	1x4x 2L sm vapor tight, F32T8 32w, electronic ballast	1	59	0.059	1,400	83	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	1,400	29	0.038	53
Rf#-60 Rm - M/W Restroom HW heater	1x4x 2L sm vapor tight, F32T8 32w, electronic ballast	2	59	0.118	1,400	165	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	1,400	59	0.076	106
Rf#-61 Rm - oil storage	CF 1L pm china hat, CFS-23w, CF ballast	3	26	0.078	2,850	222	3	RL091/s - (1) LED 8.5w A19 screw in lamp, 4000K	8	0.0255	2,850	73	0.0525	150
Rf#-62 Rm - tire storage	1x4x 2L sm wp, F32T8 32w, electronic ballast	13	59	0.767	2,850	2,186	13	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.273	2,850	778	0.494	1,408
Rf#-63 Rm - short hall to exterior	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	3,120	368	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	3,120	131	0.076	237
Rf#-64 Rm - Shops bays next to Shipping	1x4x 2L sm ind hood, F40T12 34w, magnetic ballast	14	72	1.008	2,850	2,873	14	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.294	2,850	838	0.714	2,035
Rf#-65 Rm - Paint storage	1x4x 2L sm ind hood, F40T12 34w, magnetic ballast	6	72	0.432	1,500	648	6	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.126	1,500	189	0.306	459
Rf#-66 Rm - Storage to right of above	1x4x 2L sm ind hood, F40T12 34w, magnetic ballast	4	72	0.288	1,500	432	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	1,500	126	0.204	306
Rf#-67 Rm - Shipping	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	16	59	0.944	2,850	2,690	16	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.336	2,850	958	0.608	1,733
Rf#-68 Rm - Shipping Office	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	2,700	486	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,700	170	0.117	316
Rf#-69 Rm - Ext - Wall Mount	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	5	30	0.15	4,380	657	5	DND - DND: (do not do, fixtures left as is)	30	0.15	4,380	657	0	0
Rf#-70 Rm - Ext - Roof Edge Mount	LED 1L area light BZ (VIS BLX), LED 444w, LED Driver 0-10v	2	444	0.888	4,380	3,889	2	DND - DND: (do not do, fixtures left as is) E-FSP211	444	0.888	4,380	3,889	0	0

Building/Area: Electrical Shop

1st Floor

Public Works -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-31 Rm - Shop room #1	1x4x 2L sm ind hood, LED 14w? Type B, n/a	6	28	0.168	2,850	479	6	DND - DND: (do not do, fixtures left as is)	28	0.168	2,850	479	0	0
Rf#-32 Rm - Shop room #1	1x8x 4L sm strip, LED 14w? Type B, n/a	6	56	0.336	2,850	958	6	DND - DND: (do not do, fixtures left as is)	56	0.336	2,850	958	0	0
Rf#-33 Rm - Shop room #1	2x4x 4L rec trf, F32T8 32w, electronic ballast	2	112	0.224	2,850	638	2	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.084	2,850	239	0.14	399
Rf#-34 Rm - Shop Room #2	1x4x 2L sm ind hood, LED 14w? Type B, n/a	9	28	0.252	2,850	718	9	DND - DND: (do not do, fixtures left as is)	28	0.252	2,850	718	0	0
Rf#-35 Rm - Shop Room #3	1x4x 2L sm ind hood, LED 14w? Type B, n/a	19	28	0.532	2,850	1,516	19	DND - DND: (do not do, fixtures left as is)	28	0.532	2,850	1,516	0	0
Building/Area: Fuel Canopy														
1st Floor														
Rf#-36 Rm - Ext - Ceiling Mount	LED 1L sm square (XTR), LED 17w, n/a	3	17	0.051	4,380	223	3	DND - DND: (do not do, fixtures left as is)	17	0.051	4,380	223	0	0
Building/Area: Garage Bay Storage														
1st Floor														
Rf#-71 Rm - Ceiling Mount - Bird Net	LED 1L sm square (XTR), LED 17w, n/a	3	17	0.051	500	26	3	DND - DND: (do not do, fixtures left as is)	17	0.051	500	26	0	0
Building/Area: Maint Bldg														
1st Floor														
Rf#-24 Rm - Maint Shop office	2x4x 4L rec trf, F32T8 32w, electronic ballast	8	112	0.896	2,850	2,554	8	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.336	2,850	958	0.56	1,596
Rf#-25 Rm - Electric Shop office	2x4x 4L rec trf, F32T8 32w, electronic ballast	7	112	0.784	2,850	2,234	7	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.294	2,850	838	0.49	1,396
Rf#-26 Rm - Work Shop Bay #1	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	9	59	0.531	2,850	1,513	9	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.189	2,850	539	0.342	975
Rf#-27 Rm - Work Shop Bay #1	1x4x 4L sm wp, F32T8 32w, electronic ballast	2	112	0.224	2,850	638	2	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.084	2,850	239	0.14	399
Rf#-28 Rm - Work Shop Bay #1	1x4x 2L fxt, F32T8 32w, electronic ballast	1	59	0.059	2,850	168	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,850	60	0.038	108
Rf#-29 Rm - Work Shop Bay #2	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	9	59	0.531	2,850	1,513	9	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.189	2,850	539	0.342	975
Rf#-30 Rm - Ext - Roof Mount - Flag	LED 1L flood, knuckle (Lith), LED 19w, n/a	1	19	0.019	4,380	83	1	DND - DND: (do not do, fixtures left as is)	19	0.019	4,380	83	0	0
Building/Area: Mower Shed														
1st Floor														
Rf#-38 Rm - Ext - Wall Mount	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	5	30	0.15	4,380	657	5	DND - DND: (do not do, fixtures left as is)	30	0.15	4,380	657	0	0
Building/Area: Parks Building														
1st Floor														

Public Works -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-45 Rm - Park Utility Shop	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	2	59	0.118	2,850	336	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,850	120	0.076	217
Rf#-46 Rm - Park Utility Shop	1x4x 4L sm fxt, F32T8 32w, electronic ballast	17	112	1.904	2,850	5,426	17	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.714	2,850	2,035	1.19	3,392
Rf#-47 Rm - Park Utility Shop	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	2,850	168	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,850	60	0.038	108
Rf#-48 Rm - Park Utility Shop Office	2x4x 3L rec trf, F32T8 32w, electronic ballast	3	90	0.27	2,700	729	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	2,700	255	0.1755	474
Rf#-49 Rm - Parks Sup Shop	2x4x 3L rec trf, F32T8 32w, electronic ballast	3	90	0.27	2,850	770	3	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.0945	2,850	269	0.1755	500
Rf#-50 Rm - Outdoor Eqp Area (bird nets)	1x4x 2L sm vapor tight, F32T8 32w, electronic ballast	10	59	0.59	4,380	2,584	10	NL020/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	20	0.2	4,380	876	0.39	1,708
Rf#-51 Rm - Ext - Wall Mount	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	2	30	0.06	4,380	263	2	DND - DND: (do not do, fixtures left as is)	30	0.06	4,380	263	0	0
Building/Area: Records														
1st Floor														
Rf#-52 Rm - Ext - Wall Mount	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	4	30	0.12	4,380	526	4	DND - DND: (do not do, fixtures left as is)	30	0.12	4,380	526	0	0
Building/Area: Street Signs														
1st Floor														
Rf#-39 Rm - Shop room #1	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	17	59	1.003	2,850	2,859	17	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.357	2,850	1,017	0.646	1,841
Rf#-40 Rm - Shop room #1	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	1	59	0.059	2,850	168	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	2,850	60	0.038	108
Rf#-41 Rm - Office #1	2x4x 4L rec trf, F32T8 32w, electronic ballast	4	112	0.448	2,700	1,210	4	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.168	2,700	454	0.28	756
Rf#-42 Rm - Conf Room	1x4x 2L sm ind hood, F32T8 32w, electronic ballast	6	59	0.354	2,850	1,009	6	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.126	2,850	359	0.228	650
Rf#-43 Rm - Office #2	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	2,700	486	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,700	170	0.117	316
Rf#-44 Rm - Office #3	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	2,700	486	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,700	170	0.117	316
Building/Area: Sweeper Shed														
1st Floor														
Rf#-37 Rm - Ext - Ceiling Mount	LED 1L pm high bay (FSC), LED 106w, LED Driver 0-10v	4	106	0.424	4,380	1,857	4	DND - DND: (do not do, fixtures left as is) E-FSP211	106	0.424	4,380	1,857	0	0
Building/Area: Yard														
1st Floor														
Rf#-72 Rm - Ext - Pole Mount	LED 1L cobra head (City), LED 50w?, n/a		50	0	4,380	0	0	DND - DND: (do not do, fixtures left as is)	50	0	4,380	0	0	0
Rf#-73 Rm - Ext - Pole Mount	LED 1L flood, cobra KM GY (VIS BSX), LED 54w, LED Driver 0-10v	13	54	0.702	4,380	3,075	13	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.702	4,380	3,075	0	0

Public Works -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Qty and kW for Public Works :		404		29.2			404			15.6			13.6	
kWh for Public Works :						85,453						47,328		38,124

San Leandro Aquatic Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Chlorine Strg (Ext South End)	1x3x 2L wm vapor tight, F25T8 25w, electronic ballast	2	43	0.086	500	43	2	RLT832dw - (2) 3' LED T8 lamp 10w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	24	0.048	500	24	0.038	19
Rf#-2 Rm - Acid Storage (Ext South End)	1x3x 2L wm vapor tight, F25T8 25w, electronic ballast	2	43	0.086	500	43	2	RLT832dw - (2) 3' LED T8 lamp 10w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	24	0.048	500	24	0.038	19
Rf#-3 Rm - Pool Equipment (Ext South	1x4x 2L sm vapor tight, F32T8 32w, electronic ballast	18	59	1.062	500	531	18	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.378	500	189	0.684	342
Rf#-4 Rm - Main Entry desk	CF 1L rec can V, CFP-32w, CF ballast	2	35	0.07	2,900	203	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	2,900	70	0.046	133
Rf#-5 Rm - Main Entry desk	QH 1L pm cone, Inc. 50w mini Bpin, n/a	8	50	0.4	2,900	1,160	8	RL051/bpin - (1) LED 5w mini-bipin lamp, 4000K	5	0.04	2,900	116	0.36	1,044
Rf#-6 Rm - hallway	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	4	59	0.236	2,900	684	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,900	244	0.152	441
Rf#-7 Rm - B RR/locker	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	24	59	1.416	2,600	3,682	24	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.504	2,600	1,310	0.912	2,371
Rf#-8 Rm - B RR/locker	1x3x 2L wm wall wash, F25T8 25w, electronic ballast	2	43	0.086	2,600	224	2	RLT832dw - (2) 3' LED T8 lamp 10w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	24	0.048	2,600	125	0.038	99
Rf#-9 Rm - B RR/locker	CF 1L rec can V, CFP-32w, CF ballast	6	35	0.21	2,600	546	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	2,600	187	0.138	359
Rf#-10 Rm - B RR/locker shower	CF 1L rec can V, CFP-32w, CF ballast	8	35	0.28	2,600	728	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	2,600	250	0.184	478
Rf#-11 Rm - hot water heater	1x4x 2L sm strip, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-12 Rm - Events Room	4x4x 4L rec trf volumetric, F32T8 32w, electronic ballast	9	112	1.008	1,200	1,210	9	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.378	1,200	454	0.63	756
Rf#-13 Rm - Events Room	CF 1L rec can V, CFP-32w, CF ballast	3	35	0.105	1,200	126	3	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.036	1,200	43	0.069	83
Rf#-14 Rm - Events Room Storage #1	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-15 Rm - Events Room Storage #2	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-16 Rm - G RR/locker	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	24	59	1.416	2,600	3,682	24	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.504	2,600	1,310	0.912	2,371
Rf#-17 Rm - G RR/locker	1x3x 2L wm wall wash, F25T8 25w, electronic ballast	2	43	0.086	2,600	224	2	RLT832dw - (2) 3' LED T8 lamp 10w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	24	0.048	2,600	125	0.038	99
Rf#-18 Rm - G RR/locker	CF 1L rec can V, CFP-32w, CF ballast	6	35	0.21	2,600	546	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	2,600	187	0.138	359
Rf#-19 Rm - G RR/locker shower	CF 1L rec can V, CFP-32w, CF ballast	8	35	0.28	2,600	728	8	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.096	2,600	250	0.184	478
Rf#-20 Rm - hot water heater	1x4x 2L sm strip, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38
Rf#-21 Rm - supply room	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.076	38

San Leandro Aquatic Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - hallway to pool	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	4	59	0.236	2,900	684	4	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.084	2,900	244	0.152	441
Rf#-23 Rm - telephone room	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	500	10	0.038	19
Rf#-24 Rm - Staff room (life guard room)	1x4x 2L pm ind/dir, F32T8 32w, electronic ballast	9	59	0.531	2,900	1,540	9	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.189	2,900	548	0.342	992
Rf#-25 Rm - Supervisor Office	2x4x 2L rec trf, F32T8 32w, electronic ballast	2	59	0.118	2,800	330	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,800	118	0.076	213
Rf#-26 Rm - R? in above	2x4x 2L rec trf, F32T8 32w, electronic ballast	2	59	0.118	2,600	307	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	2,600	109	0.076	198
Rf#-27 Rm - Ext-Bldg Mnt (walls)	CF 1L wm dome, CFP-26w, CF ballast	24	30	0.72	4,380	3,154	24	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.264	4,380	1,156	0.456	1,997
Rf#-28 Rm - Ext-Bldg Mnt (walls) HVAC Eqp	CF 2L wm PCO wall pack, CFP-26w, CF ballast	6	66	0.396	4,380	1,734	6	NL012/wp - New LED wall pack full, 50,000-Hr L70 rated life, 12w, built in photo cell	15	0.09	4,380	394	0.306	1,340
Rf#-29 Rm - Ext - Entry	LED 1L wall pack FCO (XTOR), LED 30w, n/a	4	30	0.12	4,380	526	4	DND - DND: (do not do, fixtures left as is)	30	0.12	4,380	526	0	0
Rf#-30 Rm - Ext - Pole Mount - Parking	LED 1L post top spider (GC), LED 16.5w A21, n/a	8	16.5	0.132	4,380	578	8	DND - DND: (do not do, fixtures left as is)	16	0.132	4,380	578	0	0

Building/Area: Manor Park Rec Facility

1st Floor

Rf#-44 Rm - Classroom	1x4x 3L pm indirect, F32T8 32w, electronic ballast	21	90	1.89	1,200	2,268	21	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.6615	1,200	794	1.2285	1,474
Rf#-45 Rm - B/G RR lobby	Inc. 2L sm glass dome, Inc. 60w A19, n/a	1	60	0.06	1,000	60	1	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.01	1,000	10	0.05	50
Rf#-46 Rm - B/G RR lobby	CF 1L wm vandal, CFP-26w, CF ballast	2	30	0.06	1,000	60	2	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.02	1,000	20	0.04	40
Rf#-47 Rm - Office #1	1x4x 3L pm indirect, F32T8 32w, electronic ballast	2	90	0.18	2,800	504	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,800	176	0.117	328
Rf#-48 Rm - Office #2	1x4x 3L pm indirect, F32T8 32w, electronic ballast	2	90	0.18	2,800	504	2	RLT843dw - (3) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	32	0.063	2,800	176	0.117	328
Rf#-49 Rm - B RR	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	1	59	0.059	1,000	59	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	1,000	21	0.038	38
Rf#-50 Rm - B RR	CF 1L wm vandal, CFP-26w, CF ballast	2	30	0.06	1,000	60	2	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.02	1,000	20	0.04	40
Rf#-51 Rm - G RR	1x4x 2L wm wall wash, F32T8 32w, electronic ballast	1	59	0.059	1,000	59	1	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.021	1,000	21	0.038	38
Rf#-52 Rm - G RR	CF 1L wm vandal, CFP-26w, CF ballast	2	30	0.06	1,000	60	2	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.02	1,000	20	0.04	40
Rf#-53 Rm - Ext-Bldg Mnt (walls)	CF 2L sm square, CFP-32w, CF ballast	2	66	0.132	4,380	578	2	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.02	4,380	88	0.112	491
Rf#-54 Rm - Ext-Bldg Mnt (walls)	CF 2L sm dome, CFP-32w, CF ballast	2	66	0.132	4,380	578	2	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.02	4,380	88	0.112	491

Building/Area: Parks Shed

1st Floor

San Leandro Aquatic Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-36 Rm - Custodial	1x4x 2L sm vapor tight, F40T12 34w, magnetic ballast	2	72	0.144	500	72	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.102	51
Rf#-37 Rm - Snack bar	1x4x 2L sm vapor tight, F40T12 34w, magnetic ballast	6	72	0.432	500	216	6	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.126	500	63	0.306	153
Rf#-38 Rm - Old B RR/locker (now storage)	1x4x 2L sm vapor tight, F40T12 34w, magnetic ballast	2	72	0.144	500	72	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.102	51
Rf#-39 Rm - Old B RR/locker (now storage)	CF 1L wm vandal, CFP-18w, CF ballast	6	20	0.12	500	60	6	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.06	500	30	0.06	30
Rf#-40 Rm - Old G RR/locker (now storage)	1x4x 2L sm vapor tight, F40T12 34w, magnetic ballast	2	72	0.144	500	72	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.102	51
Rf#-41 Rm - Old G RR/locker (now storage)	CF 1L wm vandal, CFP-18w, CF ballast	6	20	0.12	500	60	6	NL010/sq - New LED surface mnt sq, 50,000-Hr L70 rated life, 10w (ALE)	10	0.06	500	30	0.06	30
Rf#-42 Rm - storage #1	1x4x 2L sm vapor tight, F40T12 34w, magnetic ballast	2	72	0.144	500	72	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.102	51
Rf#-43 Rm - storage #2	1x4x 2L sm vapor tight, F40T12 34w, magnetic ballast	2	72	0.144	500	72	2	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.042	500	21	0.102	51

Building/Area: Pool Area

1st Floor

Rf#-31 Rm - Ext - Pole Mount	LED 1L show box GY (VIS BSX), LED 110w, LED Driver 0-10v	30	110	3.3	2,500	8,250	30	DND - DND: (do not do, fixtures left as is) E-FSP211	110	3.3	2,500	8,250	0	0
Rf#-32 Rm - Ext - Pole Mount	LED 1L flood, cobra KM GY (VIS BSX), LED 54w, LED Driver 0-10v	1	54	0.054	4,380	237	1	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.054	4,380	237	0	0
Rf#-33 Rm - Ext - Pole Mount	LED 1L flood, knuckle (Lith), LED 19w, n/a	15	19	0.285	2,500	713	15	DND - DND: (do not do, fixtures left as is)	19	0.285	2,500	713	0	0
Rf#-34 Rm - Ext - Pole Mount	LED 1L flood, KM BZ (VIS BSX), LED 81w, LED Driver 0-10v	2	81	0.162	4,380	710	2	DND - DND: (do not do, fixtures left as is) E-FSP211	81	0.162	4,380	710	0	0

Building/Area: Tennis Courts

1st Floor

Rf#-35 Rm - Ext - Pole Mount	MH 1L flood, tenon, MH 1000w?, HID ballast	8	1080	8.64	1,000	8,640	8	DND - DND: (do not do, fixtures left as is)	1080	8.64	1,000	8,640	0	0

Qty and kW for San Leandro Aquatic Center : 320 26.8 320 17.5 9.3

kWh for San Leandro Aquatic Center : 47,571 28,908 18,667

Senior Community Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - main entry hallway	CF 3L pm custom, Biax 22", CF ballast	7	115	0.805	3,800	3,059	7	DND - DND: (do not do, fixtures left as is)	115	0.805	3,800	3,059	0	0
Rf#-2 Rm - main entry hallway	Inc. 1L (mounted in fxt above), Inc. 65w R40, n/a	7	65	0.455	3,800	1,729	7	RL091/s/r30 - (1) LED 8w R30 screw in lamp, 4000K	8	0.0595	3,800	226	0.3955	1,503
Rf#-3 Rm - main entry hallway	CF 2L rec square RFL, CFP-42w, CF ballast	7	85	0.595	3,800	2,261	7	DND - DND: (do not do, fixtures left as is)	85	0.595	3,800	2,261	0	0
Rf#-4 Rm - main entry hallway	CF 1L rec can HZ, CFP-26w, CF ballast	2	30	0.06	3,800	228	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,800	91	0.036	137
Rf#-5 Rm - main entry hallway	CF 2L rec can HZ, CFP-26w, CF ballast	26	66	1.716	3,800	6,521	26	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.312	3,800	1,186	1.404	5,335
Rf#-6 Rm - main entry hallway	CF 1L pm cone, CFP-26w, CF ballast	11	30	0.33	3,800	1,254	11	RL0111/v - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life, Vertical mount	11	0.121	3,800	460	0.209	794
Rf#-7 Rm - Main Meeting Room A	CF 3L pm custom (dim), Biax 22", CF ballast	9	115	1.035	2,500	2,588	9	DND - DND: (do not do, fixtures left as is)	115	1.035	2,500	2,588	0	0
Rf#-8 Rm - Main Meeting Room A	CF 2L rec square RFL (dim), CFP-42w, CF ballast	18	85	1.53	2,500	3,825	18	DND - DND: (do not do, fixtures left as is)	85	1.53	2,500	3,825	0	0
Rf#-9 Rm - storage room #1	1x4x 2L rec trf, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	500	12	0.035	18
Rf#-10 Rm - storage room #2	1x4x 2L rec trf, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	500	12	0.035	18
Rf#-11 Rm - Main Meeting Room B	CF 3L pm custom (dim), Biax 22", CF ballast	9	115	1.035	2,500	2,588	9	DND - DND: (do not do, fixtures left as is)	115	1.035	2,500	2,588	0	0
Rf#-12 Rm - Main Meeting Room B	CF 2L rec square RFL (dim), CFP-42w, CF ballast	18	85	1.53	2,500	3,825	18	DND - DND: (do not do, fixtures left as is)	85	1.53	2,500	3,825	0	0
Rf#-13 Rm - Kitchen	CF 1L rec can HZ, CFP-26w, CF ballast	1	30	0.03	2,500	75	1	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.012	2,500	30	0.018	45
Rf#-14 Rm - Kitchen	2x4x 3L rec trf, F32T8 32w, electronic ballast	7	90	0.63	2,500	1,575	7	RLT843Adm - (3) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	36	0.252	2,500	630	0.378	945
Rf#-15 Rm - Restroom	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	3,800	224	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	3,800	91	0.035	133
Rf#-16 Rm - Activity Room	1x4x 2L pm ind/dir, F32T8 32w, electronic ballast	10	59	0.59	3,000	1,770	10	RLT842Adm - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.24	3,000	720	0.35	1,050
Rf#-17 Rm - Consult Room	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	3,000	540	2	RLT843Adm - (3) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	36	0.072	3,000	216	0.108	324
Rf#-18 Rm - Office #2	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	3,000	540	2	RLT843Adm - (3) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	36	0.072	3,000	216	0.108	324
Rf#-19 Rm - Office #3	2x4x 3L rec trf, F32T8 32w, electronic ballast	7	90	0.63	3,000	1,890	7	RLT843Adm - (3) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	36	0.252	3,000	756	0.378	1,134
Rf#-20 Rm - ? Room	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	3,800	684	2	RLT843Adm - (3) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	36	0.072	3,800	274	0.108	410
Rf#-21 Rm - Restroom	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	3,800	224	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	3,800	91	0.035	133

Senior Community Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-22 Rm - Office #4	2x4x 3L rec trf, F32T8 32w, electronic ballast	2	90	0.18	3,000	540	2	RLT843Adm - (3) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	36	0.072	3,000	216	0.108	324
Rf#-23 Rm - Meeting Room C	1x4x 2L pm ind/dir (dim?), F32T8 32w, electronic ballast	16	59	0.944	2,500	2,360	16	RLT842Adm - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.384	2,500	960	0.56	1,400
Rf#-24 Rm - Meeting Room D	1x4x 2L pm ind/dir (dim?), F32T8 32w, electronic ballast	16	59	0.944	2,500	2,360	16	RLT842Adm - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.384	2,500	960	0.56	1,400
Rf#-25 Rm - Arts Room	1x4x 2L pm ind/dir (dim?), F32T8 32w, electronic ballast	16	59	0.944	2,500	2,360	16	RLT842Adm - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.384	2,500	960	0.56	1,400
Rf#-26 Rm - Fitness Room	CF 2L rec can HZ, CFP-26w, CF ballast	2	66	0.132	3,000	396	2	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.024	3,000	72	0.108	324
Rf#-27 Rm - Fitness Room	1x4x 2L pm ind/dir (dim?), F32T8 32w, electronic ballast	30	59	1.77	3,000	5,310	30	RLT842Adm - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.72	3,000	2,160	1.05	3,150
Rf#-28 Rm - Computer Rm	1x4x 2L pm ind/dir (dim?), F32T8 32w, electronic ballast	12	59	0.708	2,500	1,770	12	RLT842Adm - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.288	2,500	720	0.42	1,050
Rf#-29 Rm - storage (with stairwell)	1x4x 2L sm wp, F32T8 32w, electronic ballast	2	59	0.118	500	59	2	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.048	500	24	0.07	35
Rf#-30 Rm - Electrical room	1x4x 2L sm strip, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	500	12	0.035	18
Rf#-31 Rm - SW and mezzanine	1x4x 2L sm strip, F32T8 32w, electronic ballast	8	59	0.472	8,760	4,135	8	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.192	8,760	1,682	0.28	2,453
Rf#-32 Rm - hallway to M/W RR	CF 2L rec can HZ, CFP-26w, CF ballast	6	66	0.396	3,800	1,505	6	RL012/ckit - (1) New LED recessed can kit, 12w, 120/277v, 50,000-Hr rated life	12	0.072	3,800	274	0.324	1,231
Rf#-33 Rm - storage	1x4x 2L sm strip, F32T8 32w, electronic ballast	6	59	0.354	500	177	6	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.144	500	72	0.21	105
Rf#-34 Rm - Custodial	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	500	30	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	500	12	0.035	18
Rf#-35 Rm - M RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	3,800	224	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	3,800	91	0.035	133
Rf#-36 Rm - M RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	8	59	0.472	3,800	1,794	8	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.192	3,800	730	0.28	1,064
Rf#-37 Rm - W RR	1x4x 2L sm wp, F32T8 32w, electronic ballast	1	59	0.059	3,800	224	1	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.024	3,800	91	0.035	133
Rf#-38 Rm - W RR	1x4x 2L wm vanity, F32T8 32w, electronic ballast	8	59	0.472	3,800	1,794	8	RLT842A - (2) 4' LED T8 lamp 12w, Type A, 50,000-Hr L70 rated life, replace any failed or non-campatible	24	0.192	3,800	730	0.28	1,064
Rf#-39 Rm - Ext-Bldg Mnt (walls)	CF 1L wm wall pack, CFP-32w, CF ballast	16	35	0.56	4,380	2,453	16	RL0111/h - (1) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	11	0.176	4,380	771	0.384	1,682
Rf#-40 Rm - Ext-Bldg Mnt (eves)	CF 2L sm square, CFP-32w, CF ballast	4	66	0.264	4,380	1,156	4	RL0112/h - (2) LED 4 pin lamp, direct wire, 120/277v, 11w, 50,000-Hr L70 rated life	22	0.088	4,380	385	0.176	771
Rf#-41 Rm - Ext-Bldg Mnt (eves)	CF 3L pm custom, Biax 22", CF ballast	2	115	0.23	4,380	1,007	2	DND - DND: (do not do, fixtures left as is)	115	0.23	4,380	1,007	0	0
Rf#-42 Rm - All Exterior	LED 1L Rnd area light (GC), LED 27w CC, n/a	47	27	1.269	4,380	5,558	47	DND - DND: (do not do, fixtures left as is)	27	1.269	4,380	5,558	0	0

Senior Community Center -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Qty and kW for Senior Community Center :		354		22.2			354			13.1			9.1	
kWh for Senior Community Center :						70,699						40,644		30,058

South Branch Library -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: Main Building														
1st Floor														
Rf#-1 Rm - Ext - Bldg Mount	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Rf#-2 Rm - Library Open area	1x4x 2L sm wp, F32T8 32w, electronic ballast	20	59	1.18	1,040	1,227	20	RLT842dw - (2) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	21	0.42	1,040	437	0.76	790
Rf#-3 Rm - Office	1x4x 4L sm wrap, F32T8 32w, electronic ballast	1	112	0.112	1,040	116	1	RLT844dw - (4) 4' LED T8 lamp 10.5w, Type B, Direct Wire, 50,000-Hr L70 rated life, remove existing ballast	42	0.042	1,040	44	0.07	73
Qty and kW for South Branch Library :		**22**		**1.3**			**22**			**0.5**			**0.8**	
kWh for South Branch Library :						**1,475**						**612**		**863**

Water Pollution Control Plant -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: 10 Boiler Rm														
1st Floor														
Rf#-52 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	2	30	0.06	4,380	263	2	DND - DND: (do not do, fixtures left as is)	30	0.06	4,380	263	0	0
Rf#-53 Rm - Ext - Pole Mount	LED 1L flood, KM BZ (VIS BSX), LED 81w, LED Driver 0-10v	2	81	0.162	4,380	710	2	DND - DND: (do not do, fixtures left as is) E-FSP211	81	0.162	4,380	710	0	0
Building/Area: Aeration Tanks														
1st Floor														
Rf#-74 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	16	54	0.864	4,380	3,784	16	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.864	4,380	3,784	0	0
Rf#-75 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	4	52	0.208	4,380	911	4	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.208	4,380	911	0	0
Building/Area: BFP														
1st Floor														
Rf#-31 Rm - Ext - Ceiling Mount	LED 1L sm square (XTR), LED 17w, n/a	12	17	0.204	4,380	894	12	DND - DND: (do not do, fixtures left as is)	17	0.204	4,380	894	0	0
Rf#-32 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	3	30	0.09	4,380	394	3	DND - DND: (do not do, fixtures left as is)	30	0.09	4,380	394	0	0
Rf#-33 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Rf#-34 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	1	54	0.054	4,380	237	1	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.054	4,380	237	0	0
Building/Area: Bird Bldg														
1st Floor														
Rf#-69 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	6	30	0.18	4,380	788	6	DND - DND: (do not do, fixtures left as is)	30	0.18	4,380	788	0	0
Rf#-70 Rm - Ext - Bldg Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Rf#-71 Rm - Ext - Bldg Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Building/Area: Break Room														
1st Floor														
Rf#-50 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	3	30	0.09	4,380	394	3	DND - DND: (do not do, fixtures left as is)	30	0.09	4,380	394	0	0
Rf#-51 Rm - Ext - Pole Mount	LED 1L flood, knuckle (Lith), LED 19w, n/a	3	19	0.057	4,380	250	3	DND - DND: (do not do, fixtures left as is)	19	0.057	4,380	250	0	0
Building/Area: DIG 1														
1st Floor														
Rf#-54 Rm - Ext - Pole Mount	LED 1L post top Haz Fxt (City), LED 40w?, n/a	1	40	0.04	4,380	175	1	DND - DND: (do not do, fixtures left as is)	40	0.04	4,380	175	0	0

Water Pollution Control Plant -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: DIG 2														
1st Floor														
Rf#-47 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Rf#-48 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Rf#-49 Rm - Ext - Pole Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Building/Area: DIG 4														
1st Floor														
Rf#-42 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Rf#-43 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	3	30	0.09	4,380	394	3	DND - DND: (do not do, fixtures left as is)	30	0.09	4,380	394	0	0
Rf#-44 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	2	52	0.104	4,380	456	2	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.104	4,380	456	0	0
Rf#-45 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	4	54	0.216	4,380	946	4	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.216	4,380	946	0	0
Building/Area: EFF PP Station														
1st Floor														
Rf#-72 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Building/Area: FFR/EQ Lift														
1st Floor														
Rf#-79 Rm - Ext - Pole Mount	LED 1L post top Haz Fxt (GC), LED 27w CC, n/a	1	27	0.027	4,380	118	1	DND - DND: (do not do, fixtures left as is)	27	0.027	4,380	118	0	0
Rf#-80 Rm - Ext - Pole Mount	LED 1L post top GY (VIS PGR), LED 52w, LED Driver 0-10v	9	52	0.468	4,380	2,050	9	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.468	4,380	2,050	0	0
Building/Area: Grit														
1st Floor														
Rf#-82 Rm - Ext - Pole Mount	LED 1L post top GY (VIS PGR), LED 52w, LED Driver 0-10v	5	52	0.26	4,380	1,139	5	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.26	4,380	1,139	0	0
Rf#-83 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Building/Area: HDWKS														
1st Floor														
Rf#-85 Rm - Ext - Ceiling Mount	LED 1L sm square (XTR), LED 17w, n/a	10	17	0.17	4,380	745	10	DND - DND: (do not do, fixtures left as is)	17	0.17	4,380	745	0	0
Rf#-86 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	2	30	0.06	4,380	263	2	DND - DND: (do not do, fixtures left as is)	30	0.06	4,380	263	0	0

Water Pollution Control Plant -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-87 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	1	54	0.054	4,380	237	1	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.054	4,380	237	0	0

Building/Area: Influent Pump

1st Floor

Rf#-84 Rm - Ext - Pole Mount	LED 1L post top GY (VIS PGR), LED 52w, LED Driver 0-10v	10	52	0.52	4,380	2,278	10	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.52	4,380	2,278	0	0

Building/Area: Maint Shop

1st Floor

Rf#-55 Rm - Ext - Ceiling Mount	LED 1L pm high bay (FSC), LED 158w, LED Driver 0-10v	5	158	0.79	4,380	3,460	5	DND - DND: (do not do, fixtures left as is) E-FSP211	158	0.79	4,380	3,460	0	0
Rf#-56 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	3	30	0.09	4,380	394	3	DND - DND: (do not do, fixtures left as is)	30	0.09	4,380	394	0	0
Rf#-57 Rm - Ext - Pole Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0

Building/Area: New Admin Bldg

1st Floor

Rf#-1 Rm - Mechanical room	1x4x 2L fxt (ESPEN), LED 13w TLED, electronic ballast	2	32	0.064	1,200	77	2	DND - DND: (do not do, fixtures left as is)	32	0.064	1,200	77	0	0
Rf#-2 Rm - Electrical room	1x4x 2L sm vapor tight (ESPEN), LED 12w TLED, electronic ballast	1	26	0.026	500	13	1	DND - DND: (do not do, fixtures left as is)	26	0.026	500	13	0	0
Rf#-3 Rm - Lab Mechanical room	1x4x 2L sm vapor tight (ESPEN), LED 12w TLED, electronic ballast	1	26	0.026	3,000	78	1	DND - DND: (do not do, fixtures left as is)	26	0.026	3,000	78	0	0
Rf#-4 Rm - ENV Service Storage	1x4x 2L sm vapor tight (ESPEN), LED 12w TLED, electronic ballast	2	26	0.052	500	26	2	DND - DND: (do not do, fixtures left as is)	26	0.052	500	26	0	0
Rf#-5 Rm - Storage room main hallway	2x2x 2L rec trf vol (ESPEN), LED 9w TLED, electronic ballast	2	22	0.044	500	22	2	DND - DND: (do not do, fixtures left as is)	22	0.044	500	22	0	0
Rf#-6 Rm - Janitor room	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	1	22	0.022	500	11	1	DND - DND: (do not do, fixtures left as is)	22	0.022	500	11	0	0
Rf#-7 Rm - Server room	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	1	22	0.022	3,000	66	1	DND - DND: (do not do, fixtures left as is)	22	0.022	3,000	66	0	0
Rf#-8 Rm - Janitor room/Storage	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	1	22	0.022	500	11	1	DND - DND: (do not do, fixtures left as is)	22	0.022	500	11	0	0
Rf#-9 Rm - Ladies RR/Lockers	LED 1L rec can 6", LED 12w?, n/a	6	12	0.072	2,900	209	6	DND - DND: (do not do, fixtures left as is)	12	0.072	2,900	209	0	0
Rf#-10 Rm - Ladies RR/Lockers	1x4x 2L sm wp (ESPEN), LED 12w TLED, electronic ballast	2	26	0.052	2,900	151	2	DND - DND: (do not do, fixtures left as is)	26	0.052	2,900	151	0	0
Rf#-11 Rm - Mens RR/Lockers	LED 1L rec can 6", LED 12w?, n/a	15	12	0.18	2,900	522	15	DND - DND: (do not do, fixtures left as is)	12	0.18	2,900	522	0	0
Rf#-12 Rm - Mens RR/Lockers	1x4x 2L sm wp (ESPEN), LED 12w TLED, electronic ballast	7	26	0.182	2,900	528	7	DND - DND: (do not do, fixtures left as is)	26	0.182	2,900	528	0	0
Rf#-13 Rm - Hall Locker Area	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	5	22	0.11	3,000	330	5	DND - DND: (do not do, fixtures left as is)	22	0.11	3,000	330	0	0

Water Pollution Control Plant -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Rf#-14 Rm - Hallway North	LED 1L rec can 6", LED 22w?, n/a	8	12	0.096	3,000	288	8	DND - DND: (do not do, fixtures left as is)	12	0.096	3,000	288	0	0
Rf#-15 Rm - Copy File room	LED 1L rec can 6", LED 22w?, n/a	5	12	0.06	3,000	180	5	DND - DND: (do not do, fixtures left as is)	12	0.06	3,000	180	0	0
Rf#-16 Rm - Entrance & Reception Area	LED 1L rec can 6", LED 22w?, n/a	25	12	0.3	3,000	900	25	DND - DND: (do not do, fixtures left as is)	12	0.3	3,000	900	0	0
Rf#-17 Rm - Above Receptionist Desk	CF 1L pm custom (ESPEN V), LED 8w 4/pin V, n/a	2	8	0.016	3,000	48	2	DND - DND: (do not do, fixtures left as is)	8	0.016	3,000	48	0	0
Rf#-18 Rm - Unisex RR	LED 1L rec can 6", LED 22w?, n/a	2	12	0.024	2,900	70	2	DND - DND: (do not do, fixtures left as is)	12	0.024	2,900	70	0	0
Rf#-19 Rm - Conference room	1x8x 4L pm ind/dir (ESPEN), LED 12w TLED, electronic ballast	4	52	0.208	3,000	624	4	DND - DND: (do not do, fixtures left as is)	52	0.208	3,000	624	0	0
Rf#-20 Rm - Conference room	LED 1L rec can 6", LED 22w?, n/a	8	12	0.096	3,000	288	8	DND - DND: (do not do, fixtures left as is)	12	0.096	3,000	288	0	0
Rf#-21 Rm - Control Building Area	2x4x 2L rec trf vol (ESPEN), LED 13w TLED, electronic ballast	6	32	0.192	3,000	576	6	DND - DND: (do not do, fixtures left as is)	32	0.192	3,000	576	0	0
Rf#-22 Rm - Plant Manager Office	2x4x 2L rec trf vol (ESPEN), LED 13w TLED, electronic ballast	4	32	0.128	2,700	346	4	DND - DND: (do not do, fixtures left as is)	32	0.128	2,700	346	0	0
Rf#-23 Rm - Judy's Office	2x4x 2L rec trf vol (ESPEN), LED 13w TLED, electronic ballast	4	32	0.128	2,700	346	4	DND - DND: (do not do, fixtures left as is)	32	0.128	2,700	346	0	0
Rf#-24 Rm - Supervisor's office	2x4x 2L rec trf vol (ESPEN), LED 13w TLED, electronic ballast	6	32	0.192	2,700	518	6	DND - DND: (do not do, fixtures left as is)	32	0.192	2,700	518	0	0
Rf#-25 Rm - Lab Office 1	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	2	22	0.044	2,700	119	2	DND - DND: (do not do, fixtures left as is)	22	0.044	2,700	119	0	0
Rf#-26 Rm - Lab Office 2	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	4	22	0.088	2,700	238	4	DND - DND: (do not do, fixtures left as is)	22	0.088	2,700	238	0	0
Rf#-27 Rm - Lab	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	34	22	0.748	3,000	2,244	34	DND - DND: (do not do, fixtures left as is)	22	0.748	3,000	2,244	0	0
Rf#-28 Rm - Lab Micro Biology room	2x2x 2L rec trf vol (ESPEN), FP14/835, electronic ballast	4	22	0.088	3,000	264	4	DND - DND: (do not do, fixtures left as is)	22	0.088	3,000	264	0	0
Rf#-29 Rm - Ext-Bldg Mnt	CF 1L wm wall pack (GC), LED 9.5w 4/pin, n/a	24	9.5	0.228	4,380	999	24	DND - DND: (do not do, fixtures left as is)	10	0.228	4,380	999	0	0

Building/Area: New FFR

1st Floor

Rf#-76 Rm - Ext - Wall Mount	LED 1L wm wall pack FCO (Syl), LED 30w, n/a	6	30	0.18	4,380	788	6	DND - DND: (do not do, fixtures left as is)	30	0.18	4,380	788	0	0
Rf#-77 Rm - Ext - Pole Mount	LED 1L post top GY (VIS PGR), LED 52w, LED Driver 0-10v	4	52	0.208	4,380	911	4	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.208	4,380	911	0	0
Rf#-78 Rm - main electrical room	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	4	30	0.12	500	60	4	DND - DND: (do not do, fixtures left as is)	30	0.12	500	60	0	0

Building/Area: Parking Lot

1st Floor

Rf#-30 Rm - Ext-Pole Mount	LED 1L flood, cobra KM GY (VIS BSX), LED 54w, LED Driver 0-10v	5	54	0.27	4,380	1,183	5	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.27	4,380	1,183	0	0

Water Pollution Control Plant -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: PC 3														
1st Floor														
Rf#-81 Rm - Ext - Pole Mount	LED 1L post top Haz Fxt (GC), LED 27w CC, n/a	9	27	0.243	4,380	1,064	9	DND - DND: (do not do, fixtures left as is)	27	0.243	4,380	1,064	0	0
Building/Area: PC1														
1st Floor														
Rf#-66 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Rf#-67 Rm - Ext - Pole Mount	LED 1L post top Haz Fxt (GC), LED 27w CC, n/a	1	27	0.027	4,380	118	1	DND - DND: (do not do, fixtures left as is)	27	0.027	4,380	118	0	0
Rf#-68 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Building/Area: PC2														
1st Floor														
Rf#-65 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Building/Area: Poll Barn														
1st Floor														
Rf#-73 Rm - Ceiling Mount	LED 1L pm high bay (FSC), LED 106w, LED Driver 0-10v	3	106	0.318	1,300	413	3	DND - DND: (do not do, fixtures left as is) E-FSP211	106	0.318	1,300	413	0	0
Building/Area: Poly Bldg														
1st Floor														
Rf#-35 Rm - Ext - Pole Mount	LED 1L flood, BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Rf#-36 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Building/Area: Pond														
1st Floor														
Rf#-39 Rm - Ext - Pole Mount	LED 1L flood, cobra BZ KM (VIS BSX), LED 54w, LED Driver 0-10v	2	54	0.108	4,380	473	2	DND - DND: (do not do, fixtures left as is) E-FSP211	54	0.108	4,380	473	0	0
Building/Area: Re-AIR														
1st Floor														
Rf#-46 Rm - Ext - Pole Mount	LED 1L post top GY (VIS PGR), LED 52w, LED Driver 0-10v	3	52	0.156	4,380	683	3	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.156	4,380	683	0	0
Building/Area: Red Box														
1st Floor														
Rf#-40 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0

Water Pollution Control Plant -

PRE-RETROFIT							POST RETROFIT							
Location	Existing Fixture Description	Qty	Wt/Fxt	kW	Hours	kWh	Qty	Retrofit Code Description (Ltg control in RED)	Wt/Fxt	kW	Hours	kWh	kW Svd	kWh Svd
Building/Area: SC1														
1st Floor														
Rf#-61 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	2	52	0.104	4,380	456	2	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.104	4,380	456	0	0
Rf#-62 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Rf#-63 Rm - Ext - Pole Mount	LED 1L flood, knuckle (City), LED 40w?, n/a	2	40	0.08	4,380	350	2	DND - DND: (do not do, fixtures left as is)	40	0.08	4,380	350	0	0
Rf#-64 Rm - Ext - Pole Mount	LED 1L post top GY (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Building/Area: SC2														
1st Floor														
Rf#-58 Rm - Ext - Pole Mount	LED 1L post top Haz Fxt (GC), LED 27w CC, n/a	1	27	0.027	4,380	118	1	DND - DND: (do not do, fixtures left as is)	27	0.027	4,380	118	0	0
Rf#-59 Rm - Ext - Wall Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	2	30	0.06	4,380	263	2	DND - DND: (do not do, fixtures left as is)	30	0.06	4,380	263	0	0
Rf#-60 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Building/Area: THIKN														
1st Floor														
Rf#-37 Rm - Ext - Pole Mount	LED 1L show box SqP BK (VIS BSX), LED 81w, LED Driver 0-10v	2	81	0.162	4,380	710	2	DND - DND: (do not do, fixtures left as is) E-FSP211	81	0.162	4,380	710	0	0
Rf#-38 Rm - Ext - Pole Mount	LED 1L post top BZ (VIS PGR), LED 52w, LED Driver 0-10v	1	52	0.052	4,380	228	1	DND - DND: (do not do, fixtures left as is) E-FSP211	52	0.052	4,380	228	0	0
Building/Area: Welding Shop														
1st Floor														
Rf#-41 Rm - Ext - Pole Mount	LED 1L wm wall pack FT (Syl), LED 30w?, n/a	1	30	0.03	4,380	131	1	DND - DND: (do not do, fixtures left as is)	30	0.03	4,380	131	0	0
Qty and kW for Water Pollution Control Plant :		**369**		**11.7**			**369**			**11.7**			**0.0**	
kWh for Water Pollution Control Plant :						**44,539**						**44,541**		

Attachment "C"

Mechanical Inventory

ID#	Site / Building	Room #	Equipment	Quantity	Existing Equipment								
					Manuf.	Model No.	Serial No.	Capactiy / Size	Year	Electrical	Orientation (Down/Side)	Scope of Work	Additional Notes
1	**City Hall**												
4	City Hall	Bldg CHW (CHU-1)	Air-Cooled Chiller	1	Carrier	30GT-040-C610KA	4495F77115	40 ton	1995	460-3-60		Replace	rooftop
5	City Hall	Bldg CHW (P-7)	Pump	1	Baldor	VM3554	F1906142862	1.5 hp				Replace	86.5% eff
6	City Hall	Bldg CHW (P-8)	Pump	1	Baldor	VM3154	F199	1.5 hp				Replace	78.5% eff
32	City Hall	Telephone Room	Split Sys Cooling	1	Mitsubishi	MU12TN	4000723	1 ton	2000	208/230-1-60		Replace	Cassette FCU
33	City Hall	Telephone Room	Split Sys Cooling	1	Mitsubishi	MU12TN	4000727	1 ton	2000	208/230-1-60		Replace	Cassette FCU
34	City Hall		Split Sys Cooling	1	Sanyo	CH3642	0019944	3 ton	2000	208/230-1-60		Replace	
40	City Hall	CM's Office - Storage	Split Sys Cooling	1	Mitsubishi	PU18EK	-	1.5 ton	2000	208/230-1-60		Replace	Cassette FCU
7	City Hall	(AH-7)	Air Handler	1	Carrier	39NXH322NVV73739	4095T73739		1995			Replace	2-pipe (CHW) - 15 HP Motor - VFD
8	City Hall	(FC-H-C)	Fan Coil Unit (FCU)	1	Carrier	-	-					Refurbish	4-pipe, mounted above ceiling
9	City Hall	(FC-COOL)	FCU	1	Carrier	-	-					Refurbish	2-pipe, mounted above ceiling
10	City Hall	(FC-4)	FCU	1	Carrier	-	-					Refurbish	4-pipe, mounted above celing
11	City Hall	(FC-5)	FCU	1	Carrier	-	-					Refurbish	unit mounted above ceiling
12	City Hall	FC-1	FCU	1	Carrier	-	-					Refurbish	unit mounted above ceiling
13	City Hall	FC-2	FCU	1	Carrier	-	-					Refurbish	unit mounted above ceiling
23	City Hall	S.L.U.S.D (DH-1)	FCU (Duct Heater HHW)	1	Carrier	-	-					Refurbish	unit mounted above ceiling
24	City Hall	IT (DH-2)	FCU (Duct Heater HHW)	1	Carrier	-	-					Refurbish	unit mounted above ceiling
25	City Hall	CMO (DH-3)	FCU (Duct Heater HHW)	1	Carrier	39LG1061DA1931-L	0994T49786		1994			Refurbish	unit mounted above ceiling
26	City Hall	Planning South (DH-4)	FCU (Duct Heater HHW)	1	Carrier	-	-					Refurbish	unit mounted above ceiling
27	City Hall	Planning North (DH-5)	FCU (Duct Heater HHW)	1	Carrier	-	-					Refurbish	unit mounted above ceiling
28	City Hall	Engineering (DH-6)	FCU (Duct Heater HHW)	1	Carrier	-	-					Refurbish	unit mounted above ceiling
	Fire Station #9												
1	West Side of Bldg	Living Quarters	Packaged Gas / Elec	1	Carrier	48TJE008---501QE	1094G02158	7.5 ton	1994	208/230-3-60	Side	Replace	RTU
	Fire Station #10												
1	Fire Station #10	Day Room	Split Sys Furnace	1	Carrier	38TXA060320	2402E08366	5 ton	2002	208/230-1-60		Replace	GM CU - Attic HE Furnace 100 MBH In; VVT
2	Fire Station #10	Living Quarters	Split Sys Furnace	1	Carrier	38TXA060320	2402E08374	5 ton	2002	208/230-1-60		Replace	GM CU - Attic HE Furnace 100 MBH In; VVT
3	Fire Station #10	Gym	Split Sys Furnace	1	Carrier	38TXA060320	2402E08377	5 ton	2002	208/230-1-60		Replace	GM CU - Attic HE Furnace 100 MBH In; VVT
	Fire Station #11												
1	Fire Station #11	Living Quarters	Split Sys Furnace	1	Carrier	38HDC060521	-	5 ton	2001	208/230-3-60		Replace	GM CU - Attic Furnace 100 MBH In; VVT
2	Fire Station #11	Living Room/ Office	Split Sys Furnace	1	Carrier	38HDC048521	2001C07801	4 ton	2001	208/230-3-60		Replace	GM CU - Attic Furnace 100 MBH In
3	Fire Station #11	Gym	Split Sys Furnace	1	Carrier	38HDC036521	-	3 ton	2002	208/230-3-60		Replace	GM CU - Attic Furnace 100 MBH In
	Fire Station #12												
1	South End (Ground)	AC #5	Packaged Gas / Elec	1	Carrier	48SX-024040311AA	2994G10926	2 ton	1994	208/230-1-60	Side	Replace	Ground Mount
2	NE End (Roof)	AC #4	Packaged Gas / Elec	1	Carrier	48SX-036060321AA	4494G10175	3 ton	1994	208/230-1-60	Side	Replace	RTU
3	NE End (Roof)	AC #3 (Chief's Quarters)	Packaged Gas / Elec	1	Carrier	48SX-024040311AA	2994G10927	2 ton	1994	208/230-1-60	Side	Replace	RTU
4	NE End (Roof)	AC #2 (Day Rm / Kitchen)	Packaged Gas / Elec	1	Carrier	48SX-030040311AA	4294G10431	2.5 ton	1994	208/230-1-60	Side	Replace	RTU
5	NE End (Roof)	AC #1	Packaged Gas / Elec	1	Carrier	48SX-030040311AA	-	2.5 ton	1994	208/230-1-60	Side	Replace	RTU
	Fire Station #13												
1	Fire Station 13	Living Quarters	Packaged Gas / Elec	1	Carrier	48SS-048100321AA	4194G10932	4 ton	1994	208/230-1-60	Down	Replace	RTU
	History Museum												
1	History Museum	Office	Packaged Gas / Elec	1	York	D1NH024N03606C	NFMM066294	2 ton	2003	208/230-1-60	Down	Replace	RTU
2	History Museum	History Museum	Packaged Gas / Elec	1	York	DH240N24P2EAA1B	NFMM073835	20 ton	2003	208/230-3-60	Side	Replace	RTU
3	History Museum	Elect Room	Packaged Gas / Elec	1	York	DH102N10S2EAA3A	NGMM075677	8.5 ton	2003	208/230-3-60	Side	Replace	RTU
	Main Library												
25	Main Library	Estudillo Room	Packaged Gas / Elec	1	Carrier	48TJD012---521	1300G34040	10 ton	2000	208/230-3-60	Down	Replace	RTU
26	Main Library	KARP Room	Packaged Gas / Elec	1	Carrier	48TJD016	3199F38772	15 ton	1999	208/230-3-60	Down	Replace	RTU
	Manor Branch Library												
1	Library	Library	Packaged AC	1	Trane	TDC360AE	C05J09208	30 ton	2005	208/230-3-60	Down	Replace	Cooling Only; VAV (6) zones
3	Library	Fire Alarm/ Telephone	Split Sys Heat Pump	1	Sanyo	C0951	83452	1 ton	2005	115-1-60		Replace	
	Public Safety												
4	Public Safety	Bldg CHW	Water-Cooled Chiller	1	Carrier	30HK-060-A-500--		60 ton	1997	208/230-3-60		Replace	Water Cooled

City of San Leandro Ph III - HVAC Replacement Inventory

ID#	Site / Building	Room #	Equipment	Quantity	Existing Equipment								
					Manuf.	Model No.	Serial No.	Capactiy / Size	Year	Electrical	Orientation (Down/Side)	Scope of Work	Additional Notes
5	Public Safety	Bldg CHW	Pump	1	Baldor		F297	5 hp	1997	208-230/ 460-3-60		Replace	1725 RPM/ 82% eff
6	Public Safety	Bldg CHW	CW Pump (Tower)	1	US Motors	-	-	5 hp		208-230/ 460-3-60		Replace	1715 RPM
15	Public Safety	(AH-1)	Air Handler	1	-	-	-					Replace	HHW Roof Mounted // 2 HP Motor
16	Public Safety	(AH-2)	Air Handler	1	-	-	-					Replace	HHW Roof Mounted
17	Public Safety	(AH-3) (S-2)	Air Handler (Evap Cooler)	1	Spec Air	SSS4PG5.26F15B72IEHW	ARW 0995 1660		1995	208/230-3-60		Replace	HHW Roof Mounted // 5 HP Fan Motor
18	Public Safety	AH-3	Air Handler	1	MagicAire	BRD30-6W-2W	W110444909			240-3-60		Replace	ACU_004
24	Public Safety		Split Sys Heat Pump	1	Sanyo	CM3212	14522	3 ton		208/230-1-60		Replace	
	Public Works												
1	Public Works	Admin	Packaged Gas / Elec	1	Trane	YCD181C4LOCA	653100281D	15 ton	2006	460-3-60	Down	Replace	RTU
2	Public Works	Admin	Packaged Gas / Elec	1	York	D4CG048N06225	NFAM134604	4 ton	1992	208/230-3-60	Down	Replace	RTU; Existing step down transformer (to be removed)
4	Public Works	Shop Office	Packaged Gas / Elec	1	Carrier	48HJD006---631	0997G20359	5 ton	1997	460-3-60	Side	Replace	RTU
6	Public Works	Parks (Street Maint Office)	Packaged Heat Pump	1	Carrier	50JX-030	-	2.5 ton		208/230-1-60	Side	Replace	RTU
	SL Aquatic Center												
1	Aquatic Center	AC-1	Packaged Gas / Elec	1	Carrier	48HJD005---551--	0706G20425	4 ton	2006	208/230-3-60	Side	Replace	Ground Mount
2	Aquatic Center	AC-2	Packaged Gas / Elec	1	Carrier	48HJE009---551NB	1906G50890	8.5 ton	2006	208/230-3-60	Side	Replace	Ground Mount
3	Aquatic Center	AC-3	Packaged Gas / Elec	1	Carrier	48HJD005---551--	0706G20424	4 ton	2006	208/230-3-60	Side	Replace	Ground Mount
4	Aquatic Center	AC-4	Packaged Gas / Elec	1	Carrier	48HJD006---541NB	1906G50467	5 ton	2006	208/230-3-60	Side	Replace	Ground Mount
	South Branch Library												
1	South Branch Library	Library	Split Sys Furnace	1	Trane	TTR030C100A3	N202KFNBF	2.5 ton	1998	208/230-1-60		Replace	GM CU - Attic Furnace // Furnace 46MBH In, 37 MBH Out

Attachment D

Technical Appendix

aleo™
LED LIGHTING

Project	
Notes	
Type	Date
Cat. No.	

LCP™ XE Series — LED Square Canopy Luminaire

DESCRIPTION

The Aleo LCP™ Series, LED Square Canopy Luminaire combines energy-efficiency, low-glare optics, and simple slim profile aesthetics to deliver enhanced performance to a range of surface-mount and recessed lighting applications. Mounting plate allows for quick and easy installation. Weather-proof compartment to withstand challenging environments.

APPLICATIONS

Covered walkways, drive-thrus, semi-covered outdoor aisles, corridors, building canopies, large stairwells. Covers recessed openings for surface mount application.
Perfect for school campuses.

LCP Series

10W, 20W, 36W

Specification Features

Construction
Simple, white finish powder-coated housing with advanced thermal management system ensures reliability and durability.

Optical System
Prismatic, square drop lens comes standard. Lens system improves safety and security by delivering high-efficiency illumination with low glare, comfortable illumination.

Certification
ETL Listed. DLC Premium

Warranty
7-year Limited Warranty. See warranty documentation for more information.

Electrical
Luminaire utilizes high-efficacy LED packages maintained at cool temperatures for long life, high efficacy. Reliable driver features universal voltage (120-277V) for convenient installation.

Installation / Mounting
Luminaire comes standard with mounting plate for quick and easy installation. Can be mounted directly to surface junction box or surface mounted via keyhole slots on mounting plate. Covers existing 12” x 12” recessed square opening.

Controls / Dimming
Continuous dimming (0-10V) for 20W and 36W. Suitable for use with dimmers, sensors, daylight harvesting and other control strategies to achieve deeper energy-savings and code compliance.

Rated Life 75,000 hours
Limited Warranty 7-years
Efficacy Over 110 LPW

Quick Ship

LCP-10/50K XE
LCP-20/50K XE
LCP-36/50K XE

Ordering Information

Example: LCP-10/50K XE (PSMK)

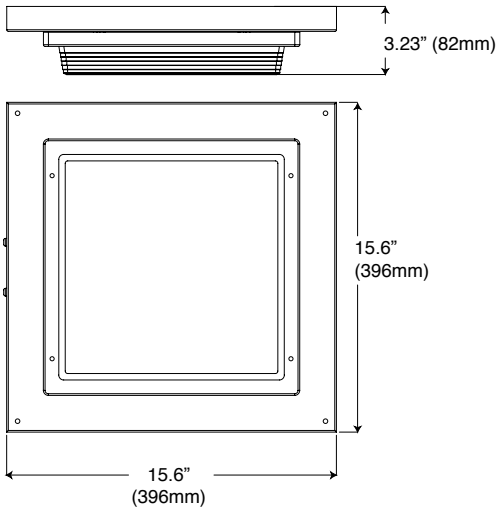
LCP	10	50K	[Blank]	[Options]	[Blank]
Series **LCP** LED Square Canopy Luminaire	**Nom. Wattage** **10** 10W **20** 20W **36** 36W	**Color Temp** **40K** 4000K **50K** 5000K	**Input Voltage** **Blank** 120V-277V	**Accessories** **PSMK** Back housing enclosure **Emergency Backup** **EM700** 700 lm **EM1400** 1400 lm	**Controls** **OSDL/HF/IR** Multi-Level High Frequency Occupancy Sensor

Specifications and Dimensions subject to change without notice.

Performance Summary

Input Voltage	120V-277V
Input Frequency	50/60 Hz
Rated Wattage	See Performance Table
Delivered Lumens	See Performance Table
Efficacy	> 110 LPW (typ.)
CRI	80+, R9 > 0
Available CCT[1]	4000K, 5000K
Rated Life	50,000 hours
Power Factor	> 0.9
THD	< 20%
Operating Temp.	-20°C to 50°C

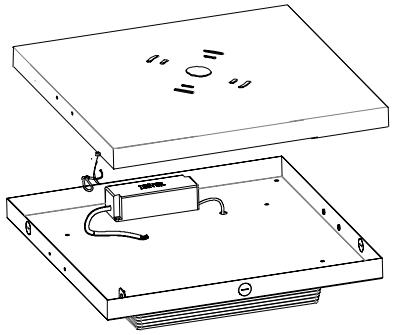
Product Dimensions



Performance Data

Catalog No.	Rated Wattage (W)	4000K Delivered Lumens (lm)	4000K Efficacy (lm/W)	5000K Delivered Lumens (lm)	5000K Efficacy (lm/W)
LCP-10/xxK XE	9.7	1135.9	115.74	1186	121.38
LCP-20/xxK XE	18	2205.6	120.79	2360	131.11
LCP-36/xxK XE	36	4144.6	117.26	4442	122.71

LCP-PSMK-Housing
Back Housing Accessory for LCP (10W/20W), for Surface and Pendant Mount, White Finish



DLC QPL Data

QPL Model No.	Product ID	Technical Req.	Classification	Primary Use
LCP-10/40K XE	PLQEJWK1A16D	4.3	Premium	Stairwell and Passageway Luminaires
LCP-10/50K XE	PLNLQ0RGAVGU	4.3	Premium	Stairwell and Passageway Luminaires
LCP-20/40K XE	PLYMMB5N8GGC	4.3	Premium	Stairwell and Passageway Luminaires
LCP-20/50K XE	PLK2XA2JYBQD	4.3	Premium	Stairwell and Passageway Luminaires
LCP-36/40K XE	PL80XZNIYB97	4.4	Premium	Stairwell and Passageway Luminaires
LCP-36/50K XE	PLPCLSD2R917	4.4	Premium	Stairwell and Passageway Luminaires



Specifications and Dimensions subject to change without notice.

aleo™ LED LIGHTING

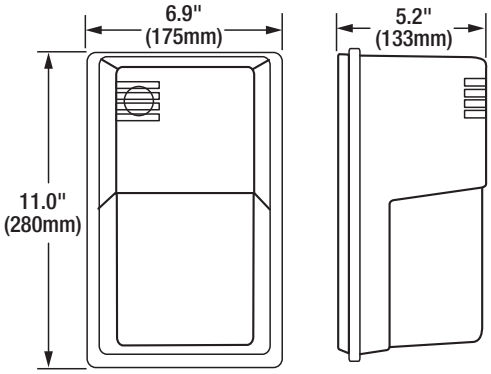
Aleo Lighting, Inc.
www.aleolighting.com
13924 Bettencourt St.
Cerritos, CA 90703
Ph: 877-358-8825

SYLVANIA Luminaires

Small Wall Pack

Catalog #	Type
Project	
Notes	
Date	
Prepared by	

Dimensions



Product Features

- Up to 90% energy savings while maintaining traditional design
- Available with optional photocontrol for additional energy savings
- Low maintenance and long life (L_{70} ≥150,000 hours)

Specifications

Weight: 4.8lbs (2.2kg)

Construction: Aluminum alloy back plate with polycarbonate front cover. Epoxy paint finish. The standard color is bronze.

LED System: LED system with a life rating of ≥150,000 hours at L_{70} @25°C. Luminaire efficacy up to **117** LPW.

Electrical: Offered in 15 Watts, the luminaire is designed to operate through the 120-277 VAC universal voltage range. The LED driver has a 4kV inherent surge suppression and is a constant current device, meeting UL1310 and UL48 Class 2 with built-in over temperature protection. The fixture power factor is ≥90% and THD is ≤20%.

Color Characteristics: CRI>70; CCT of 4000K or 5000K.

Optics: Non-Cutoff distribution with polycarbonate lens.

Options Available: Photocontrol.

Installation: Luminaire mounts to exterior wall. Level included in back plate.

Operating Temperature: -40°F to +104°F (-40°C to +40°C).

Listings: cULus listed to UL1598 standards for wet locations.

Warranty: Standard 5-year luminaire warranty (LEDLUM001).

Note: Specifications subject to change without notice. IES files available online.

Wattage Comparison Chart

Small Wall Pack

Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
23W CFL	23	15	35%
35W HPS	45	15	67%
42W CFL	46	15	67%
50W HPS	62	15	76%
50W MH	62	15	76%
100W Inc	100	15	85%
150W Inc	150	15	90%

Ordering Guide

Item Number:

SMWLPAK	1N	/	XXX	UNV	7	XX	/	NC	/	BZ	/	X
Product Name SMWLPAK	Generation 1N		Wattage (UNV) 015 = 15W	Voltage UNV = 120-277V	CRI 7 ≥70	Color Temp (CCT) 40 = 4000K 50 = 5000K		Optics NC = Non-Cutoff Distribution		Color/Finish BZ = Bronze		Options Blank = No Option P = Photocontrol

Ordering Information

Item Number	Ordering Abbreviation	Power (W)	Input Voltage	CRI	Color Temp (CCT)	Distribution	Total Fixture Lumens	LPW*	DLC**	BUG Rating	Options
60064	SMWLPAK1N/015UNV740/NC/BZ	15	120-277	>70	4000K	Type I	1765	117	Std	B1-U3-G2	–
60065	SMWLPAK1N/015UNV750/NC/BZ	15	120-277	>70	5000K	Type I	1765	117	Std	B1-U3-G2	–
60066+	SMWLPAK1N/015UNV740/NC/BZ/P	15	120-277	>70	4000K	Type I	1765	117	Std	B1-U3-G2	Photocell
60067+	SMWLPAK1N/015UNV750/NC/BZ/P	15	120-277	>70	5000K	Type I	1765	117	Std	B1-U3-G2	Photocell

*LPW per LM79 report
**Std for DLC Standard.
+Available Q2 please contact sales rep for details
For further information and to learn more about utility rebates, contact your local SYLVANIA sales representative.

LEDVANCE LLC
200 Ballardvale Street
Wilmington, MA 01887 USA
Phone 1-800-LIGHTBULB (1-800-544-4828)
www.sylvania.com

/sylvania /sylvania

SINCE 1945
KEYSTONE
LIGHT MADE EASY

XFIT | FLOOD LIGHT FIXTURES

KT-FLED35-R1A-UNV-8CSB-VDIM

COMPACT 35W GENERAL-PURPOSE LED FLOOD LIGHT

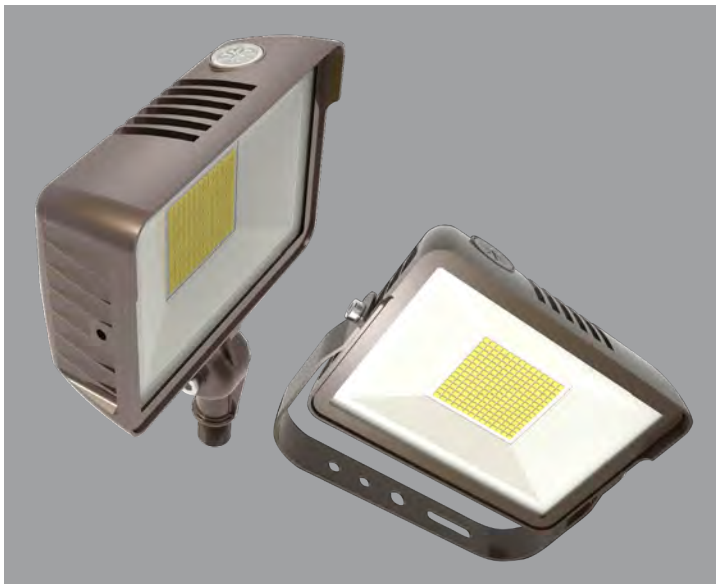
DESCRIPTION

Compact 35W General-Purpose LED Flood Light | 120–277V Input |
3000–5000K | Bronze Housing | Multiple Mounting Options

APPLICATION

Building Mount or Ground Mount for outdoor illumination (landscapes, display signage, loading docks, building façades, pathways, parking areas, and other general site lighting requirements)

c UL us LISTED · DLC PREMIUM · 5 YEAR WARRANTY · COLOR SELECT · TRUSTED NLB WARRANTY



PRODUCT FEATURES

- Uniform, wide flood design (NEMA 7h × 7w distribution pattern)
- Heavy-duty, die cast aluminum housing featuring built-in glare visor and tempered glass lens
- Powered by Keystone 0–10V dimming LED drivers
- Keystone Color Select Technology: Adjustable CCT (3000K, 4000K, or 5000K)
- Built-in dusk-to-dawn photocell behind translucent 3/4" threaded plug with anti-yellowing agent
- Heavy-duty 1/2" knuckle mount with 90° adjustment and yoke mount options included
- Ambient operating temperature: –30°C/–22°F to 45°C/113°F
- UL listed for wet locations, IP65
- 0–10V dimming, 10% min
- Power Factor: >0.95
- THD: <20%
- LED chip lifetime: L70 >100,000 hrs @ 25°C/77°F ambient fixture temp
- Meets FCC Part 15, Part B, Class A standards for conducted and radiated emissions
- 18" input cable, pre-stripped
- Fixture impact rating IK07

ELECTRICAL SPECIFICATIONS

Catalog Number	Wattage	Lumens	Dimming	CCT*	Efficacy	CRI	Housing Color	Mounting	Input Voltage	Rated Life	Legacy Equivalent
KT-FLED35-R1A-UNV-8CSB-VDIM	35W	4480 lm	0–10V	3000K	128 lm/W	>80	Bronze	Universal: 1/2" Knuckle or yoke	120–277V	50,000 hrs	150–175W MH
		5075 lm		4000K	145 lm/W						
		4900 lm		5000K	140 lm/W						

** Color Uniformity: CCT (Correlated Color Temperature) range as per guidelines outlined in ANSI C78.377-2017*

KEYSTONE SINCE 1945 LIGHT MADE EASY

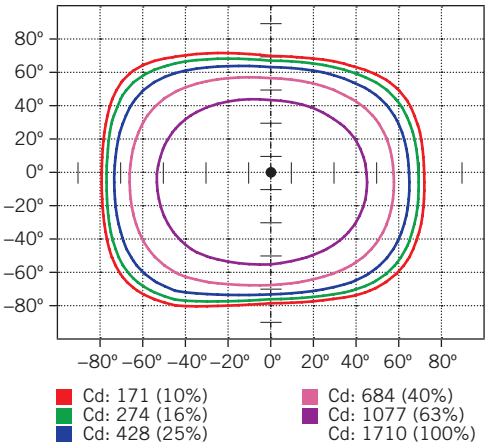
XFIT | FLOOD LIGHT FIXTURES

KT-FLED35-R1A-UNV-8CSB-VDIM

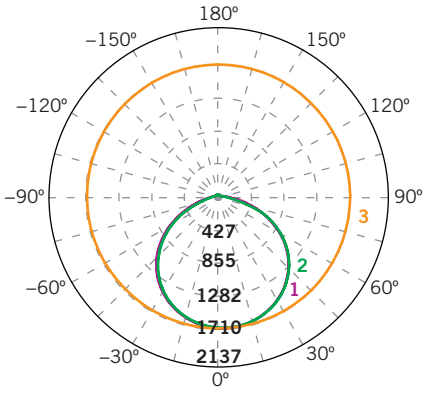
COMPACT 35W GENERAL-PURPOSE LED FLOOD LIGHT

PHOTOMETRIC SPECIFICATIONS

ISOCANDELA PLOT



LUMINOUS INTENSITY DISTRIBUTION



Average diffuse angle (50%): **114.3°**

1 **Violet** C0–C180

2 **Green** C90–C270

3 **Orange** G3

Unit: cd

FLUX DISTRIBUTION

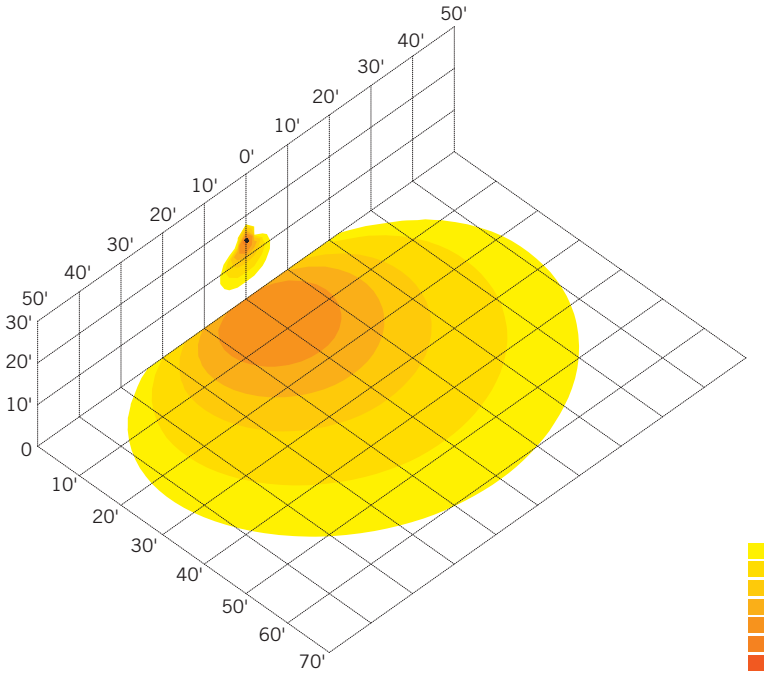
Zone	Lumens	% Luminaire
Forward Light	2,527 lm	53.2%
0°–30°	675 lm	14.2%
30°–60°	1,366 lm	28.8%
60°–80°	471 lm	9.9%
80°–90°	15 lm	0.3%
Back Light	2,181 lm	46.0%
0°–30°	656 lm	13.8%
30°–60°	1,223 lm	25.8%
60°–80°	297 lm	6.3%
80°–90°	5 lm	0.1%
Up Light	39 lm	0.8%
90°–100°	2 lm	0.0%
100°–180°	36 lm	0.8%

BUG* Rating	
Asymmetrical Luminare Types	
Type I, II, III, IV	B2 U2 G1
Quadrilateral Symmetrical Luminare Types	
Type V, Area Light	B2 U2 G1

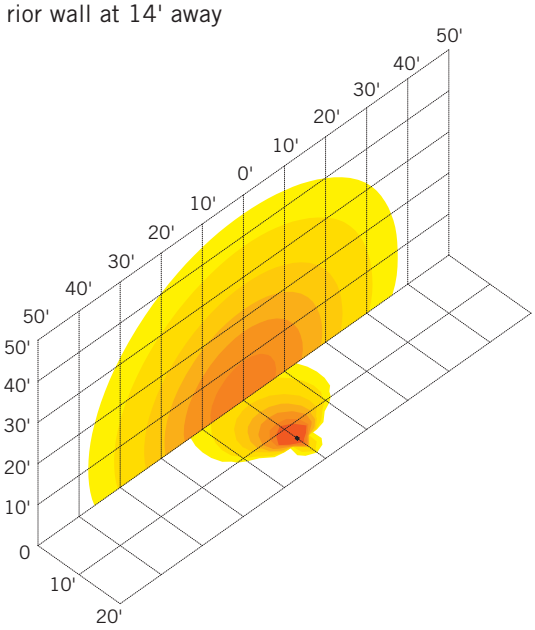
* ***B****acklight,* ***U****plight,* ***G****lare*

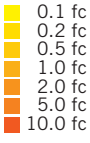
LIGHT DISTRIBUTION PATTERNS (Isometric view from above)

Building exterior mounted at
15', 30° below horizontal



Ground mounted at 6" above ground,
10° above horizontal, shining towards building exterior wall at 14' away





SINCE 1945 KEYSTONE LIGHT MADE EASY

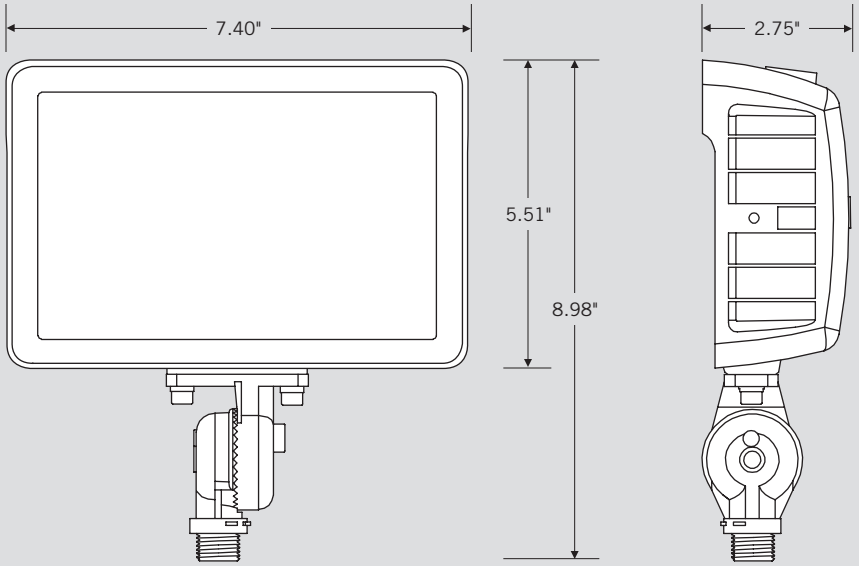
XFIT | FLOOD LIGHT FIXTURES

KT-FLED35-R1A-UNV-8CSB-VDIM

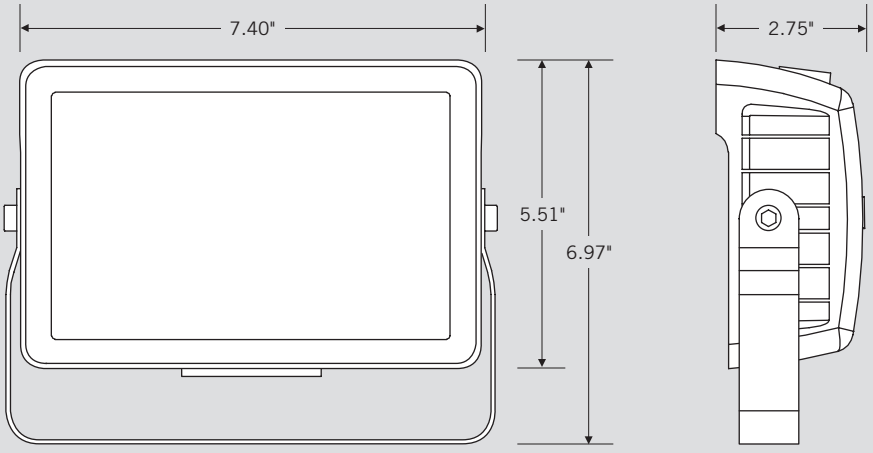
COMPACT 35W GENERAL-PURPOSE LED FLOOD LIGHT

PHYSICAL SPECIFICATIONS

KNUCKLE MOUNT



YOKE MOUNT



SINCE 1945 KEYSTONE LIGHT MADE EASY

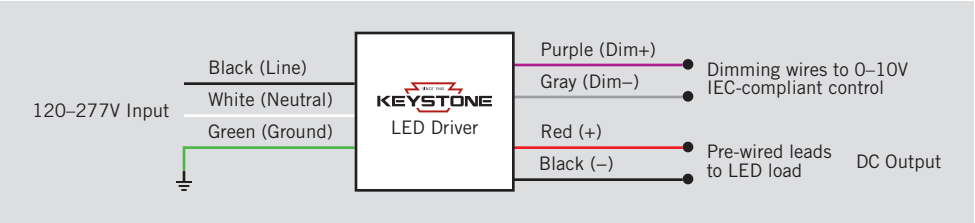
XFIT | FLOOD LIGHT FIXTURES

KT-FLED35-R1A-UNV-8CSB-VDIM

COMPACT 35W GENERAL-PURPOSE LED FLOOD LIGHT

GENERAL SETUP INSTRUCTIONS

GENERAL WIRING DIAGRAM



Caution: Before installing, make certain that AC power to the fixture is off.

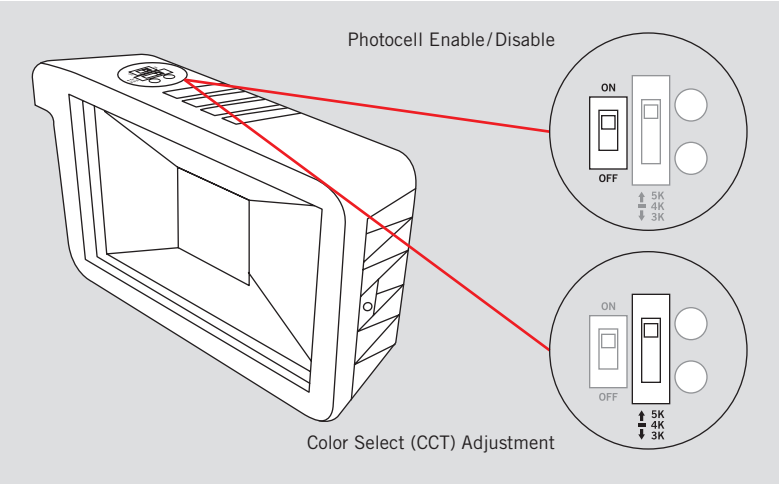
Caution: The electrical rating of this product is 120–277V. Installer must confirm that there is 120–277V at the fixture before installation.

PHOTOCELL ENABLE/DISABLE

This fixture is equipped with a dusk-to-dawn photocell behind the translucent knock-out (KO) cover. Adjust the dip switch to enable (ON) or disable (OFF) the photocell function (see illustrations to the right). Fixture comes preset with photocell enabled unless otherwise noted.

COLOR SELECT (CCT) ADJUSTMENT

This fixture is equipped with Color Select technology. There is an adjustable dip switch behind the translucent knock-out (KO) cover to change CCT between 5000K, 4000K, and 3000K (see illustrations to the right). Fixture comes preset at 5000K unless otherwise noted.



ACCESSORIES (SOLD SEPARATELY)

Catalog Number	Description
KT-FLED-SM-1-KIT	Flood Light Wall Mount Kit
KT-FLED-RC-4-W	4" Round Flood Light Junction Box Cover, White
KT-FLED-RC-4	4" Round Flood Light Junction Box Cover, Bronze

SINCE 1945 KEYSTONE LIGHT MADE EASY

XFIT | FLOOD LIGHT FIXTURES

KT-FLED35-R1A-UNV-8CSB-VDIM

COMPACT 35W GENERAL-PURPOSE LED FLOOD LIGHT

ORDERING INFORMATION

CATALOG NUMBER	PACK QTY.	EASY CODE	UPC
KT-FLED35-R1A-UNV-8CSB-VDIM	1	DND-10	843654128962

CATALOG NUMBER BREAKDOWN

KT-FLED35-R1A-UNV-8CSB-VDIM

1 2 3 4 5 6 7 8 9 10 11 12 13

1 Keystone Technologies
2 Fixture Type
3 LED Lamp
4 Max Wattage
5 Shape
6 Style
7 Distribution
8 Mounting
9 CRI
10 Color
11 Color Select Designation
12 Dimming
13 Housing Color

2 Fixture Type

F	Flood
WP	Wallpack

5 Shape

R	Rectangular
C	Circular

6 Style

1	Non-Cutoff
2	Full-Cutoff

7 Distribution

A	Wide (7 × 7)
B	Narrow
C	Very Narrow

8 Mounting

UNV	Universal

9 CRI

8	>80
9	>90

10 Color

40	4000K
50	5000K
CS	Color Select

11 Color Select Designation

A	3500K, 4000K, 5000K
B	3000K, 4000K, 5000K
C	3000K, 3500K, 4000K, 5000K
D	TBD

12 Dimming

VDIM	0–10V

13 Housing Color

	Bronze
B	Black
W	White

Light Efficient Design

Product Specifications Sheet

4 Pin Universal PL Lamp Retrofits - Type A/B

LED for HID RETROFIT

Models

LED-7324-XXK-G2, 2700K, 3500K & 4000K CCT
LED-7320-XXK-G2, 2700K, 3500K & 4000K CCT
LED-7318-XXA, 2700K, 3500K & 4000K CCT

LED-7324

LED-7320

LED-7318

Description

Light Efficient Design's 4 Pin PL Lamp Retrofit Lamps replace CFL lamps up to 26W.
Unique lamp designs closely match existing PL lamp to deliver optimum light distribution.
Type A/B Universal Driver- Works on Electronic Ballast or 120-277V Line Voltage.

Features

- 10W - 12W LED Replaces up to 26W CFL Lamps
- Up to 1,200 lumen output and 106 LPW efficacy
- Compatible with G24q or GX24q PL/CFL sockets
- Suitable for damp environments and semi-enclosed recessed fixtures or equivalent
- 50,000 hour rated LED life
- 5 Year Limited Warranty - see website for details
- Insect/dust resistant housing

TECHNICAL SPECIFICATIONS - 120-277V or Compatible Ballast - ALL MODELS cUlus

MODEL	VOLTAGE	WATTAGE	LUMENS*	LPW*	REPLACES	BASE	CCT	CRI*	THD*	PF*	R9*	Duv*	LIGHT DISTRIBUTION	DIMMABLE
LED-7324-27K-G2	120-277V	11W	1200	110	26W 4 Pin	G24q or GX24q	2700K	>80	N/A	>.9	10	0.0002	120°	Yes - on a dimmable ballast. See Note *
LED-7324-35K-G2			1200	110			3500K	>80	N/A	>.9	22	-0.002		
LED-7324-40K-G2			1200	110			4000K	>80	N/A	>.9	25	0.0007		
LED-7320-27K-G2		10W	900	90			2700K	>80	N/A	>.9	19	-0.0007	Omni-Directional / 360°	Yes - on a dimmable ballast. See Note *
LED-7320-35K-G2			1000	100			3500K	>80	N/A	>.9	6	0.0014		
LED-7320-40K-G2			1000	100			4000K	>80	N/A	>.9	6	0.0005		
LED-7318-27A		12W	837	95			2700K	>80	N/A	>.9	8	N/A	120°	No
LED-7318-35A			1157	95			3500K	>80	N/A	>.9	12	N/A		
LED-7318-40A			1198	95			4000K	>80	N/A	>.9	12	N/A		

Packaging

MODEL	PRODUCT DIMENSION	PRODUCT WEIGHT	UNIT CARTON DIMENSION	UNIT CTN WT	SHIPPER CARTON DIMENSION	SHIPPER CTN WT	CARTON QUANTITY
LED-7324-G2	5.47 x 1.374 in.	0.4 Lbs.		0.3 lbs/.13 kg.	12.5 X 15.6 X 5.1 in./ 320 X 395 X 130 mm.	4 lbs./1.8 kg.	24
LED-7320-G2	6.97 x 1.374 in.	0.4 Lbs.		0.3 lbs/.13 kg.	10.5 X 7.25 X 7.25 in./ 266 X 184 X 184 mm.	4 lbs./1.8 kg.	24
LED-7318A	3.78 X 2.99 in.	0.4 Lbs.	3.2 X 3.2 X 4.7 in./ 81 X 81 X 119 mm.	0.4 lbs./.18 kg.	18.1 X 9.44 X 6.88 in./ 460 X 240 X 175 mm.	20 lb./9.1 kg.	50

ENERGY SAVINGS vs. HID	
LED Lamp Power (watts)	11
PL Lamp Power (watts)	26
PL Ballast Power (watts)	4
Total power Savings (watts)	18.9
Annual Energy Savings	$10.62
Lifetime Energy Savings over 50,000 hrs)	$103.95

Please see instruction sheet for a list of compatible ballasts.

* When using dimmable PL lamps on dimmable ballasts, it is necessary for the installer to verify the proper operation of the lamps. Due to the interaction of the Electronic Ballasts and LED PL lamps, the response may be non-linear and the lamps may flash or flicker at medium to low dimming levels.

These lamps are NOT dimmable on line voltage. When operated on line voltage they will operate at full power only.

For use with the LED-7318-XXA, the LED-7319 Socket extender will add about 1.7" to the length of the lamp. This may be useful to properly position the lamp in a deeper fixture.

Mounting Orientation

BASE DOWN	BASE UP	HORIZONTAL
		
APPROVED	APPROVED	APPROVED

Recommended Mininum Fixture Size		THERMAL SPECIFICATIONS	
		OPERATING TEMPERATURE	0°F to +85°F / -17°C to +30°C
Width	6	IN-SITU TEMP MEASUREMENT/L70	
Height	6	LED TEMPERATURE*	N/A
Volume (Cu. Cm.)	216	L70 LED LUMEN MAINTAINENCE*	N/A
		* FROM ISTMT REPORT AT 25°C	

SYLVANIA Luminaires

UltraLED™ Selectable Downlights

Item #	
Type	
Project	
Notes	
Date	

Application

The SYLVANIA UltraLED Selectable Downlights are offered in 5/6", 6", and 8" sizes and provide high performing light optimized for both new construction and retrofit applications where pin based compact fluorescent lamps have previously been used. The installation is done quickly and easily in most standard frames. The lumen and CCT selectable switches allow for customizable light replacing up to two 26W compact fluorescent lamps and offering up to 52% energy savings when compared to traditional technologies.

Benefits and Features

- Lumen and CCT selectable light enabled through the two switches located on the base of the product
- This product is available in lumen selectable only versions – enabled through the one switch located on the base of the product
- ENERGY STAR® listed to maximize rebate opportunities
- Available in 5/6", 6" (lumen and lumen and CCT versions), and 8" sizes (lumen selectable versions only)
- Up to 93 LPW
- 2700K, 3000K, 3500K, 4000K, and 5000K and selectable K color temperature
- CRI >90
- Lumen Selectable offered in 9 or 12 watt, 14.5 or 18 watt, and 17 or 25 watt versions
- Lumen and CCT Selectable offered in 9 or 12 watt or 14.5 or 18 watt versions
- CCT Selectable and EMBB Ready offered in 9, 12, 14, 18, 23, 32 or 57 watt versions
- Energy savings up to 52%

Electrical

- 120-277VAC
- Power Factor >90%
- THD <20%
- 0-10V dimmable
- Phase-cut dimmable (9W CCT Selectable/EMBB Ready only)

Rated Life

- 50,000 hours (L_{70})

Warranty

- 5-year (please see LEDLUM001)

Wattage Comparison

Traditional Source	LED System Wattage	Energy Savings
13 or 18W CFL	9 or 12W	30 or 33%
23 or 32W CFL	14.5 or 18W	37 or 44%
32W or 2x26W CFL	17 or 25W	47 or 52%

Ambient Operating Range

- -4°F to +104°F (-20°C to +40°C)

Certifications and Listings

- cETLus
- ENERGY STAR
- RoHS
- FCC

Installation

- Installation performed as a stand-alone kit (without frame) is recommended for hard ceiling. Installation of a recessed incandescent frame is recommended for tiled ceiling application for proper support of the retrofit kit.

Ordering Guide

One Switch (Lumen Selectable)

RT	SL	XX	R	1A	XXXXXX	U	D	9	XX
RT = Retrofit Downlight	SL = Selectable Lumen	Size 56 = 5/6" 6 = 6" 8 = 8"	Shape R = Round	Generation	Light Output 700900 = 700 or 900 lumens 12001500 = 1200 or 1500 lumens 15002000 = 1500 or 2000 lumens	Voltage U = 120-277V	Dimming D = 0-10V	CRI 9 = >90	CCT 27 = 2700K 30 = 3000K 35 = 3500K 40 = 4000K 50 = 5000K

Two Switch (Lumen and CCT Selectable)

RT	SD	XX	1A	XXXX	U	D	9	303540
RT = Retrofit Downlight	SD = Dual Selectable (Lumen and CCT)	Size 56 = 5/6" 6 = 6"	Generation	Light Output 79 = 700 or 900 lumens 1215 = 1200 or 1500 lumens	Voltage U = 120-277V	Dimming D = 0-10V	CRI 9 = >90	CCT 303540 = 3000K, 3500K or 4000K

CCT Selectable and EMBB Ready

LED	RT	XX	/	R	3C	/	XXXX	U	D	9	SC8
LED	RT = Retrofit Downlight	Size 56 = 5/6" 6 = 6" 8 = 8"		Shape R = Round	Generation 3C = Generation 3C		Light Output 700 = 700 lumens 900 = 900 lumens 1200 = 1200 lumens 1500 = 1500 lumens 2000 = 2000 lumens 3000 = 3000 lumens 5000 = 5000 lumens	Voltage U = 120-277V	Dimming D = 0-10V	CRI 9 = >90	Selectable CCT SC8 = 3000K, 3500K or 4000K or 5000K

Ordering Information

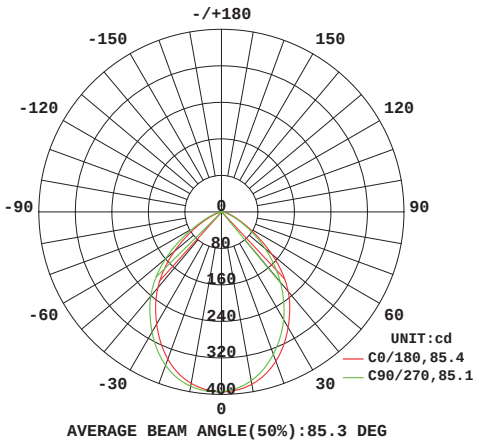
Item Number	Ordering Abbreviation	Power (W)	Input Voltage	Dimming	CRI	Color Temp (CCT)	Total Fixture Lumens	Lumens per Watt	ENERGY STAR® Listed	MTO*
Lumen Selectable Only										
60742	RTSL56R1A700900UD927	9 or 12	120-277	0-10V	90	2700K	700 or 900	75	Yes	–
60743	RTSL56R1A700900UD930	9 or 12	120-277	0-10V	90	3000K	700 or 900	75	Yes	–
60744	RTSL56R1A700900UD935	9 or 12	120-277	0-10V	90	3500K	700 or 900	75	Yes	–
60745	RTSL56R1A700900UD940	9 or 12	120-277	0-10V	90	4000K	700 or 900	75	Yes	–
60746	RTSL56R1A700900UD950	9 or 12	120-277	0-10V	90	5000K	700 or 900	75	Yes	MTO
60747	RTSL6R1A12001500UD927	14.5 or 18	120-277	0-10V	90	2700K	1200 or 1500	83	Yes	MTO
60748	RTSL6R1A12001500UD930	14.5 or 18	120-277	0-10V	90	3000K	1200 or 1500	83	Yes	MTO
60749	RTSL6R1A12001500UD935	14.5 or 18	120-277	0-10V	90	3500K	1200 or 1500	83	Yes	–
60750	RTSL6R1A12001500UD940	14.5 or 18	120-277	0-10V	90	4000K	1200 or 1500	83	Yes	–
60751	RTSL6R1A12001500UD950	14.5 or 18	120-277	0-10V	90	5000K	1200 or 1500	83	Yes	–
60752	RTSL8R1A15002000UD927	17 or 25	120-277	0-10V	90	2700K	1500 or 2000	80	Yes	MTO
60753	RTSL8R1A15002000UD930	17 or 25	120-277	0-10V	90	3000K	1500 or 2000	80	Yes	–
60754	RTSL8R1A15002000UD935	17 or 25	120-277	0-10V	90	3500K	1500 or 2000	80	Yes	–
60755	RTSL8R1A15002000UD940	17 or 25	120-277	0-10V	90	4000K	1500 or 2000	80	Yes	–
60756	RTSL8R1A15002000UD950	17 or 25	120-277	0-10V	90	5000K	1500 or 2000	80	Yes	–
Lumen and CCT Selectable										
60814	RTSD561A79UD9303540	9 or 12	120-277	0-10V	90	3000, 3500 or 4000K	700 or 900	75	Yes	–
60815	RTSD61A1215UD9303540	14.5 or 18	120-277	0-10V	90	3000, 3500 or 4000K	1200 or 1500	83	Yes	–
CCT Selectable and EMBB Ready										
65472	LEDRT56/R3C/700ST/9SC8	9	120	Phase-cut	90	3000, 3500, 4000 or 5000K	700	77	Yes	–
65473	LEDRT56/R3C/700UD/9SC8	9	120-277	0-10V	90	3000, 3500, 4000 or 5000K	700	77	Yes	–
65474	LEDRT56/R3C/900UD/9SC8	12	120-277	0-10V	90	3000, 3500, 4000 or 5000K	900	75	Yes	–
65475	LEDRT6/R3C/1200UD/9SC8	14	120-277	0-10V	90	3000, 3500, 4000 or 5000K	1200	88	Yes	–
65476	LEDRT6/R3C/1500UD/9SC8	18	120-277	0-10V	90	3000, 3500, 4000 or 5000K	1500	88	Yes	–
65477	LEDRT8/R3C/900UD/9SC8	12	120-277	0-10V	90	3000, 3500, 4000 or 5000K	900	86	Yes	–
65478	LEDRT8/R3C/1500UD/9SC8	18	120-277	0-10V	90	3000, 3500, 4000 or 5000K	1500	86	Yes	–
65479	LEDRT8/R3C/2000UD/9SC8	23	120-277	0-10V	90	3000, 3500, 4000 or 5000K	2000	86	Yes	–
65480	LEDRT8/R3C/3000UD/9SC8	32	120-277	0-10V	90	3000, 3500, 4000 or 5000K	3000	93	Yes	–
65481	LEDRT8/R3C/5000UD/9SC8	57	120-277	0-10V	90	3000, 3500, 4000 or 5000K	5000	87	Yes	–

*Made To Order

Photometrics

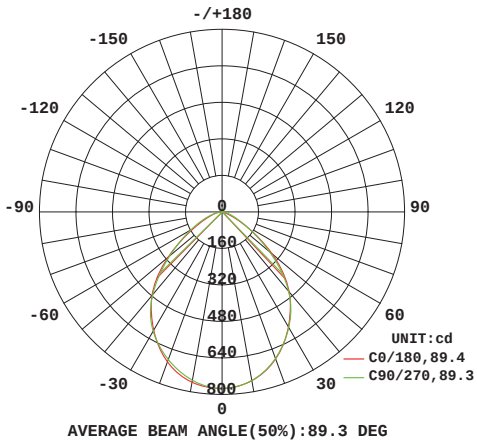
Luminous Intensity Distribution Diagrams

700/900lm



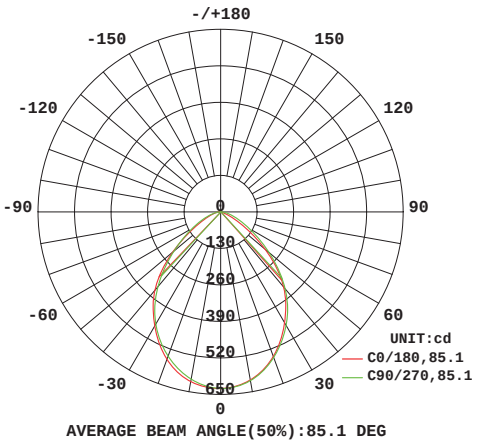
AVERAGE BEAM ANGLE(50%):85.3 DEG

1500/2000lm One Switch



AVERAGE BEAM ANGLE(50%):89.3 DEG

1200/1500lm Two Switch



AVERAGE BEAM ANGLE(50%):85.1 DEG

Zonal Lumen Distribution

Zone	Lumens	% Retrofit Kit
0-20	170	18
0-30	350	38
0-40	549	59
0-60	838	91
0-80	919	99
0-90	925	100
10-90	880	95
20-40	379	41
20-50	551	60
40-70	348	38
60-80	81	9
70-80	22	2
80-90	6	1
0-180	925	100

Zonal Lumen Distribution

Zone	Lumens	% Retrofit Kit
0-20	279	18
0-30	572	38
0-40	894	59
0-60	1370	90
0-80	1508	99
0-90	1518	100
10-90	1444	95
20-40	615	41
20-50	897	59
40-70	577	38
60-80	138	9
70-80	37	2
80-90	10	1
0-180	1518	100

Zonal Lumen Distribution

Zone	Lumens	% Retrofit Kit
0-20	360	18
0-30	749	37
0-40	1198	59
0-60	1857	91
0-80	2020	99
0-90	2034	100
10-90	1940	95
20-40	838	41
20-50	1242	61
40-70	772	38
60-80	163	8
70-80	50	3
80-90	14	1
0-180	2034	100

Illuminance at a Distance

Distance to Illuminated Plane (feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter (feet)
2	119.7 fc	22.9 fc	3.8
4	29.9 fc	5.7 fc	7.6
6	13.3 fc	2.5 fc	11.4
8	7.5 fc	1.4 fc	15.2
10	4.8 fc	0.9 fc	19
12	3.3 fc	0.6 fc	22.8

Illuminance at a Distance

Distance to Illuminated Plane (feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter (feet)
2	196.6 fc	38 fc	3.8
4	49.2 fc	9.5 fc	7.5
6	21.8 fc	4.2 fc	11.3
8	12.3 fc	2.4 fc	15.1
10	7.9 fc	1.5 fc	18.8
12	5.5 fc	1.1 fc	22.6

Illuminance at a Distance

Distance to Illuminated Plane (feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter (feet)
2	250.5 fc	42 fc	4.1
4	62.6 fc	10.5 fc	8.3
6	27.8 fc	4.7 fc	12.4
8	15.7 fc	2.6 fc	16.6
10	10 fc	1.7 fc	20.7
12	7 fc	1.2 fc	24.9

Spacing to Mounting Height Ratio

Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.22

Spacing to Mounting Height Ratio

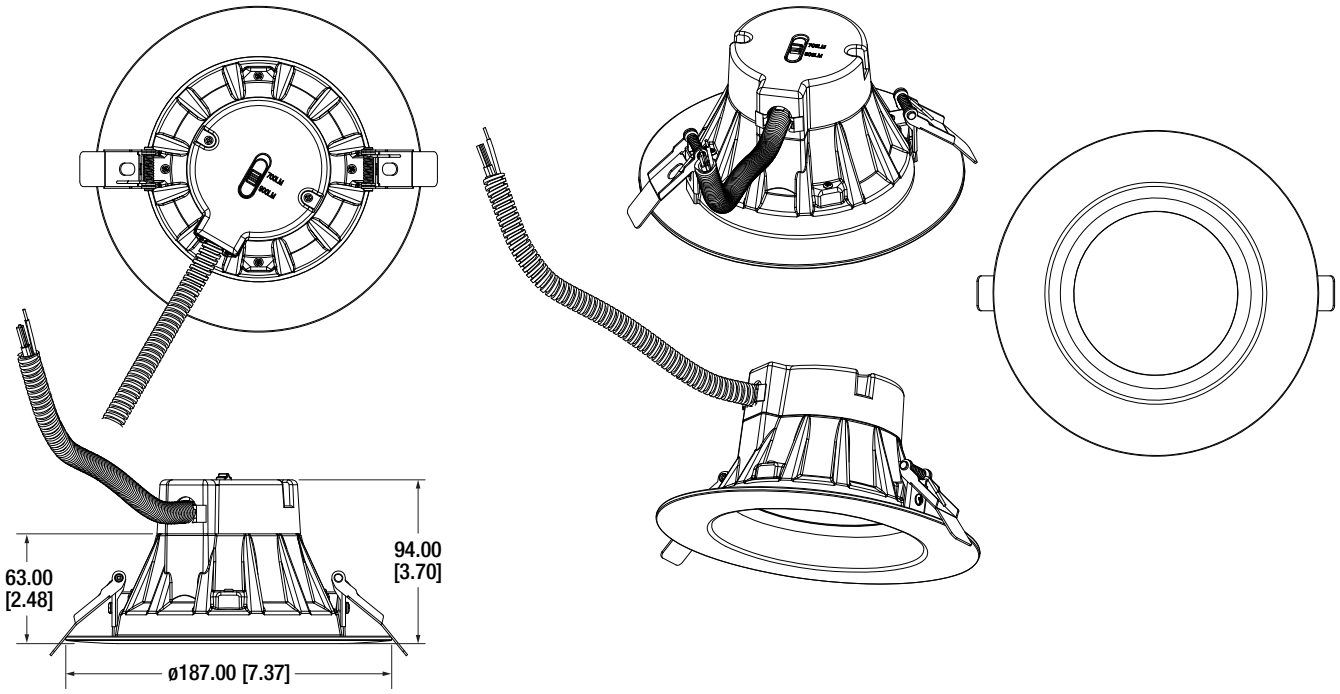
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.2

Spacing to Mounting Height Ratio

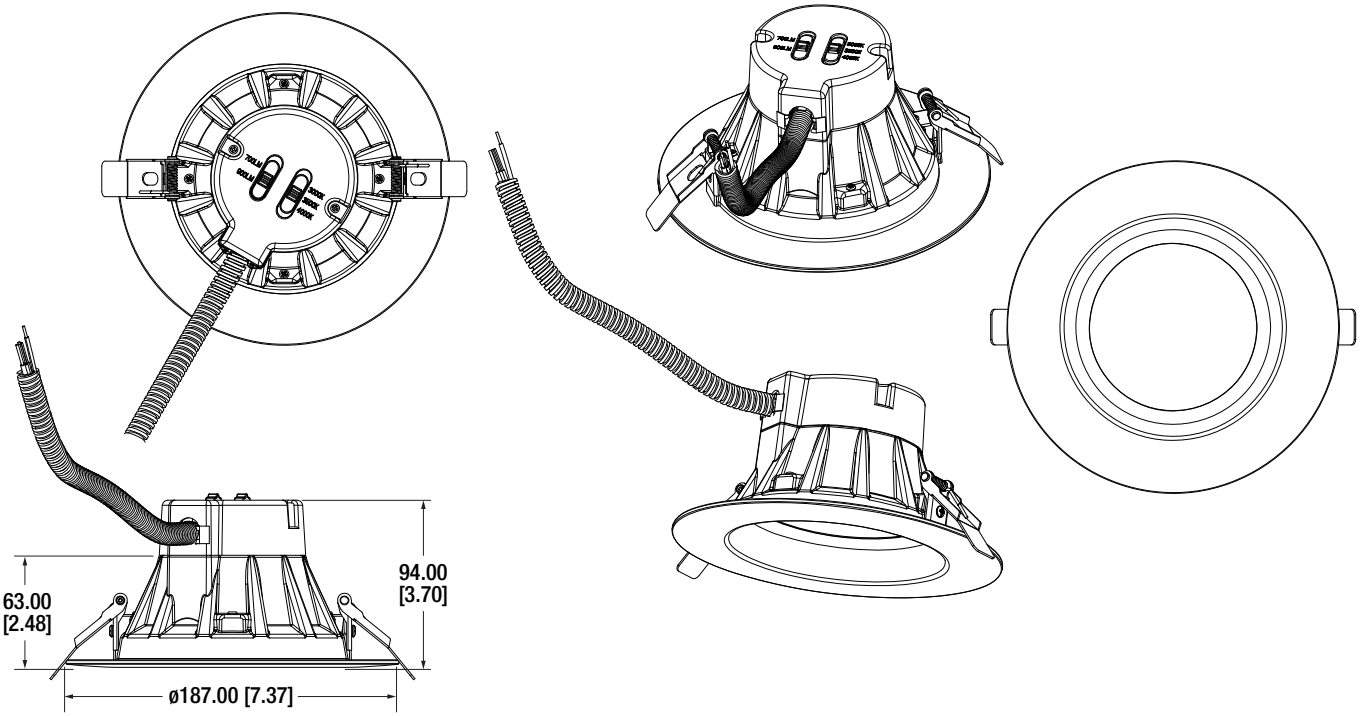
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.2
Spacing Criterion (Diagonal)	1.26

Physical Information

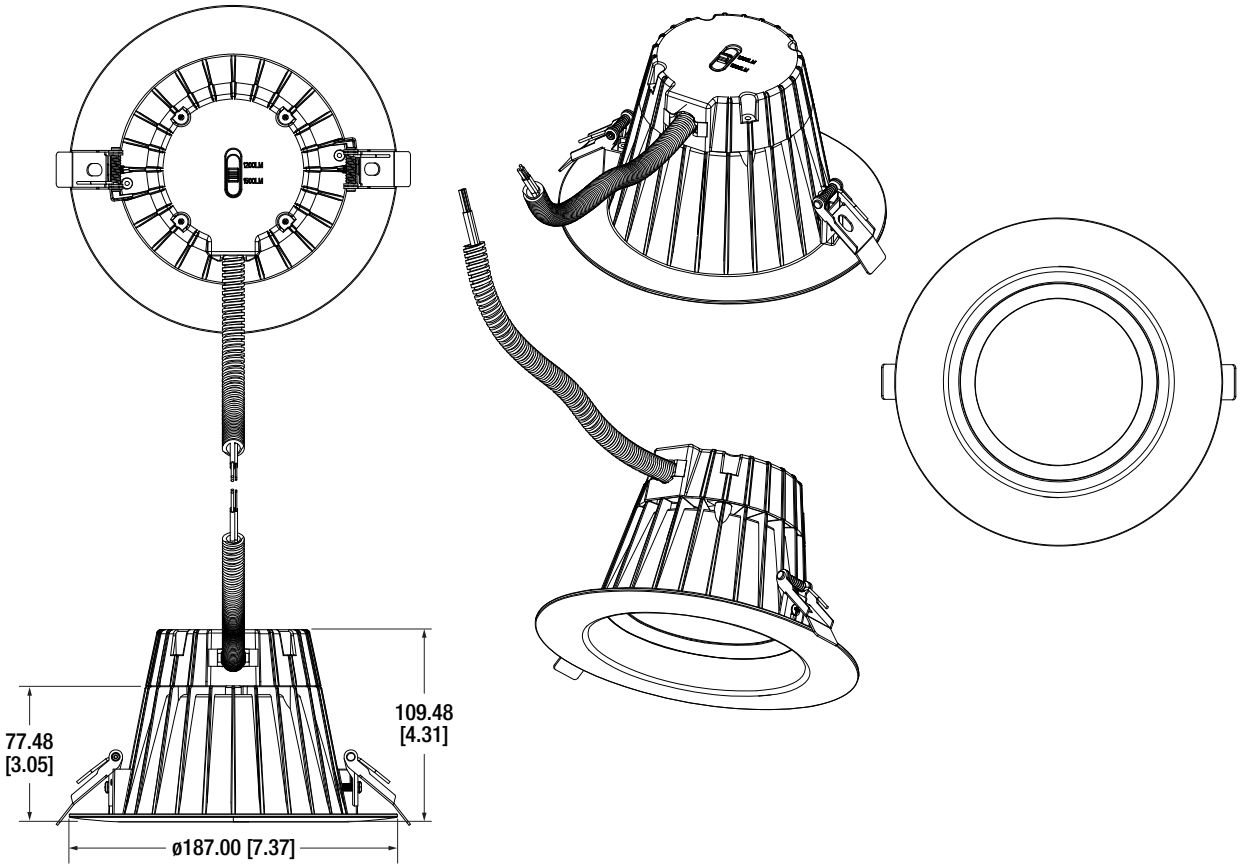
RT6 700-900 One Switch



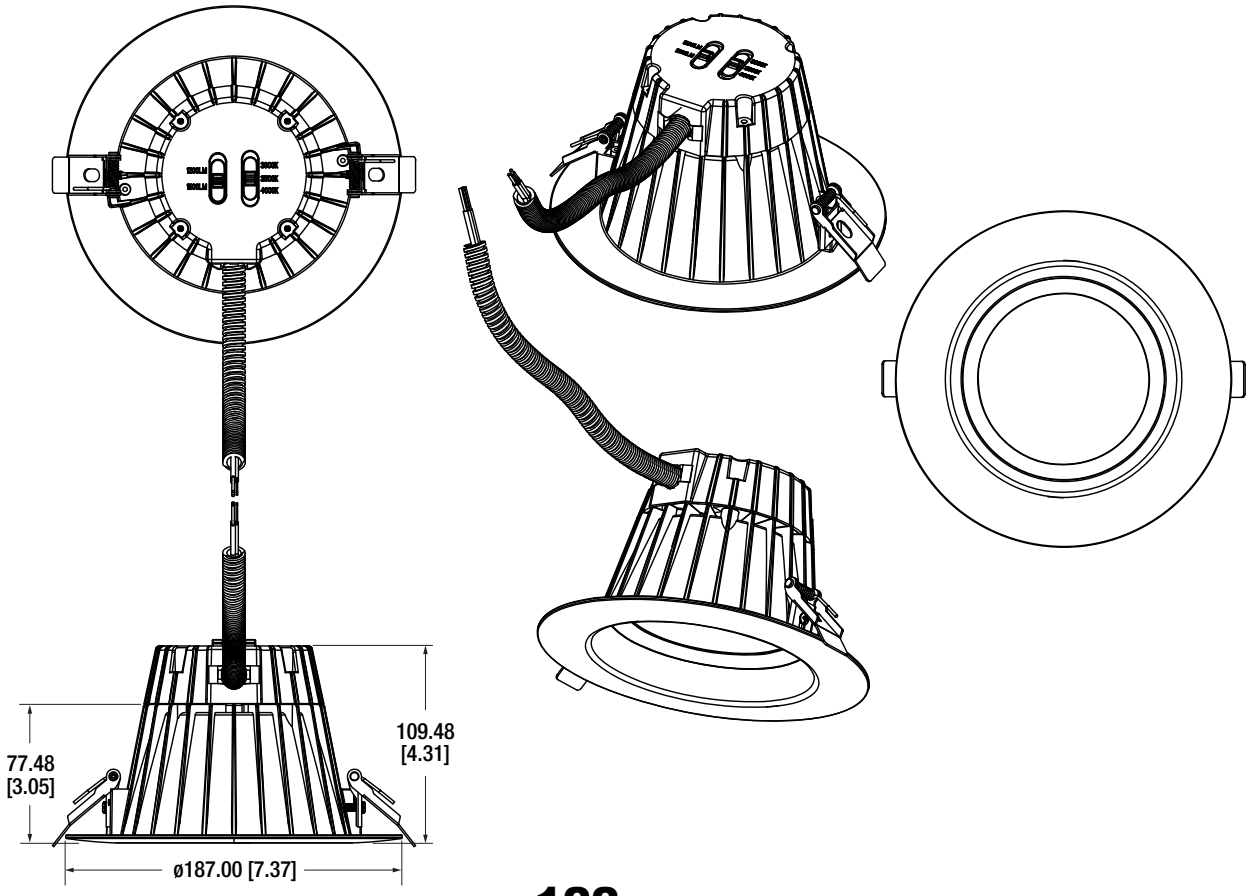
RT6 700-900 Two Switch



RT6 1200-1500 One Switch

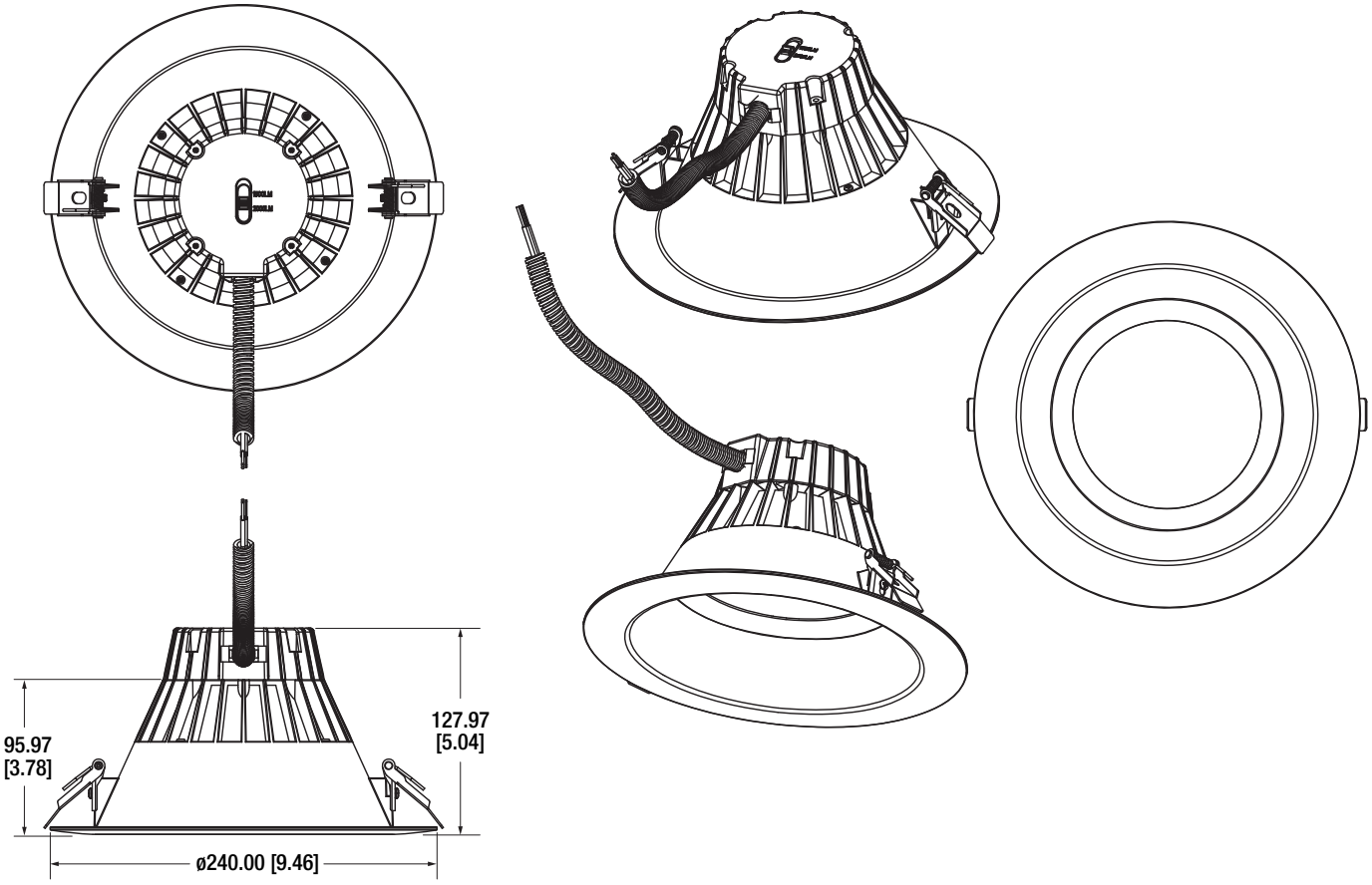


RT6 1200-1500 Two Switch



Physical Information (continued)

RT6 1500-2000 One Switch



Accessories

Item Number	Ordering Abbreviation	Item Decsription
Trim Rings		
75095	RT/5/6/TRIM/DKBZ	Dark bronze trim ring (5/6")
75097	RT/5/6/TRIM/BLK	Black trim ring (5/6")
75098	RT/5/6/TRIM/ORBZ	Bronze trim ring (5/6")
75099	RT/5/6/TRIM/SN	Satin nickel trim ring (5/6")
Trim Ring Extender		
75082	RT6/8/TRIMEXT	Trim extender for 8" cans
Rough In Frame		
71708	LED/RT6HO/FRAME	6" recessed rough-in frame

Additional Specifications

- Compatible with 0-10V Dimmers.
- Suitable for dry, damp, and wet indoor or outdoor locations.
- Not intended for use with emergency light fixtures or exit lights.
- Standard 5-year luminaire warranty (LEDLUM001).

LEDVANCE LLC
200 Ballardvale Street
Wilmington, MA 01887 USA
Phone 1-800-LIGHTBULB (1-800-544-4828)
www.sylvania.com

/sylvania /sylvania

Name:
Email:
Phone:

Features & Benefits

- Internal Driver
- Smooth, Consistent Light
- UL for Safety
- No UV, No Mercury
- Long Life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation
- Utilizes non-shunted(rapid start) sockets
- Compatible with controls and sensors
- Works in cold temperature applications
- 5 Year Warranty

Flex™

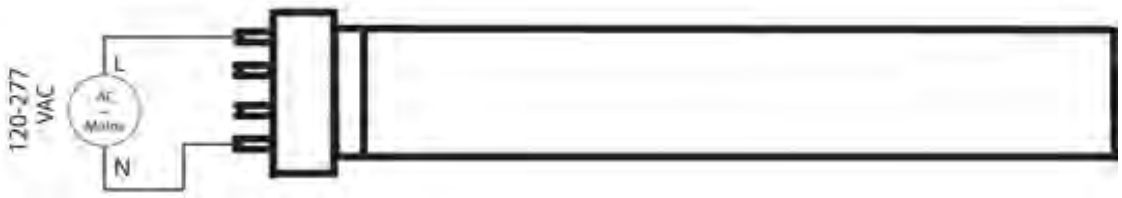
Internal Driver LED FT Lamp

Commercial Grade **LED FT Lamp**

Specification Data

Model No.	Replace	Lamp Wattage	Input Voltage	CCT	Initial Lumens	CRI	Lamp Efficacy	Life
LT40W/835-ID	FT40W/FT55W	18	120-277	3500	1800	83	100	50000
LT40W/840-ID	FT40W/FT55W	18	120-277	4000	1800	83	100	50000
LT40W/850-ID	FT40W/FT55W	18	120-277	5000	1800	83	100	50000

Wiring diagram



LT series	Overall Length (cm)	Base face to top (cm)
LT40	54.00	49.30
LT36	42.10	37.40
LT24	32.60	27.80
LT18	23.10	18.30

Espen Technology Inc. | 12257 Florence Ave. | Santa Fe Springs, CA 90670
Toll Free: (866) 933-7736 | Tel.: (562) 529-2938 | Fax: (562) 529-2978 | Email: info@espentech.com

A19 9W DIM. TITANIUM LED SERIES

GREENCREATIVE

ENERGY STAR

PRO

9W REPLACES

60W Inc.

80% Energy Savings

$151 Savings per lamp*

- **Exceptional efficacy 89 LPW in Soft White**
- **40% more energy savings than CFL**
- **Comfortable warm diffused light**
- **Natural A-lamp shape fits all applications**
- **Ideal for lamps with shades**
- **Suitable for use in totally enclosed fixtures**

25,000 H

DIMMABLE

89 LPW EFFICACY

3 YR WARRANTY

82 CRI (Ra)

ENCLOSED**

c UL us LISTED

FC

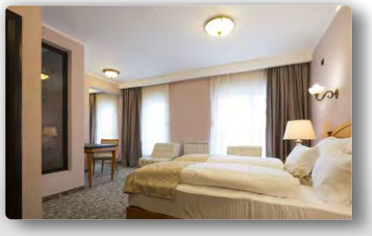
LM 79 LM 80 TM 21 IES

A19 PRODUCT FEATURES

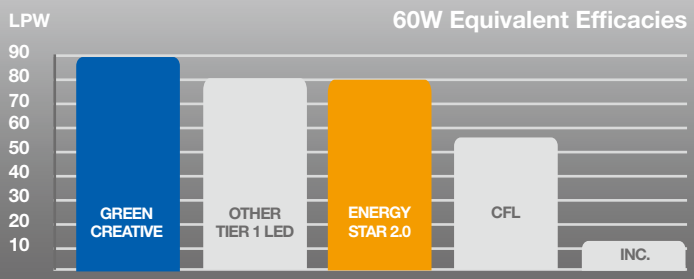
Suitable for Enclosed Fixtures

This A19 is suitable for use in totally enclosed fixtures and capable of operating in a broad range of applications. Whether it is installed in fully enclosed flushmounts or sconces, this lamp's advanced thermal design ensures optimal performance over the course of its lifetime.

ENCLOSED



Exceptional Efficacy



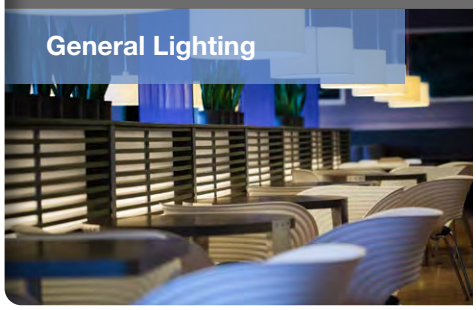
At 89 LPW, this lamp's efficacy is higher than the Tier 1 LED A19 60W replacement industry average and exceeds new ENERGY STAR 2.0 requirements. This energy-saving performance makes this lamp a smart retrofit choice for incandescent and CFL bulbs.

A19 9W DIM. TITANIUM LED SERIES

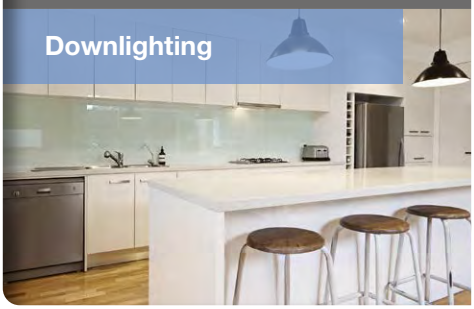
GREENCREATIVE

APPLICATIONS

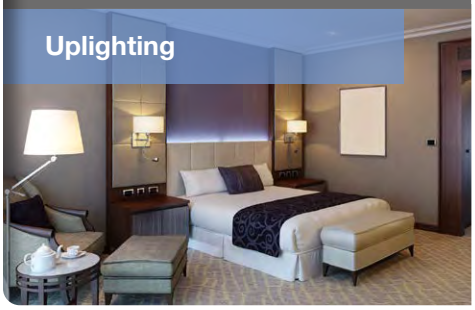
General Lighting



Downlighting



Uplighting



Ref.#:DS170-A19-9W-230217

SPECIFICATIONS

Product Model	97780 9A19DIM/827	97781 9A19DIM/830	97782 9A19DIM/840
Type	A19	A19	A19
Base	E26	E26	E26
Power (W)	9	9	9
Voltage - Frequency	120V 60Hz	120V 60Hz	120V 60Hz
Color Temp. (ANSI)	Soft White 2700K	Warm White 3000K	Cool White 4000K
CRI (Ra) (typ.)	82	82	82
Typical lumens (lm)	800	820	860
Efficacy (LPW)	89	91	96
Beam Angle	240°	240°	240°
Dimmable	Yes**	Yes**	Yes**
Power Factor	0.9	0.9	0.9
Rated Lifetime - L70 (hrs.)	25,000	25,000	25,000
Dia. x MOL	2.36"x4.41" (60x112mm)	2.36"x4.41" (60x112mm)	2.36"x4.41" (60x112mm)
Weight (lb. / g)	0.10lb. / 45g	0.10lb. / 45g	0.10lb. / 45g

* Savings per lamp based on $0.11 / kw energy cost, 12 hrs / day lamp usage, $2 incandescent with 1000-hr lifetime, $16 LED with 25,000-hr lifetime

** Suitable for use in totally enclosed fixtures

*** Suitable for damp locations. Not for use where directly exposed to weather or water

Project Name:	Type:
Part Number:	Date:

GREENCREATIVE

BR30 9W DIM.

FEATURES

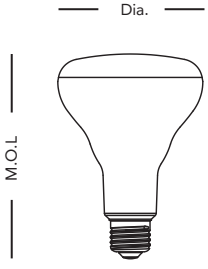
- ENERGY STAR certified
- 65W incandescent replacement
- Energy efficient
- Environmentally friendly
- Providing a comfortable diffused level of light
- Smooth dimming with existing installations
- Suitable for use in totally enclosed fixtures
- Suitable for use in damp locations
- Operating temperature: -4°F / -20°C to +95°F / +35°C
- Rated Lifetime (L70): 25,000hrs
- 3 years limited warranty
- Shatterproof

SPECIFICATIONS

Product	Model	CCT	Base	Lumens	Efficacy (LPW)	Power Factor	Input Voltage	CRI	Dim.	Beam Angle	Lifetime (L70)
98461	9BR30DIM/827	2700K	E26	650	72	0.9	120V 60Hz	82	Yes*	120°	25,000
98462	9BR30DIM/830	3000K	E26	650	72	0.9	120V 60Hz	82	Yes*	120°	25,000
98463	9BR30DIM/840	4000K	E26	650	72	0.9	120V 60Hz	82	Yes*	120°	25,000

* This lamp might not be compatible with all dimmers. Please visit www.greencreative.com for compatibility information.

DIMENSION & WEIGHT



Base	E26
M.O.L	5.27” (134mm)
Dia.	3.74” (95mm)
Weight	0.19lb/87g

SINCE 1945 KEYSTONE LIGHT MADE EASY®

DIRECTDRIVE DX2

SINGLE- OR DOUBLE-ENDED LINE VOLTAGE LED TUBES

KT-LED7T8-24GC-840-DX2

T8 LED LAMP

DESCRIPTION

7W T8 LED | 4000K | >83 CRI | High Efficiency | Single or Double-ended Wiring

RoHS Compliant | 5 YEAR WARRANTY

LAMP TYPE: Linear
BULB TYPE: T8 LED
BASE TYPE: G13 (Medium Bi-Pin)
WATTAGE: 7W
COLOR TEMPERATURE: 4000K
COLOR RENDERING INDEX (CRI): >83
WARRANTY: 5 Years

PRODUCT FEATURES

- Replacement for Conventional Fluorescent Lamp
- Single or Double-Ended Wiring
- 50,000+ Hour Lifetime
- Approximately 40% More Energy Efficient that Standard F32T8 Lamps
- Environmentally Friendly: No Mercury Used
- Instant Startup
- Frosted Lens Eliminates Pixelation
- UL Classified
- Operating Temperature: -20ºC/-4ºF to 45ºC/113ºF
- Integral Driver (Isolated), Eliminates the Need for External Driver or Ballast
- 110+ Lumens per Watt
- Improved Lamp Durability with Shatterproof Coated Glass
- ETL Sanitation Listed NSF/ANSI Standard 2 - Food Equipment

OPERATING SPECIFICATIONS

ELECTRICAL CHARACTERISTICS

Input Voltage	Power Consumption	Power Factor	Input Current
120-277Vac	7W	>0.9	0.06A @ 120V 0.03A @ 277V

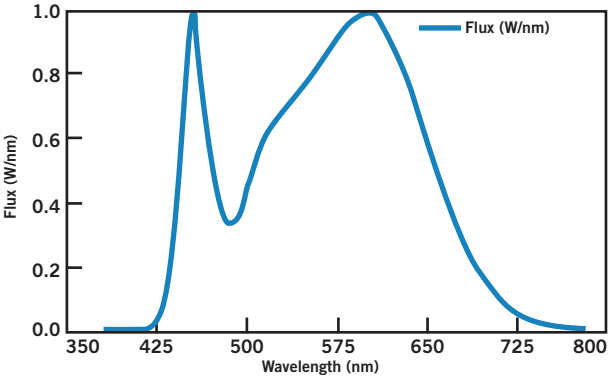
PHOTOMETRIC CHARACTERISTICS

Color Temperature (CCT)	4000K
Luminous Flux	900 lm
Color Rendering Index (CRI)	>83
Efficacy	129 lm/W
Beam Angle	240º
Visible Light Area	325º

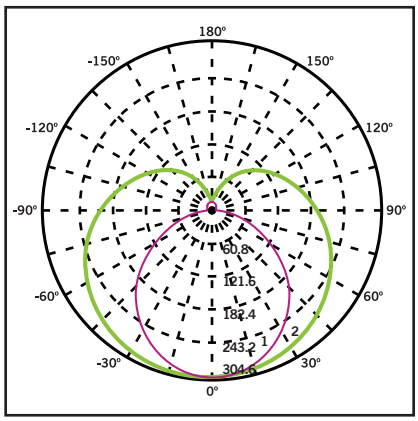
RATED LIFE

L70 (Hours)	50,000

SPECTRAL DISTRIBUTION



POLAR CANDELA DISTRIBUTION



Maximum Candela = 1248.55
Located at Horizontal Angle = 0, Vertical Angle 0

1. **Violet** Vertical Plane through Horizontal Angles (90-270)
2. **Green** Vertical Plane through Horizontal Angles (0-180)

KEYSTONE SINCE 1945 LIGHT MADE EASY®

DIRECT DRIVE DX2

SINGLE- OR DOUBLE-ENDED LINE VOLTAGE LED TUBES

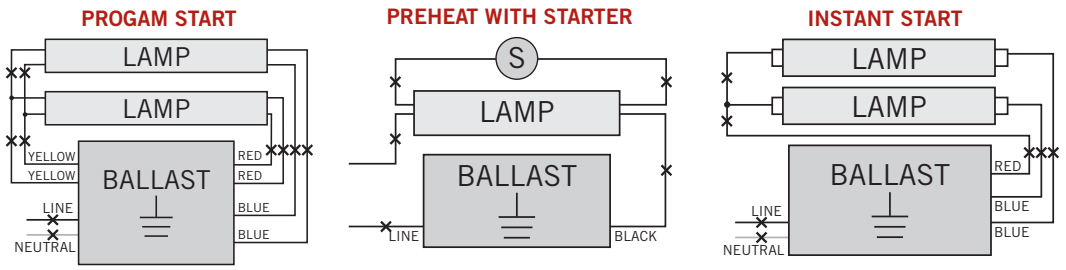
KT-LED7T8-24GC-840-DX2

T8 LED LAMP

SINGLE-ENDED WIRING DIAGRAM

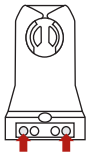
1. Cut all existing connections to ballast as shown below and remove ballast. See Figure A for typical ballast configurations. **Note: Single-ended wiring requires non-shunted lampholders.**

Figure A **Typical Ballast Configurations:**



CAUTION: INSTANT START BALLASTS HAVE SHUNTED LAMPHOLDERS.

Typical Non-Shunted Lampholder



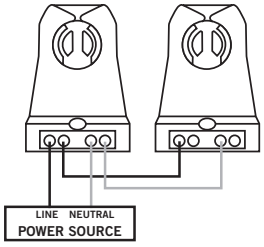
Connect wires directly to these terminals

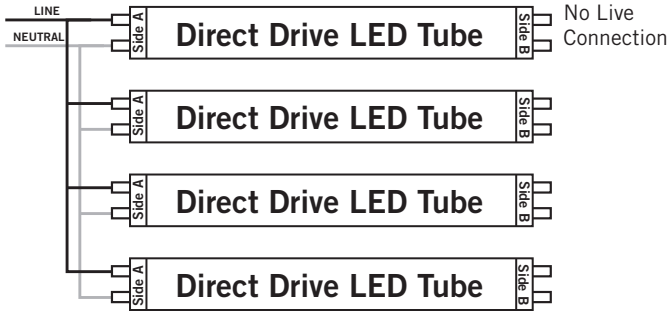
CAUTION: For Single-ended wiring use only non-shunted lampholders.

For Single-ended wiring, do not install product in a fixture with shunted lampholders (found in all fixtures using instant start ballasts). If the current lampholders are shunted, remove them and replace them with non-shunted lampholders. Make new connections directly to terminals as indicated above.

Keystone can provide any style replacement lampholders. Call us at 800-464-2680.

2. Re-wire fixture as shown below.





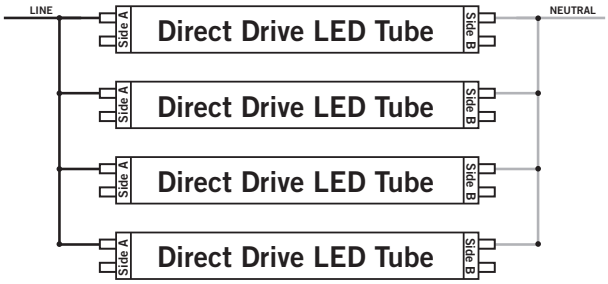
DOUBLE-ENDED WIRING DIAGRAM

1. Cut all existing connections to ballast as shown below and remove ballast. See Figure A above for typical ballast configurations.

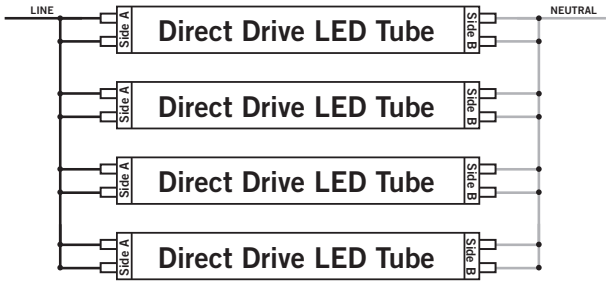
2. Re-wire fixture as shown below. For Double-ended wiring, use either shunted or nonshunted lampholders.

Note: There should not be any exposed wires at the end of installation.

Shunted Lampholders



Nonshunted Lampholders

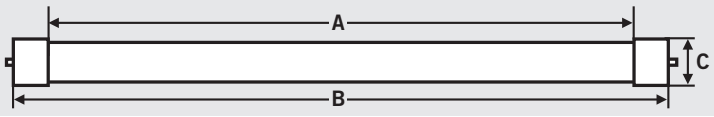


KEYSTONE SINCE 1945 LIGHT MADE EASY®

DIRECTDRIVE DX2
SINGLE- OR DOUBLE-ENDED LINE VOLTAGE LED TUBES

KT-LED7T8-24GC-840-DX2
T8 LED LAMP

PHYSICAL CHARACTERISTICS
LAMP DIMENSIONS



A (Illuminated Length)	20.96"
B (Body Length)	23.19"
C (Diameter)	1.10"

NOMINAL LENGTH: 24" **BASE TYPE:** G13 (Medium Bi-Pin)

ORDERING INFORMATION

ORDER CODE	PACKAGING STYLE	PACK QTY.	ITEM STATUS
KT-LED7T8-24GC-840-DX2-CP	Carton Pack (Egg Crate Packaging)	25	Quick Ship

CATALOG NUMBER BREAKDOWN

KT-LED7T8-24GC-840-DX2-CP

1 2 3 4 5 6 7 8 9 10

1 **Keystone Technologies**
2 **LED Lamp**
3 **Wattage**
4 **Lamp Type**
5 **Nominal Length (Inches)**
6 **Shatter-Proof Coated Glass**
7 **800 Series**
8 **Color Temperature**
9 **Single or Double-Ended Wiring**
10 **Packaging Style**

SINCE 1945 KEYSTONE | DIRECTDRIVE LED LINE VOLTAGE T8 TUBES

KT-LED18T8-U6GC-840-D

U-BEND T8 LED LAMP

DESCRIPTION

18W T8 U-Bend LED | 4000K | >80 CRI | High Efficiency

LAMP TYPE: U-Bend
BULB TYPE: T8 LED
BASE TYPE: G13 (Medium Bi-Pin)
WATTAGE: 18W
COLOR TEMPERATURE: 4000K
COLOR RENDERING INDEX (CRI): >80
WARRANTY: 5 Years

PRODUCT FEATURES

- **Replacement for Conventional Fluorescent Lamp**
- UL Classified; Listed on DLC Qualified Product List
- 50,000+ Hour Lifetime
- Approximately 40% More Energy Efficient than Standard F32T8 Lamps
- Environmentally Friendly: No Mercury Used
- Integral Driver (Isolated) Eliminates the Need for an External Ballast or Driver
- Instant Startup
- Frosted Lens Eliminates Pixelation
- Operating Temperature: -20ºC/-4ºF to 45ºC/113ºF
- 110+ Lumens per Watt (Bare Lamp Efficacy)
- Suitable for Dry and Damp Locations
- Improved Lamp Durability with Shatterproof Coated Glass
- NSF Listed: NSF/ANSI Standard 2 - Food Equipment

OPERATING SPECIFICATIONS

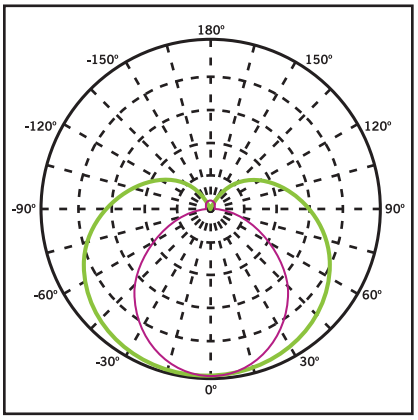
ELECTRICAL AND PERFORMANCE CHARACTERISTICS

Input Voltage	CRI	Bare Lamp Wattage	Nominal Lamp Lumens	Beam Angle	Nominal Bare Lamp Efficacy	Power Factor	Max. THD
120-277V	>80	18W	2150	220º	119 lm/W	>0.9	20%

RATED LIFE

L70 (Hours)	50,000

POLAR CANDELA DISTRIBUTION



Located at Horizontal Angle = 0, Vertical Angle 0

1. **Violet** Vertical Plane through Horizontal Angles (90-270)
2. **Green** Vertical Plane through Horizontal Angles (0-180)

Beam Angle: 220º

Visible Light Area: 325º

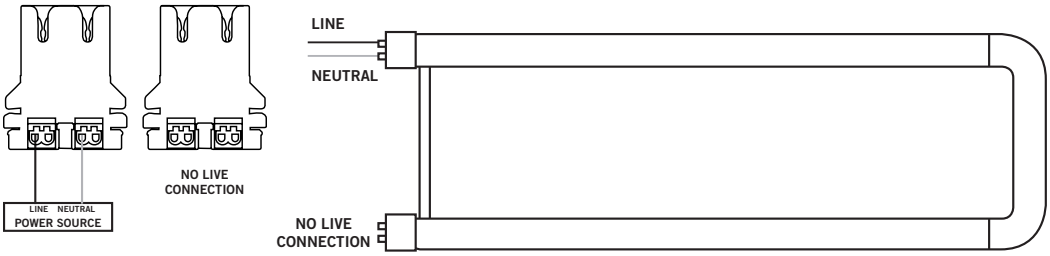
SINCE 1945 KEYSTONE | DIRECTDRIVE LED LINE VOLTAGE T8 TUBES

KT-LED18T8-U6GC-840-D

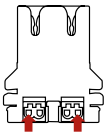
U-BEND T8 LED LAMP

WIRING

Re-wire fixture as show below.



Typical Non-Shunted Lampholder

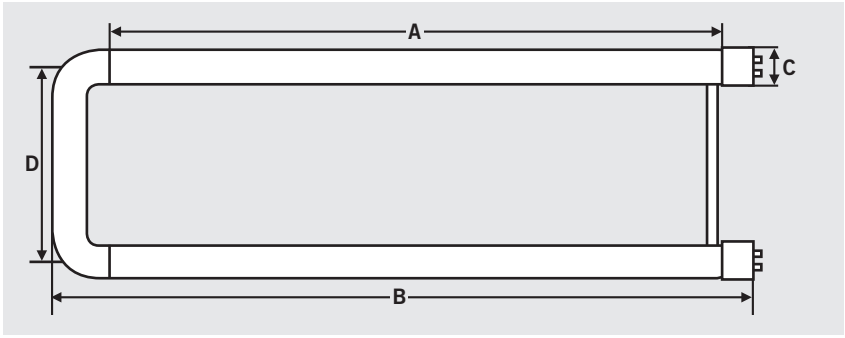


Connect wires directly to these terminals

CAUTION:
Use only non-shunted lampholders.
Do not install product in a fixture with shunted lampholders (found in all fixtures using instant start ballasts). If the current lampholders are shunted, remove them and replace them with non-shunted lampholders. Make new connections directly to terminals as indicated above.

Keystone can provide any style replacement lampholders. Call us at 800-464-2680.

PHYSICAL CHARACTERISTICS



LAMP DIMENSIONS

A (Illuminated Length)	20.20”
B (Body Length)	22.25”
C (Diameter)	1.00”
D (Width)	6.00”
Nominal Length	6” U-Bend
Base Type	G13 (Medium Bi-Pin)

ORDERING INFORMATION

ORDER CODE	PACKAGING STYLE	PACK QTY.	ITEM STATUS
KT-LED18T8-U6GC-840-D-CP	Carton Pack (Egg Crate Packaging)	12	Quick Ship

CATALOG NUMBER BREAKDOWN

KT-LED18T8-U6GC-840-D-CP

Keystone Technologies	LED Lamp	Wattage	Lamp Type	Nominal Size	Shatterproof Coated Glass	800 Series	Color Temp.	Direct Drive Series	Packaging Style

SINCE 1945
KEYSTONE
LIGHT MADE EASY®

DIRECTDRIVE DX2

SINGLE- OR DOUBLE-ENDED LINE VOLTAGE LED TUBES

KT-LED12T8-36GC-840-DX2

T8 LED LAMP

DESCRIPTION

12W T8 LED | 4000K | >83 CRI | High Efficiency | Single or Double-ended Wiring

LAMP TYPE: Linear
BULB TYPE: T8 LED
BASE TYPE: G13 (Medium Bi-Pin)
WATTAGE: 12W
COLOR TEMPERATURE: 4000K
COLOR RENDERING INDEX (CRI): >83
WARRANTY: 5 Years

PRODUCT FEATURES

- Replacement for Conventional Fluorescent Lamp
- Single or Double-Ended Wiring
- 50,000+ Hour Lifetime
- Approximately 40% More Energy Efficient that Standard F32T8 Lamps
- Environmentally Friendly: No Mercury Used
- Instant Startup
- Frosted Lens Eliminates Pixelation
- UL Classified
- Operating Temperature: -20ºC/-4ºF to 45ºC/113ºF
- Integral Driver (Isolated), Eliminates the Need for External Driver or Ballast
- 110+ Lumens per Watt
- Improved Lamp Durability with Shatterproof Coated Glass
- ETL Sanitation Listed NSF/ANSI Standard 2 - Food Equipment

OPERATING SPECIFICATIONS

ELECTRICAL CHARACTERISTICS

Input Voltage	Power Consumption	Power Factor	Input Current
120-277Vac	12W	>0.9	0.10A @ 120V 0.04A @ 277V

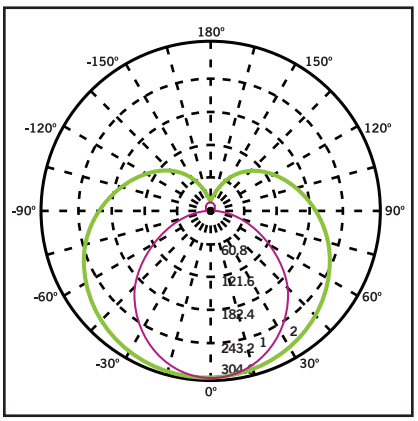
RATED LIFE

L70 (Hours)	50,000

PHOTOMETRIC CHARACTERISTICS

Color Temperature (CCT)	4000K
Luminous Flux	1400 lm
Color Rendering Index (CRI)	>83
Efficacy	117 lm/W
Beam Angle	240º
Visible Light Area	325º

POLAR CANDELA DISTRIBUTION



Maximum Candela = 1248.55
Located at Horizontal Angle = 0, Vertical Angle 0

1. **Violet** Vertical Plane through Horizontal Angles (90-270)

2. **Green** Vertical Plane through Horizontal Angles (0-180)

KEYSTONE SINCE 1945 LIGHT MADE EASY®

DIRECT DRIVE DX2

SINGLE- OR DOUBLE-ENDED LINE VOLTAGE LED TUBES

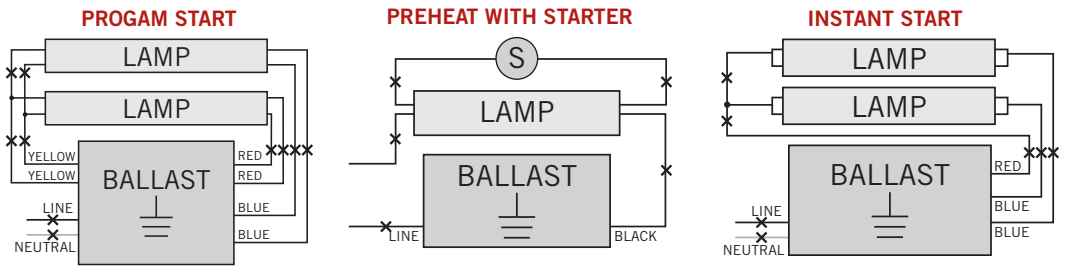
KT-LED12T8-36GC-840-DX2

T8 LED LAMP

SINGLE-ENDED WIRING DIAGRAM

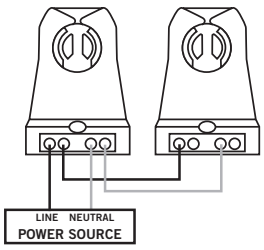
1. Cut all existing connections to ballast as shown below and remove ballast. See Figure A for typical ballast configurations. **Note: Single-ended wiring requires non-shunted lampholders.**

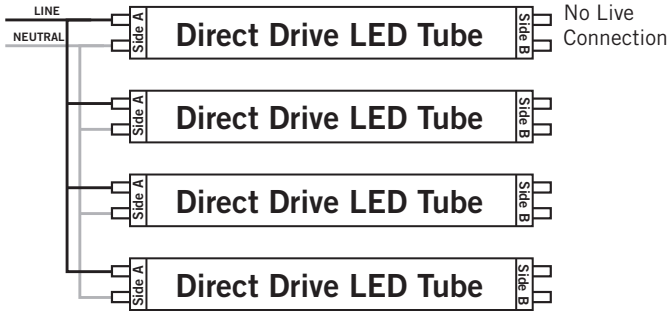
Figure A **Typical Ballast Configurations:**



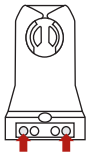
CAUTION: INSTANT START BALLASTS HAVE SHUNTED LAMPHOLDERS.

2. Re-wire fixture as shown below.





Typical Non-Shunted Lampholder



Connect wires directly to these terminals

CAUTION: For Single-ended wiring use only non-shunted lampholders.

For Single-ended wiring, do not install product in a fixture with shunted lampholders (found in all fixtures using instant start ballasts). If the current lampholders are shunted, remove them and replace them with non-shunted lampholders. Make new connections directly to terminals as indicated above.

Keystone can provide any style replacement lampholders. Call us at 800-464-2680.

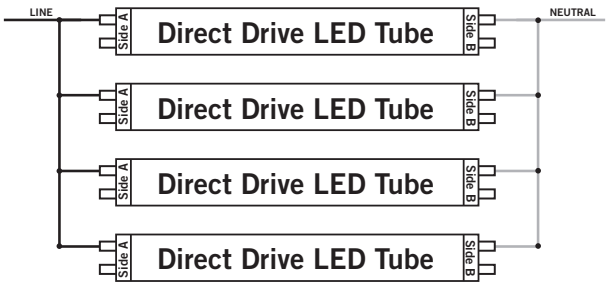
DOUBLE-ENDED WIRING DIAGRAM

1. Cut all existing connections to ballast as shown below and remove ballast. See Figure A above for typical ballast configurations.

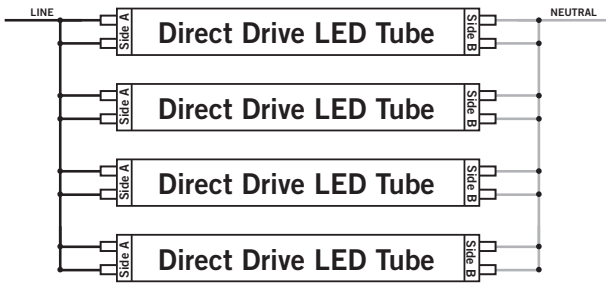
2. Re-wire fixture as shown below. For Double-ended wiring, use either shunted or nonshunted lampholders.

Note: There should not be any exposed wires at the end of installation.

Shunted Lampholders



Nonshunted Lampholders



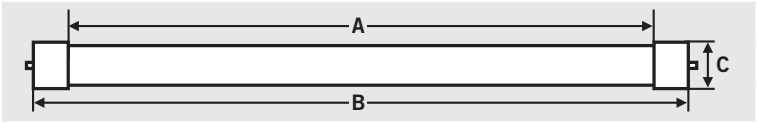
KEYSTONE SINCE 1945 LIGHT MADE EASY®

DIRECT DRIVE DX2
SINGLE- OR DOUBLE-ENDED LINE VOLTAGE LED TUBES

KT-LED12T8-36GC-840-DX2
T8 LED LAMP

PHYSICAL CHARACTERISTICS

LAMP DIMENSIONS



A (Illuminated Length)	31.81"
B (Body Length)	35.19"
C (Diameter)	1.10"

NOMINAL LENGTH: 36" **BASE TYPE:** G13 (Medium Bi-Pin)

ORDERING INFORMATION

ORDER CODE	PACKAGING STYLE	PACK QTY.	ITEM STATUS
KT-LED12T8-36GC-840-DX2-CP	Carton Pack (Egg Crate Packaging)	25	Quick Ship

CATALOG NUMBER BREAKDOWN

KT-	LED	12	T8-	36	GC-	840-	DX2-	CP
1	2	3	4	5	6	7 8	9	10

1 **Keystone Technologies**
2 **LED Lamp**
3 **Wattage**
4 **Lamp Type**
5 **Nominal Length (Inches)**
6 **Glass Coated**
7 **800 Series**
8 **Color Temperature**
9 **Single- or Double-Ended Wiring**
10 **Packaging Style**

SINCE 1945 KEYSTONE

DIRECT DRIVE LED
LINE VOLTAGE T8 TUBES

KT-LED10.5T8-48G-840-D
T8 LED LAMP

DESCRIPTION
10.5W T8 LED | 4000K | >83 CRI | High Efficiency

RoHS Compliant | 5 YEAR WARRANTY

LAMP TYPE: Linear
BULB TYPE: T8 LED
BASE TYPE: G13 (Medium Bi-Pin)
WATTAGE: 10.5W
COLOR TEMPERATURE: 4000K
COLOR RENDERING INDEX (CRI): >83
WARRANTY: 5 Years

PRODUCT FEATURES
- Replacement for Conventional Fluorescent Lamp
- 50,000+ Hour Lifetime
- Approximately 40% More Energy Efficient that Standard F32T8 Lamps
- Environmentally Friendly: No Mercury Used
- UL Classified
- Operating Temperature: -20ºC/-4ºF to 45ºC/113ºF
- Listed on DLC Qualified Product List
- Integral Driver (Isolated), Eliminates the Need for External Driver or Ballast
- 100+ Lumens per Watt
- Instant Startup
- Frosted Lens Eliminates Pixelation

OPERATING SPECIFICATIONS

ELECTRICAL CHARACTERISTICS

Input Voltage	Power Consumption	Power Factor	Input Current
120-277Vac	10.5W	>0.9	.094A @ 120V .040A @ 277V

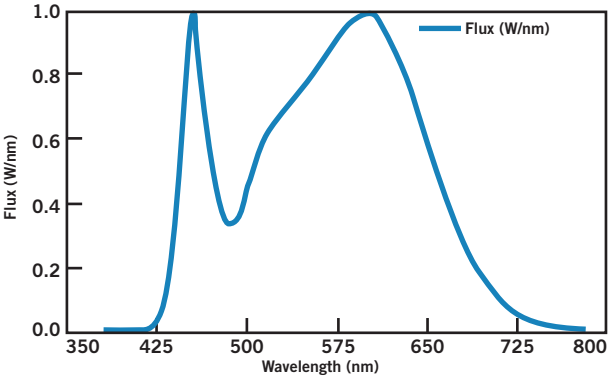
PHOTOMETRIC CHARACTERISTICS

Color Temperature (CCT)	4000K
Luminous Flux	1730 lm
Color Rendering Index (CRI)	>83
Efficacy	160 lm/W
Beam Angle	240º
Visible Light Area	325º

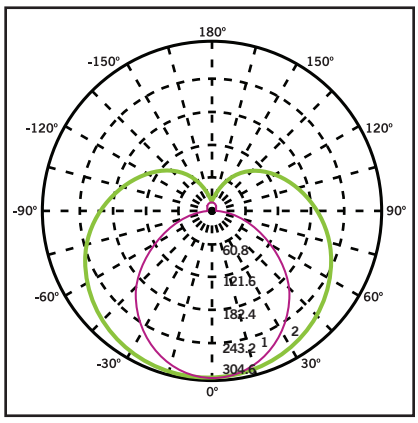
RATED LIFE

L70 (Hours)	50,000

SPECTRAL DISTRIBUTION



POLAR CANDELA DISTRIBUTION



Maximum Candela = 1248.55
Located at Horizontal Angle = 0, Vertical Angle 0

1. **Violet** Vertical Plane through Horizontal Angles (90-270)
2. **Green** Vertical Plane through Horizontal Angles (0-180)

SINCE 1945 KEYSTONE

DIRECT DRIVE LED
LINE VOLTAGE T8 TUBES

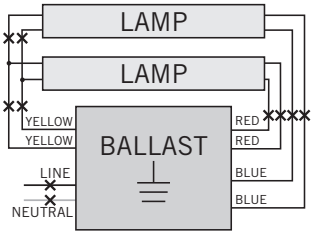
KT-LED10.5T8-48G-840-D
T8 LED LAMP

WIRING DIAGRAMS

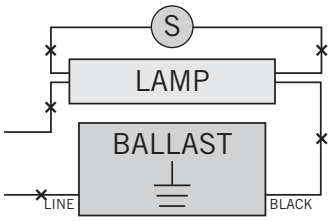
1. Cut all existing connections to ballast as shown below and remove ballast.

Typical Ballast Configurations:

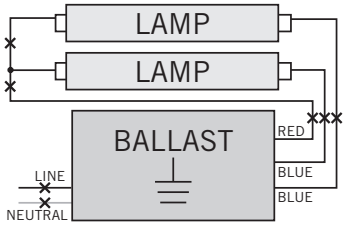
PROGAM START



PREHEAT WITH STARTER

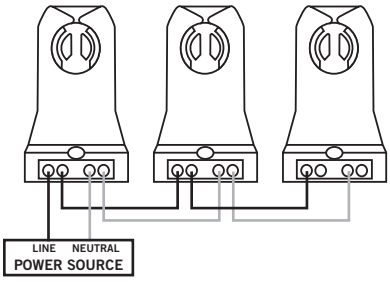


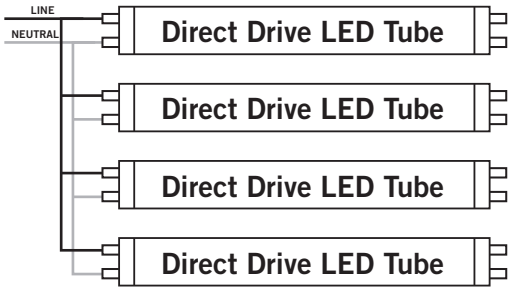
INSTANT START



CAUTION: INSTANT START BALLAST WITH SHUNTED SOCKETS.

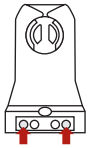
2. Re-wire fixture as shown below.





No Live Connection

Typical Non-Shunted Lampholder



Connect wires directly to these terminals

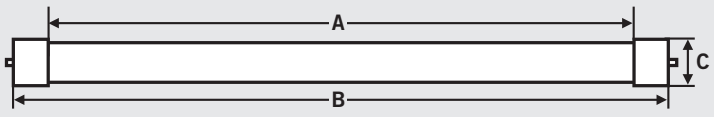
CAUTION: Use only non-shunted lampholders.

Do not install product in a fixture with shunted lampholders (found in all fixtures using instant start ballasts). If the current lampholders are shunted, remove them and replace them with non-shunted lampholders. Make new connections directly to terminals as indicated above.

Keystone can provide any style replacement lampholders. Call us at 800-464-2680.

PHYSICAL CHARACTERISTICS

LAMP DIMENSIONS



A (Illuminated Length)	44.38"
B (Body Length)	47.15"
C (Diameter)	1.10"

NOMINAL LENGTH: 48" **BASE TYPE:** G13 (Medium Bi-Pin)

ORDERING INFORMATION

ORDER CODE	PACKAGING STYLE	PACK QTY.	ITEM STATUS
KT-LED10.5T8-48G-840-D-CP	Carton Pack (Egg Crate Packaging)	25	Quick Ship

CATALOG NUMBER BREAKDOWN

KT-LED10.5T8-48G-840-D-CP

Keystone Technologies	LED Lamp	Wattage	Lamp Type	Nominal Length (Inches)	Glass	800 Series	Color Temp.	Direct Drive Series	Packaging Style
KT	LED	10.5T8	48G	840				D	CP

Attachment "E"

Community Workforce Agreement

COMMUNITY WORKFORCE AGREEMENT

For the City of San Leandro

This Agreement is made and entered into this ___ day of_____, by and between the City of San Leandro ("City") together with contractors and sub-contractors of all tiers, who shall become parties to this Agreement by signing the "**Agreement to be Bound**" (**Attachment A**), and the Alameda County Building & Construction Trades Council and its affiliated local Unions who have executed this Agreement.

PURPOSE

The purpose of this Agreement is to support the efforts of the City to increase employment opportunities for workers who reside in San Leandro, to help increase training and employment opportunities for the City's students in the construction trades through apprenticeship and pre-apprentice programs as the students graduate from the City's schools, to promote efficiency of construction operations performed for and within the City of San Leandro and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the projects.

RECITALS

WHEREAS, the successful completion of the City's construction projects is of the utmost importance to the City of San Leandro; and

WHEREAS, the interests of the general public, the City, the Unions and Contractor(s) would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on construction work for and within the City of San Leandro by the Contractor(s), and further, to encourage close cooperation among the Contractor(s) and the Union(s) to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, the parties agree that one of the primary purposes of this Agreement is to avoid the tensions that might arise on the Project if Union and non-union workers of different employers were to work side by side on the Project, thereby leading to labor disputes that could delay completion of the Project; and

WHEREAS, this Agreement is not intended to replace, interfere with, abrogate, diminish or modify existing local or national collective bargaining agreements in effect during the duration of the Project, insofar as a legally binding agreement exists between the Contractor(s)/Employer(s) and the affected Union(s), except to the extent that the provisions of this Agreement are inconsistent with said collective bargaining agreements, in which event, the provisions of this Agreement shall prevail; and

WHEREAS, contracts for construction work within the City of San Leandro will be awarded in accordance with the applicable provisions of the Charter of the City of SanLeandro, the California State Public Contract Code and the Labor Code, including but not limited to competitive bidding and payment of prevailing wages; and

WHEREAS, the City of San Leandro has the absolute right to select the lowest responsive and responsible bidder for the award of the construction contracts for the Projects; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards a mutually satisfactory completion of the Projects.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE 1

DEFINITIONS

1.1 "Agreement" means this Community Workforce Agreement.

1.2 "Agreement to be Bound" means the agreement (attached hereto and incorporated herein as Exhibit A) which shall be executed by each and every Contractor(s)/Employer(s) as a condition of performing Project Work.

1.3 "Alameda County Residents" shall include any residents living in any city or unincorporated section of Alameda County six months prior to the award of a Project.

1.4 "San Leandro Resident" means any individual who six months prior to the award of a Project can certify through a utility bill, or other similar means acceptable to the parties to this Agreement that the individual resides within the boundaries of the San Leandro City Limits.

1.5 "City" means the City of San Leandro.

1.6 "Completion" means that point at which there is Final Acceptance by the City of a Construction Contract. For this definition of "Completion", "Final Acceptance" shall mean that point in time at which the engineer for the City has determined upon final inspection that the work has been completed in all respects and all required contract documents, contract drawings, warranties, certificates, manuals and data have been submitted and training completed in accordance with the contract documents and the City Council has accepted the work.

1.7 "Contractor(s)" or "Contractor(s)/Employer(s)" means any individual, firm, partnership or corporation, or other business entity, or combination thereof, including joint ventures that is an independent business enterprise, and their successors and assigns that has entered into a contract with the City with respect to the construction work necessary for any part of a Project, under contract terms and conditions approved by the City and which incorporate this Agreement, and any of its contractors or subcontractors of any tier.

1.8 "Construction Contract(s)" means all of the contract(s) for construction of any Project.

1.9 "Council" means the Alameda County Building and Construction Trades Council, AFL-CIO.

jurisdiction of one of the Unions and which is directly part of the Project, including, without

1.10 "New Apprentice" means a San Leandro Resident who is indentured in a State of California approved apprenticeship program that is a joint labor-management apprentice program for no more than twenty-four months.

1.11 "Project" means any construction project awarded by the City, by and through its City Council, and paid for in whole or in part out of City General Fund or City Enterprise Fund monies, the value of which, either estimated by the City or bid by the Contractor, exceeds $1,000,000.00. The City and the Council may mutually agree in writing to add additional components to a Project's Scope of Work that is covered under this Community Workforce Agreement.

1.12 "Union" or "Unions" means the Council and any affiliated labor organization signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations, whose names are subscribed hereto and who have through their officers executed this Agreement.

1.13 "Project Manager" means the person or persons or business entity designated by the City to oversee all phases of construction on the Projects.

1.14 "Schedule A Agreement" or "Master Labor Agreement" means the local master labor agreement of a Union signatory to this Agreement.

ARTICLE 2

SCOPE OF AGREEMENT

2.1 Parties: This Agreement shall apply and is limited to all Contractors/Employers (including subcontractors at any tier) performing work under Construction Contracts necessary for the Projects, the City, the Council and any affiliated labor organization signatory to this Agreement, acting in their own behalf and on behalf of their respective affiliates and member organizations, whose names are subscribed hereto and who have through their officers executed this Agreement.

2.2 Project Description: This Agreement shall apply to the award of all of the Construction Contracts identified by the City as part of the Projects. The City has the absolute right to combine, change, consolidate, suspend or cancel Construction Contract(s) or portions of Construction Contract(s) identified as part of the Projects. Should the City suspend or remove any individual project from the Projects and thereafter authorize that construction work be commenced on such project, then such project shall be performed under the terms of this Agreement. Once a Construction Contract is completed it is no longer covered by this Agreement except when a Contractor is directed to engage in repairs, warranty work or modifications required by its Construction Contract with the City.

2.3 Covered work:

2.3.1 This Agreement covers, without limitation, all on-site preparation, surveying, construction, alteration, demolition, installation, improvement, painting or repair of buildings, structures and other works, and related activities for the Project that is within the craft limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the project),

jurisdiction of one of the Unions and which is directly part of the Project, including, without pumps, pump stations, and modular furniture installation. On-site work includes work done for the Project in temporary yards, dedicated sites, or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. Covered work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.3.2 This Agreement shall apply to any start-up, calibration, commissioning, performance testing, repair, maintenance, and operational revisions to systems and/or subsystems performed after Completion unless it is a new contract and falls below the threshold identified in section 1.11, or is performed by City Employees.

2.3.3 This Agreement covers all on-site fabrication work over which the City or Contractor(s)/ Employer(s) possess the right of control (including work done for the Project in any temporary yard or area established for the Project). Additionally, this Agreement covers any off-site work, including fabrication necessary for the Project defined herein, that is covered by a current Schedule A Agreement or local addenda to a National Agreement of the applicable Union(s) that is in effect as of the execution date of this Agreement.

2.3.2 The furnishing of supplies, equipment or materials which are stockpiled for later use shall not be covered by this Agreement. However, construction trucking work such as the delivery of ready-mix, asphalt, aggregate, sand or other fill material which are directly incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud, shall be covered by the terms and conditions of this Agreement. Employers, including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) days of written request or as required by bid specifications.

2.3.3 The on-site installation or application of all items shall be performed by the craft having jurisdiction over such work as set forth under the provisions of this Agreement; provided, however, it is recognized that installation of specialty items which may be furnished by the owner of the Project or a Contractor shall be performed by construction persons employed under this Agreement who may be directed by other personnel in a supervisory role; provided, however, in limited circumstances requiring special knowledge of the particular item(s), work may be performed by construction persons of the vendor or other companies where necessary to protect a manufacturer's warranty. The issue of whether it is necessary to use construction persons of the vendor or other companies to protect the manufacturer's warranty shall be subject to the grievance and arbitration clause of this Agreement.

2.4 Exclusions: The following shall be excluded from the scope of this Agreement:

2.4.1 This Agreement is not intended to, and shall not affect or govern the award of public works contracts by the City that are outside the identified scope of work of the Projects.

2.4.2 This Agreement shall not apply to a Contractor or subcontractor's non-craft executives, managerial employees, engineering employees, design employees, supervisors (except those

covered by existing building and construction trades collective bargaining agreements), office and clerical employees.

2.4.3 This Agreement shall not apply to any work performed on or near or leading to the site of work covered by this Agreement that is undertaken by state, county or other governmental bodies or their contractors; or by public or private utilities or their contractors; or by the City or its contractors for work not part of the scope of the Projects. Further, this Agreement shall not be construed to prohibit or restrict the City or its employees from performing work on or around the Project construction sites or from entering Project sites for any purposes deemed necessary or appropriate by the City.

2.4.4 This Agreement shall not apply to the off-site maintenance of leased equipment or the on-site supervision of such work.

2.4.5 In the event that the City becomes aware or is made aware that this Agreement or portions thereof are inconsistent with the terms and conditions of any grant, loan, or contract with any Federal, State, or regional agency or with the instructions or directions of an authorized representative of a Federal, State or regional agency to which the City is applying for or has received grant funds, the City shall notify the Council. Within 24 hours of notification, the parties shall meet and confer to attempt to modify the Agreement to avoid the forfeiture of any funding or to otherwise resolve the issue. Should the parties be unable to come to an accord, this Agreement or any inconsistent provision shall be modified, subject to the approval of the City Council, to remain in compliance with the requirements of the applicable funding source.

2.5 Termination, Suspension and/or Delay of Work: It is understood and agreed that the City, at its sole option, may change, terminate, delay and/or suspend any and all portions of Covered Work at any time. Further, the City may prohibit some or all work on certain days or during certain hours of the day to comply with applicable codes, laws or regulations, permits or to accommodate the ongoing operations of the City's facilities and/or to mitigate the effects of the ongoing Projects' work on the businesses and residents in the neighborhoods of the Project sites; and/or require such other operational or schedule changes that may be deemed necessary, in its sole judgment, to effectively maintain the primary purpose of the City's facilities and to remain a good neighbor to the residents and businesses in the immediate area of any Projects. In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the affected Contractor with reasonable notice of any changes, beyond what was stated in the bid documents, that it requires pursuant to this Section.

2.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles IV, XI and XII of this Agreement shall apply to such work.

2.7 The parties are hereby notified that any Projects funded in whole or in part by HUD Section 3 financial assistance must provide employment, registered apprenticeship, training, contracting, or other economic opportunities to Section 3 residents and businesses in a manner that is consistent with Section 3 of the Housing and Urban Development Act of 1968.

The parties shall meet and confer to modify this Agreement when and where necessary to comply with HUD regulations.

ARTICLE 3

EFFECT OF AGREEMENT/SUBCONTRACTORS

3.1 By executing this Agreement, the Unions and the City agree to be bound by each and every provision of this Agreement.

3.2 By accepting the award of a Construction Contract for a Project, whether as contractor or subcontractor at any tier thereunder, the Contractor/Subcontractor agrees to be bound by each and every provision of this Agreement.

3.3 This Agreement shall only be binding on the signatory parties hereto, their successors and assigns, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such party unless performing work within the scope of the Project(s).

3.4 The provisions of this Agreement, including the Schedule A agreements, which are incorporated herein by reference and which are the local Master Agreements of the Signatory Unions having jurisdiction over the work on the Project, shall apply to the work covered by this Agreement, notwithstanding the provisions of any other local, area and/or national agreements which may conflict with or differ from the terms of this Agreement. It is understood that this Agreement, together with the referenced Schedule A Agreements, constitute an integrated, self-contained, stand-alone agreement, and that by virtue of having become bound to this Agreement, the Contractor will not be obligated to sign any other local, area, or national agreement as a condition of performing work within the scope of this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Schedule A and is not covered by this Agreement, the provisions of the Schedule A shall prevail.

3.5 In addition, it is understood and agreed that all grievances and disputes involving the interpretation or application of this Agreement, including the Schedule A Agreements, shall be resolved according to the procedures set forth in Article 11 of this Agreement; provided, however, that should a dispute involve a single Schedule A Agreement and a Contractor signatory thereto, and not involve interpretation or application of this Agreement, then such dispute shall be processed and resolved pursuant to the grievance provisions of that Schedule A Agreement. Should there be a dispute in the first instance as to whether the provisions of Article 11 of this Agreement or the grievance procedures of a Schedule A Agreement apply, the dispute shall be presented initially to an arbitrator who shall be selected pursuant to the method described in Article 11. Such referral of a dispute as to the applicable procedures shall be done by an immediate conference call among the parties and the arbitrator, and be heard and decided within three (3) calendar days. Should the arbitrator hold that Article 11 applies, the parties may, by mutual agreement, submit the issue to the same arbitrator pursuant to the provisions of Article 11, or, absent mutual agreement, commence processing the dispute at Step 1 of that Article.

3.6 Subcontractors: At the time that any Contractor enters into a subcontract with any subcontractor of any tier for the performance of construction or construction trucking work

within the scope of this Agreement, the Contractor shall provide a copy of this Agreement, as it may from time to time be modified by the negotiating parties, to said subcontractor and shall require the subcontractor, as a part of accepting an award of a construction subcontract, to agree to be bound by each and every provision of the Agreement prior to the commencement of work.

3.6.1 Each Contractor and Subcontractor shall evidence their agreement to be bound to this Agreement by executing the **Agreement To Be Bound** form attached hereto as **Exhibit A.** A copy of the Agreement To Be Bound executed by the Contractors and Subcontractors shall be submitted to the Council and the Union(s) prior to both the commencement of work and the Pre-Job Conference and will be a required submittal within the City's bid packages. If the Contractor or Subcontractor refuses to execute the Agreement To Be Bound, then such Contractor or Subcontractor shall not be awarded a Construction Contract to perform work on the Projects. A Contractor or Subcontractor who executes the Agreement to Be Bound shall be considered a signatory party to this Agreement.

3.6.2 It is understood that the liability of each Contractor and Subcontractor and the liability of each Union under this Agreement shall be several and not joint. Any dispute between the Union(s) and the Contractor/Employer respecting compliance with the terms of the Agreement shall not affect the rights, liabilities, obligations and duties between the signatory Union(s) and other Contractor(s)/Employer(s) party to this Agreement. Any alleged breach of this Agreement by a signatory Union shall not affect the rights, liabilities, obligations and duties between the signatory Contractor(s)/Employer(s) and the other Union(s) party to this Agreement. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the City and/or any Contractor or Subcontractor.

3.6.3 With regard to any Contractor or subcontractor that is independently signed to any Schedule A Agreement, this Agreement shall in no way supersede or prevent the enforcement of any subcontracting clause contained in such Schedule A Agreement. Any such subcontracting clause in a Schedule A Agreement shall remain and be fully enforceable between each craft union and its signatory employers and no provision of this Agreement shall be interpreted and/or applied in any manner that would give this Agreement precedence over subcontracting obligations and restrictions that exist between craft Unions and their respective signatory employers under a Schedule A Agreement. To the extent that the provisions of this Agreement are inconsistent with any other provisions contained in a Schedule A Agreement, the provisions of this Agreement shall prevail.

ARTICLE 4

WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS

4.1 The Unions, City and Contractor agree that for the duration of the Projects:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, hand billing or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or construction persons employed on the Projects, at a job site of the Projects or at any other facility of the City because of a dispute on the Projects. Nor shall the Unions or construction persons employed on the Projects participate in any strikes, sympathy strikes, work stoppages, picketing, hand billing, slowdowns, or otherwise advising the public that a labor dispute exists at a Project jobsite because of a dispute between Unions and Contractor(s) on any other project.

4.1.2 As to construction persons employed on the Projects, there shall be no lockout of any kind by a Contractor covered by this Agreement

4.1.3 If a Schedule A Agreement between a Contractor and the Union expires before the Contractor completes the performance of a Construction Contract and the Union or Contractor gives notice of demand for a new or modified Schedule A Agreement, the Union agrees that it will not strike, picket, hand-bill, slowdown or engage in any other disruptive activity against the Contractor and the Contractor will not lock out construction persons of the Union on said Construction Contract for work covered under this Agreement and the Union and the Contractor agree that the expired Schedule A Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Schedule A Agreement is reached. If the new or modified Schedule A Agreement provides that any terms of the new Schedule A Agreement shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified Schedule A Agreement applicable to construction persons employed on the Projects within seven (7) days.

4.1.4 It shall not be considered a violation of this article for a Union to withhold labor (but not picket) from any Contractor/Employer who fails to make its timely payment of Trust Fund contributions or fails to meet its weekly payroll. The affected Union shall give seventy-two (72) hours written notice to the City and to the Contractor/Employer prior to withholding labor due to a Contractor's failure to make timely payment of Trust Fund contributions and twenty-four (24) hours written notice to the City and to the Contractor/Employer when a Contractor/Employer fails to make weekly payroll or when paychecks are determined to be nonnegotiable by a financial institution normally recognized to honor such paychecks, during which time the Contractor/Employer shall have the opportunity to correct the default.

4.1.5 If the City contends that any Union has violated this Article, it will notify in writing (including email) the Secretary-Treasurer/Business Manager/Senior Executive of the Council and the Senior Executive of the Union, setting forth the facts alleged to violate the Article, prior to instituting the expedited arbitration procedure set forth below. The Council will immediately use its best efforts to cause the cessation of any violation of this Article. The leadership of the Union will immediately notify the membership of its obligations under this Article.

4.2 **Expedited Arbitration:** Any party to this Agreement shall institute the following procedure, in lieu of or prior to any other action at law or equity, when a breach of this Article 4 is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify Robert Hirsch whom the parties agree shall be the permanent arbitrator under this procedure. In the event that the permanent arbitrator is unavailable at any time, William Riker shall be the alternate arbitrator. If neither is available, then the arbitrator shall be chosen from the list provided in Article XI. Notice to the arbitrator shall be by the most expeditious means available, with notices by facsimile, electronic mail or telephone to the party alleged to be in violation, to the City, to the Council and to the involved local Union if a Union is alleged to be in violation of this Agreement.

4.2.2 Upon receipt of said notice, the arbitrator shall convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The Arbitrator shall notify the parties by facsimile, electronic mail or telephone of the place and time for the hearing. Said arbitration shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article 4, Section 4.1 of this Agreement has occurred. The arbitrator's decision shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article **4** and other appropriate relief and such award shall be served on all parties by hand or the most expedient means allowed by law that meets the timelines set forth herein.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner: Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's decision as issued under Section 4.2.4 of this Article 4, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or the most expedient means allowed by law that meets the timelines set forth herein.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings provided in this Article and the party alleged to be in breach of its obligations under this article.

4.3 Liquidated Damages: If the arbitrator determines that a violation of Section 4.1 has occurred, the breaching party shall, within eight (8) hours of the issuance of the decision take all steps necessary to immediately cease such activities and return to work. If the breaching party involved does not cease such activities by the beginning of the next regularly scheduled shift following the expiration of the eight (8) hour period after the arbitrator's issuance of the decision, then the breaching party shall pay the sum of ten thousand dollars ($10,000) as liquidated damages to the City per shift until the breach is remedied. The arbitrator shall retain jurisdiction for the sole purpose of determining compliance with this obligation and determining the amount of liquidated damages, if any; but such retention shall not prevent the moving party from seeking judicial enforcement of the initial decision.

ARTICLE 5

PRE-JOB CONFERENCE

5.1 A mandatory pre-job conference shall be held after the award of the Construction Contract and prior to the commencement of work. Such conference shall be attended by a

representative from the participating Contractor(s), including all sub-contractors, and Union(s) and the Project Manager. All efforts will be made to hold the pre-job conference in sufficient time to ensure all parties the ability to properly raise and resolve any issue that may arise out of such meeting, with a goal that such conferences will be held at least ten (10) days before the work commences. Unless otherwise agreed to by the parties, all pre-job conferences will be held at San Leandro City Hall.

ARTICLE 6

NO DISCRIMINATION

6.1 The Contractors and Unions agree not to engage in any form of discrimination based on any protected class, including but not limited to race, color, creed, religion, national origin, ancestry, age, sex, sexual orientation or disability against any person, or applicant for employment on the Projects.

ARTICLE 7

UNION SECURITY

7.1 The Contractors recognize the Union(s) as the sole bargaining representative of all construction persons working within the scope of this Agreement.

7.2 All construction persons who are employed by the Contractor(s) shall, as a condition of employment, on or before the eighth (8^{th}) day of consecutive or cumulative employment on the Projects, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the applicable local union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union construction persons from joining the local union.

7.3 Authorized representatives of the Unions shall have access to the Projects whenever work covered by this Agreement is being performed on the Project.

ARTICLE 8

REFERRAL AND LOCAL HIRE PROGRAM

8.1 Referral:

8.1.1 Contractor(s) performing construction work on the Projects described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory hereto ("Job Referral System"). Such Job Referral System will be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and nondiscrimination.

8.1.2 The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.1.3 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions(s).

8.1.4 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a seventy-two (72) hour period after such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain employees from any source. Contactor(s) shall promptly notify the Union(s) of any applicants hired from other sources. This provision does NOT affect core employees as defined below.

8.1.5 Unions shall exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s).

8.2 Local Hire:

8.2.1 All parties agree to make a good faith effort to refer on a priority basis, consistent with the non-discriminatory referral procedures of the hall, qualified and available, and bona-fide San Leandro residents and if no San Leandro residents are available, then Alameda County Residents, for Project work.

8.2.2 The parties also recognize and support the City's commitment to provide opportunities for participation on the Projects to San Leandro businesses through the City's Local Business Preference Ordinance. In furtherance of this commitment, the parties agree that such San Leandro contractors and subcontractors awarded work on the Projects may request by name, and the local will honor, referral of persons who have applied to the local union for Project work and who demonstrate the following qualifications:

(1) possess any license required by state or federal law for the Project work to be performed;

(2) have worked a total of at least one thousand (1,000) hours in the construction craft during the prior three (3) years;

(3) were on the Contractor's active payroll for at least sixty (60) out of the one hundred and twenty (120) calendar days prior to the contract award;

(4) have the ability to perform safely the basic functions of the applicable trade, and

(5) are San Leandro residents.

The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired five (5) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work the ratio shall be maintained and when the Contractor's workforce is

reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

8.2.3 The Contractor shall notify the appropriate Union of the name and social security number of each direct hire and each direct hire shall register with the Union's hiring hall before commencing Project work. If there is any question regarding an employee's eligibility under this Subsection, the City Representative, at a Union's request, shall obtain satisfactory proof of such from the Contractor.

8.2.4 To the extent allowed by law and consistent with the non-discriminatory referral procedures of the Union hiring halls, the Parties agree to a goal that San Leandro Residents shall perform a minimum of 30% of the hours worked, on a craft by craft basis, on the Projects. In the event that no San Leandro residents are available to fulfill the 30% local hire requirement, the next tier of residents shall come from anywhere in Alameda County. The Contractor(s) shall make good faith efforts to reach this goal through the utilization of the Unions' hiring hall procedures. The Unions shall exercise their best efforts in their recruiting and training of San Leandro Resident workers and in their hiring hall procedures to facilitate this 30% goal.

8.2.5 Should any Contractor performing work on the Projects exceed the 30% local hire goal as set forth in this Agreement, they shall be acknowledged by the City Council for their efforts.

8.3 Apprenticeship Provision:

8.3.1 Consistent with the requirements of California Labor Code §§ 1776, 1777.5 and 1777.6, Prime Contractor(s), and or their sub-contractors shall hire 1 San Leandro resident as a New Apprentice for the first 1 million dollars of the total bid amount. Thereafter, for every 5 million dollars of the total bid amount the Prime Contractor and their Sub-contractors will be required to hire one additional New Apprentice. The New Apprentice(s) must work a minimum of 10% of the project’s work hours. The contractor may employ the apprentice on a different concurrent project in order to meet the minimum hours, and those hours will be counted towards the total hours of the craft on the San Leandro project. Certified Payrolls must reflect the hours worked by persons that fall under this Subsection.

8.3.2 There shall be no more than 1 entry-level apprentice for each craft, provided said crafts have apprenticeship openings and the general contractor is able to include entry-level apprentices hired by their subcontractors to meet this requirement. The City, upon request, will refer names of graduates of workforce development programs to the Unions and Contractors and the Unions will agree to cooperate with Contractor(s) to furnish apprentices as requested. The hiring of apprentices will be in accordance with the Apprenticeship provisions of the applicable Master Agreements and the standards and procedures of the applicable JATC program approved by the division of apprenticeship standards. Apprentices shall be properly supervised and paid in accordance with provisions contained within the Master Agreements.

8.3.4 The intent of this provision is to utilize San Leandro Resident First Period Apprentices to the fullest extent permissible by state law and the Master Agreements. Failure of Contractor(s) and their subcontractors to maintain qualified apprentices on the job will be subject to Division of Apprenticeship Standards penalties, and further penalties as determined by the Joint Administrative Committee.

8.4 Should any of the contractors performing work on the Projects fail to meet this 30% local goal and the apprenticeship requirements set forth in this article or fail to demonstrate "good

faith" efforts to do so, through a specific submittal process to be included in their contractual requirements, the City reserves the right to withhold the 5% retention on current progress payments until such time that this failure is remedied, but not longer than ninety (90) days after the date of substantial completion of the Projects or as required by law. However, Enforcement of this Article will be through the Grievance Procedure set forth in Article 11.

ARTICLE 9

GRIEVANCE PROCEDURE

9.1 All disputes involving discipline and/or discharge of employees working on the Project shall be resolved through the grievance and arbitration provision contained in the Master Agreement for the craft of the affected employee. No employee working on the Project shall be disciplined or dismissed without just cause.

ARTICLE 10

JOINT ADMINISTRATIVE COMMITTEE

10.1 The parties to this Agreement shall establish a five (5) person Joint Administrative Committee. This Committee shall be comprised of two (2) representatives selected by the City; two (2) representatives of the signatory Unions and Alameda County Building and Construction Trades Council; and one (1) industry representative, mutually selected by the City and the Alameda County Building and Construction Trades Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

10.2 The Joint Administrative Committee shall meet as required, but not less than once each quarter, to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, craft workforce levels and construction progress. Requests for certified payrolls from the Joint Labor/Management Committee to which the Union(s) signatory to this Agreement are a party shall be provided as required by law.

ARTICLE 11

GRIEVANCE ARBITRATION PROCEDURE

11.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set forth herein. No grievance shall be recognized unless the grieving party provides notice in writing to the signatory party with whom it has a dispute within seven (7) calendar days after becoming aware of the dispute, but in no event more than thirty (30) calendar days after it reasonably should have become aware of the event causing the dispute. The time limits in this Article 11 may be extended by mutual written agreement of the parties.

11.2 Grievances shall be settled according to the following procedures:

Step 1: Within seven (7) calendar days after the receipt of the written notice of grievance, the necessary parties to the grievance, including but not limited to the Business Representative of the involved Local Union, or the City's authorized representative or his/her designee, or the representative of the construction person, or the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within seven (7) calendar days after its referral to Step 1, either involved party may submit the dispute within three (3) calendar days to a subcommittee of the Joint Administrative Committee consisting of one (1) person selected by the City and one (1) person selected by the Council, which shall meet within seven (7) calendar days after such referral (or such longer time as mutually agreed upon by all representatives of the subcommittee), to confer in an attempt to resolve the grievance. If there is a unanimous decision by the subcommittee, the decision will be binding on all parties. The Union(s) shall notify its International Union representative(s), which shall advise both parties if it intends on participating in a Step 2 meeting. If the dispute is not resolved within such time (seven (7) calendar days after its referral or such longer time as mutually agreed upon) it may be referred within seven (7) calendar days by either party to Step 3.

Step 3: In the event the matter is not settled or otherwise resolved in a final and binding manner by the Committee, either party may demand arbitration. The parties shall provide a list to each other of their preferred arbitrators. The parties shall flip a coin to determine who shall strike the first name and shall then alternatively strike names from the list and the last remaining name shall be the neutral third party arbitrator who shall have the power to resolve the dispute in a final and binding manner. The costs of the arbitration shall be evenly split by the parties with each bearing the cost of their own legal counsel. Upon mutual agreement of the parties, the matter may be heard on an expedited basis, by telephone or other electronic means, and the arbitrator may render a "bench decision".

11.3 The Arbitrator shall arrange for a hearing no later than fourteen (14) calendar days after the matter has been submitted to arbitration. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the Arbitrator. The time limits specified in any step of the Grievance Procedure set forth in Section 11.2 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without the request for an extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

11.4 The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall not have authority to change, amend, add, or detract from any of the provisions of the Agreement. The expenses of the Arbitrator shall be borne equally by both parties.

11.5 In order to encourage the resolution of disputes and grievances at Step 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

11.6 Retention: At the time a grievance is submitted under this Agreement or any Master Agreement, the Union(s) may request that the City withhold and retain an amount from what is due and owing to the Contractor(s) against whom the grievance is filed, sufficient to cover the damages alleged in the grievance, should the Union(s) prevail. The amount shall be retained by the City until such time as the underlying grievance giving rise to the retention is withdrawn, settled, or otherwise resolved, and the retained amount shall be paid to whomever the parties to the grievance shall decide, or to whomever an Arbitrator shall so order.

ARTICLE 12

WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

12.1 The assignment of Covered Work will be solely the responsibility of the Contractor/Employer(s) performing the work involved. However, such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

12.2 All jurisdictional disputes on the Projects between or among the Union(s) shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department, or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractor/Employer(s) and Union(s) parties to this Agreement.

12.2.1 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch and Thomas Pagan and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California, within fourteen (14) calendar days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

12.3 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor/Employer(s)' assignment shall be adhered to until the dispute is resolved. Individuals violating this Section shall be subject to immediate discharge.

12.4 Each Contractor/Employer(s) shall conduct a Pre-Job Conference with the Council prior to commencing Covered Work. Pre-job conferences for different Contractor(s) may be held together.

ARTICLE 13

APPRENTICES

13.1 Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor/Employer(s) shall employ apprentices from California State-approved Joint Apprenticeship Programs in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are

indentured.

13.2 Contractors shall at all times comply with the applicable provisions of the California Labor Code, the payment of prevailing wages, the registration of contractors and subcontractors, and the hiring of apprentices, in addition to the requirements of Article 8.

13.3 The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determinations.

13.4 HELMETS TO HARDHATS:

13.4.1 The Contractor(s)/Employer(s) and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractor(s)/ Employer(s) and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center) and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

13.4.2 The Unions and Contractor(s)/Employer(s) agree to coordinate with the Center to participate in an integrated database of veterans interested in working on the Projects and of apprenticeship and employment opportunities for the Projects. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE 14

MANAGEMENT RIGHTS

14.1 The Contractor shall retain full and exclusive authority for the management of its operations, including the right to direct its work force in its sole discretion except as otherwise limited by the terms of this agreement and/or Schedule A Agreements. No roles, customs or practices shall be permitted or observed that limit or restrict production, or limit or restrict the working efforts of construction persons except that the lawful provisions of the Schedule A Agreements shall be recognized.

ARTICLE 15

WAGES/BENEFITS

15.1 All Contractor(s)/Employer(s) agree to pay contributions to the vacation, pension and other form of deferred compensation plan, apprenticeship, worker protection and assistance, and health benefit funds established by the applicable Master Agreement for each hour worked on the Project in the amounts designated in the Master Agreements of the appropriate local Unions.

15.2 By signing this Agreement, the Contractor(s)/Employer(s) adopt and agree to be bound by the written terms of the legally established trust agreements and which may from time to time be amended, specifying the detailed basis on which payments are to be made into, and benefits

paid out of, such Trust Funds. The Contractors authorize the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratify and accept the trustees so appointed as if made by the Contractor(s). The Contractor(s) agrees to execute a separate Subscription Agreement(s) for Trust Funds when such Trust Fund(s) requires such document(s).

15.3 Wages, Hours, Terms and Conditions of Employment: The wages, hours and other terms and conditions of employment on the Project shall be governed by the Master Agreement of the respective crafts, to the extent such Master Agreement is not inconsistent with this Agreement. Where a subject is covered by the Master Agreement and not covered by this Agreement, the Master Agreement will prevail. When a subject is covered by both the Master Agreement and this Agreement, to the extent there is any inconsistency, this Agreement will prevail.

15.4 Holidays: Holidays shall be established as set forth in the applicable Schedule A.

15.5 If a contractor fails to pay wages, the City agrees to honor a properly submitted, legally enforceable Stop Notice.

ARTICLE 16

MODIFIED SCHEDULE A AGREEMENTS

16.1 Certain Provisions Shall Not Apply. Provisions negotiated into the new or modified Schedule A Agreements which are less favorable to the Contractor than those uniformly required of employers for construction work normally covered by those agreements or which may be construed to apply exclusively or predominantly to work covered by this Agreement shall not apply to work covered by this Agreement. Any disagreement between the parties regarding the application of the provisions of any new or modified collective bargaining agreement to work covered by this Agreement shall be resolved under the dispute and grievance arbitration procedures set forth in Article 12 hereof.

ARTICLE 17

SAVINGS CLAUSE

17.1 The parties agree that in the event any article, provision, clause, sentence or word of this Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by a court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

17.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of this Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

ARTICLE 18

ENTIRE AGREEMENT

18.1 This Agreement, together with the referenced Schedule A Agreements, represents the complete understanding of the parties: The provisions of this Agreement, including the Schedule A Agreements, shall apply to the work covered by this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A Agreement, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Schedule A Agreement and is not covered by this Agreement, the provisions of the Schedule A Agreement shall prevail. Nothing contained in a Schedule A Agreement, working rule, by- law, constitution or other similar document of the Unions shall in any way affect, modify or add to this Agreement unless otherwise specifically set forth in this Agreement or mutually agreed to in a writing executed by the parties.

18.2 The parties agree that this Agreement covers all matters affecting wages, hours, and other terms and conditions of employment and that during the term of this Agreement the parties will not be required to negotiate on any further matters affecting these or any other subjects not specifically set forth in this Agreement except by mutual agreement of the parties.

18.3 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages and when bound together all necessary signatures shall constitute an original. Facsimile and PDF signature pages transmitted to the other parties to this Agreement shall be deemed the equivalent to original signatures.

ARTICLE 19

TERM

19.1 The Agreement shall be included as a condition of the award of the Construction Contracts.

19.2 The Agreement shall be effective as of January 1, 2016 (“Effective Date”).

19.3 The Agreement shall continue in full force and effect for a term of three years from the Effective Date and shall be applicable to all Projects bid during the term until completion.

ARTICLE 20

COMPLIANCE

20.1 It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of this agreement contained in Article 15. Nothing in this

agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project. The City shall monitor compliance with the prevailing wage requirements of the state, and the Contractors/Employers' compliance with this Agreement.

20.2 DRUG & ALCOHOL TESTING:

20.2.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

20.2.2 Drug and alcohol testing shall be conducted in accordance with the Substance Abuse Prevention Policies set forth in each applicable Schedule A.

City of San Leandro

By:_____ Date:_____

Alameda County Building & Construction Trades Council, AFL-CIO

By:_____ Date:_____

Signatory Unions

Asbestos Workers, Local 16 Boilermakers, Local 549

By:_____ By: _____

Bricklayers & Allied Craftsmen, Local 3 Cement Masons, Local 300

By:_____ By: _____

Electrical Workers, Local 595 Elevator Constructors, Local 8

By:_____ By: _____

Hod Carriers, Local 166 Iron Workers, Local 378

By:_____ By: _____

Laborers, Local 67 Laborers, Local 304

By:_____ By: _____

Operating Engineers, Local 3 Plasterers, Local 66

By:_____ By: _____

Roofers, Local 81 Sheet Metal Workers, Local 104

By:_____ By: _____

Sign Display, Local 510 Sprinkler Fitters, Local 483

By:_____ By: _____

Teamsters, Local 853 United Association of Journeymen and Apprentices Fitting Industry, Underground Utility & Landscape, Local 355

By:_____ By: _____

United Association of Steamfitters, Plumbers, & Gas Fitters, Local 342

By: _____ By:_____

Council No. 16 Northern California

Painters & Allied Trades (On behalf of Painters, Local 3; Carpet & Linoleum Layers, Local 12; Glass Workers, Local 169; Auto& Marine Painters, Local 1176)

By: _____

Northern California Carpenters Regional Council (on behalf of Carpenters, Local 713; Carpenters, Local 2236; Lathers, Local 68L; Millwrights, Local 102; Pile Drivers, Local 34)

By: _____

EXHIBIT A

City of San Leandro Community Workforce Agreement

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor ("Contractor") on a City Project (“Project”), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the Project’s Community Workforce Agreement ("Agreement"), a copy of which was received and is acknowledged, hereby:

1. Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made to said Agreement.

2. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement;

3. Agrees to secure from any Contractor (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, and from any successors, a duly executed Agreement to be bound in form identical to this document.

4. Contractor agrees that it shall be bound by all applicable trust agreements and plans for the provision of such fringe benefits as accrue to the direct benefit of the construction persons, including Health and Welfare, Pension, Training, Vacation, and/or other direct benefits provided pursuant to the appropriate craft’s Schedule "A" Agreement as set forth in Article 15, as they may from time to time be amended, specifying the detailed basis upon which contributions are to be made into, and benefits made out of, such trust funds, and ratifies and accepts the trustees appointed by the parties to such trust funds. The undersigned party agrees to execute a separate Subscription Agreement(s) when such Trust Fund(s) requires such document(s).

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

Date: _____

Company Name: _____

Name of Prime Contractor or Higher Level Subcontractor:

_____

Name of Project: _____

Signature:_____

Print Name: _____

Title: _____

Contractor’s License # or Motor Carrier (CA) Permit Number: _____

Attachment "F"

Insurance

NSURANCE REQUIREMENTS. Before fully executing this Agreement, Consultant, at its own cost and expense, unless otherwise specified below, shall procure the types and amounts of insurance listed below against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Consultant and its agents, representatives, employees, and subcontractors. Consistent with the following provisions, Consultant shall provide proof satisfactory to City of such insurance that meets the requirements of this section and under forms of insurance satisfactory in all respects, and that such insurance is in effect prior to beginning work. Consultant shall maintain the insurance policies required by this section throughout the term of this Agreement. The cost of such insurance shall be included in the Consultant's bid or proposal. Consultant shall not allow any subcontractor to commence work on any subcontract until Consultant has obtained all insurance required herein for the subcontractor(s) and provided evidence to City that such insurance is in effect. VERIFICATION OF THE REQUIRED INSURANCE SHALL BE SUBMITTED AND MADE PART OF THIS AGREEMENT PRIOR TO EXECUTION. Consultant shall maintain all required insurance listed herein for the duration of this Agreement.

1. Workers' Compensation.

1.1. General Requirements. Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant. The Statutory Workers' Compensation Insurance and Employer's Liability Insurance shall be provided with limits of not less than $1,000,000 per accident. In the alternative, Consultant may rely on a self-insurance program to meet these requirements, but only if the program of self-insurance complies fully with the provisions of the California Labor Code. Determination of whether a self-insurance program meets the standards of the California Labor Code shall be solely in the discretion of the Contract Administrator.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the entity for all work performed by the Consultant, its employees, agents, and subcontractors.

1.2 Submittal Requirements. To comply with Subsection 4.1, Consultant shall submit the following:

a. Certificate of Liability Insurance in the amounts specified in the section; and

b. Waiver of Subrogation Endorsement as required by the section.

2. Commercial General and Automobile Liability Insurance.

2.1 General Requirements. Consultant, at its own cost and expense, shall maintain commercial general liability insurance for the term of this Agreement in an amount not less than $5,000,000 and automobile liability insurance for the term of this Agreement in an amount not less than $5,000,000 per occurrence, combined single limit coverage for risks associated with the work contemplated by this

Agreement. An umbrella policy in the amount of an additional $5,000,000 will supplement the policy coverage limits If a Commercial General Liability Insurance or an Automobile Liability form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Agreement, including the use of owned and non-owned automobiles.

2.2 Minimum Scope of Coverage. Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 (most recent edition) covering comprehensive General Liability on an "occurrence" basis. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001, Code 1 (any auto). No endorsement shall be attached limiting the coverage.

2.3 Additional Requirements. Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. The Insurance shall cover on an occurrence or an accident basis, and not on a claims-made basis.

b. City, its officers, officials, employees, and volunteers are to be covered asadditional insureds as respects: liability arising out of work or operations performed by or on behalf of the Consultant; or automobiles owned, leased, hired, or borrowed by the Consultant.

c. Consultant hereby agrees to waive subrogation which any insurer or contractor may require from vendor by virtue of the payment of any loss. Consultant agrees to obtain any endorsements that may be necessary to effect this waiver of subrogation.

d. For any claims related to this Agreement or the work hereunder, the Consultant's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

2.4 Submittal Requirements. To comply with Subsection 4.2, Consultant shall submit the following:

a. Certificate of Liability Insurance in the amounts specified in thesection;

b. Additional Insured Endorsement as required by the section;

c. Waiver of Subrogation Endorsement as required by the section; and

d. Primary Insurance Endorsement as required by the section.

3. Professional Liability Insurance.

3.1 General Requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals performing work pursuant to this Agreement in an amount not less than $1,000,000 covering the licensed professionals' errors and omissions. Any deductible or self-insured retention shall not exceed $150,000 per claim.

3.2 Claims-Made Limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form:

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained and evidence of insurance must be provided for at least 5 years after completion of the Agreement or the work, so long as commercially available at reasonable rates.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant shall purchase an extended period coverage for a minimum of 5 years after completion of work under this Agreement.

d. A copy of the claim reporting requirements must be submitted to the City for review prior to the commencement of any work under this Agreement.

3.3 Additional Requirements. A certified endorsement to include contractual liability shall be included in the policy.

3.4 Submittal Requirements. To comply with Subsection 4.3, Consultant shall submit the Certificate of Liability Insurance in the amounts specified in the section.

4. Builders' Risk Insurance.

4.1 General Requirements. Contractor will cause to be taken out and maintain in the name of the City and the Contractor until final completion and acceptance of the project: All Risk Builder's Risk Insurance, including but not limited to coverage against

loss or damage to the project by fire and lightening, extended coverage, vandalism,malicious mischief, flood, earthquake, and collapse; said extended coverage shall cover loss or damage by explosion, windstorm, riot, aircraft, vehicle damage, smoke, and other such hazards as are normally covered by such coverage. Such insurance (except the earthquakeand flood coverage in the event that they are not fully or reasonably available) shall be in an amount equal to the replacement cost (without deduction for depreciation and subject to stipulated value in lieu of average clause) of all structures constituting any part of the work,excluding the cost of excavations, of grading, and of filling of the land, and except that suchinsurance (except earthquake and flood insurance) may be subject to deductible clauses notto exceed $10,000 for any one loss. Earthquake and flood insurance may be subject to deductible clauses not to exceed five percent (5%) of such replacement cost for any one loss. Such insurance will not cover loss or damage to the Contractor's equipment, scaffolding, or other materials not to be consumed in the construction of the project. The Contractor shall obtain from the insurer a waiver of subrogation endorsement for losses caused by fire or other perils to the extent covered by this insurance. Contractor shall pay any extra premium required therefore.

5. Environmental Insurance.

5.1 General Requirements. Contractor shall purchase and maintain liability insurancewith coverage, as further specified below, for losses arising from or in any way related to pollution conditions, both sudden and non-sudden (gradual), which arise from or in connection with the Contractor's transportation services and any disposal facilities used in connection with the underlying Agreement. The required insurance coverage shall be endorsed to cover Non-Owned Disposal Sites. The Contractor's insurance shall include:

A. Contractors Pollution Liability - limit $3,000,000 per loss and $6,000,000 in the aggregate,
B. Environmental Transportation Liability insurance; provided, however, if the Contractor does not maintain a separate policy evidencing pollution liability coverage in relation to the Contractor's transportation services, then the Contractor's CPL insurance policy must be endorsed so as to satisfy the minimum scope of coverage related to the Contractor's transportation services with limit $3,000,000 per loss and $6,000,000 in the aggregate

6. All Policies Requirements.

6.1 Acceptability of Insurers. All insurance required by this section is to be placed with insurers with a Bests' rating of no less than A:VII.

6.2 Verification of Coverage. Prior to beginning any work under this Agreement, Consultant shall furnish City with complete copies of all Certificates of Liability Insurance delivered to Consultant by the insurer, including complete copies of allendorsements attached to the policies. All copies of Certificates of Liability Insurance and certified endorsements shall show the signature of a person authorized by that insurer to bind coverage on its behalf. If the City does not receive the required insurance documents prior to the Consultant beginning work,

it shall not waive the Consultant's obligation to provide them. The City reserves theright to require complete copies of all required insurance policies at any time.

Deductibles and Self-Insured Retentions. Consultant shall provide a financial guarantee letter satisfactory tothe City guaranteeing payment of retentions and deductibles.

6.3 Wasting Policies. No policy required by this Section 4 shall include a "wasting" policy limit (i.e. limit that is eroded by the cost of defense) except for ProfessionalLiability.

6.4 Endorsement Requirements. Each insurance policy required by Section 4 shall be endorsed to state that coverage shall not be canceled by either party, except after 30days' prior written notice has been provided to the City.

6.5 Subcontractors. Consultant shall include all subcontractors as insureds under itspolicies or shall furnish separate certificates and certified endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

7. Submittal of Proof of Insurance Coverage. All certificates of insurance and original endorsements effecting coverage required in this Section 4 must be electronically submittedthrough the City's online insurance document management program, PINS Advantage. Contractor shall comply with all requirements provided by City related to the PINS Advantage program.

8. Remedies. In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time hereinrequired, City may, at its sole option exercise any of the following remedies, which are alternatives to other remedies City may have and are not the exclusive remedy for Consultant's breach:

- Obtain such insurance and deduct and retain the amount of the premiums for suchinsurance from any sums due under the Agreement;
- Order Consultant to stop work under this Agreement or withhold any payment that becomes due to Consultant hereunder, or both stop work and withhold any payment,until Consultant demonstrates compliance with the requirements hereof; and/or
- Terminate this Agreement.

CITY OF SAN LEANDRO
ENERGY & IAQ INFRASTRUCTURE NEEDS -PHASE III
DETAILED ASSESSMENT

11/2/2021

	HEATING, VENTILATION, & AIR CONDITIONING & INDOOR AIR QUALITY (IAQ)				BUILDING AUTOMATION SYSTEM (BAS)				LIGHTING		POOL	SMART CITY TECHNOLOGY
	New High Efficiency HVAC Units w/ Economizers & MERV-13	New High Efficiency Chillers & Pumps	New Air Handling Units (AHU) with MERV-13 Filters	Refurbish Duct Heaters & FCUs including MERV-13 Filters	New BAS	Integrate Economizer Control into Existing BAS	Recommission Existing BAS	Repair Problematic Lighting Control	Interior LED Lighting Modernization	Exterior LED Lighting Modernization	New High Efficiency VFD & Smart Pump Control System	Upgrade & Expand Paradox Controls
Citywide												✓
City Hall	4	3	1	12		✓	✓		✓	✓		
Fire Station #9	1				✓	✓			✓	✓		
Fire Station #10	3					✓	✓		✓			
Fire Station #11	3					✓	✓		✓	✓		
Fire Station #12	5				✓	✓			✓			
Fire Station #13	1				✓	✓			✓	✓		
History Museum	3					✓	✓					
Main (Community) Library	2					✓	✓	✓	✓			
Manor Branch Library	2					✓	✓		✓	✓		
Marina Community Library									✓			
Public Safety (Police)	1	3	4			✓	✓		✓	✓		
Public Works	4				✓	✓			✓	✓		
San Leandro Aquatic Center	4					✓	✓		✓	✓	✓	
Senior Community Center									✓	✓		
South Branch Library	1					✓			✓			

CLIMATEC

CITY OF SAN LEANDRO
PROGRAM SUMMARY – PHASE III
DETAILED ASSESSMENT

11/2/2021

Heating, Ventilation, & Air Conditioning (HVAC) & Indoor Air Quality (IAQ)

- New Packaged/Split System HVAC Systems with Economizers & MERV 13 Filters at 13 Sites
- New Air Handling Units at City Hall and Public Safety Buildings
- New Central Plant Chillers and Pumps at City Hall & Public Safety Buildings
- Refurbish Duct Heaters/ FCUs at City Hall
- New MERV 17 Portable Air Filtration Systems in Spaces with Limited Fresh Air

Building Automation System (BAS)

- New JCI BAS at 4 Sites
- Recommission Existing Metasys BAS at 8 Sites
  - Verify Sequence of Operations – Heating, Cooling, Economizer
  - Verify Proper Operation of Control Valves and Existing Economizers
- Repair Problematic Lighting Control Panel at Main Library

LED Lighting

- Interior LED Lighting Modernization at 14 Sites
- Exterior LED Lighting Modernization at 9 Sites

Pool Pump VFD & Controls

- New Pool Pump VFD at San Leandro Aquatic Center

Street Lighting Controls

- Upgrade & Expand Paradox Controls
  - New Gateways & Nodes on Existing LED Fixtures (995)
  - Integrate New Nodes & Gateways into Existing Paradox CMS
  - Upgrade Existing Paradox System to Neptune Generation

Turnkey Infrastructure Improvements Budget $4,994,884

Funding Sources:

ECAA 1% Funding $1,284,140

City Capital ..... $ 395,828

American Rescue Plan (ARP) $3,314,916

City of San Leandro

Meeting Date: December 13, 2021

Resolution - Council

File Number: 21-702 **Agenda Section:** PUBLIC HEARINGS

Agenda Number:

TO: City Council

FROM: Fran Robustelli
City Manager

BY: Debbie Pollart
Public Works Director

FINANCE REVIEW: Susan Hsieh
Finance Director

TITLE: RESOLUTION of the City of San Leandro City Council to Approve an Installation Agreement with Climatec, LLC for Design and Construction of Energy-Efficiency and Resiliency Projects at Various City Locations for a Total Cost of $4,994,884; Appropriation of $395,828 from Account 210-18-149-5242 (Building Maintenance Fund); and Appropriation of $3,314,916 from American Rescue Plan Act (ARPA) Account 190-17-815-5240

WHEREAS, the City of San Leandro, through implementation of its Climate Action Plan (CAP) and other agency practices and programs, is committed to environmental and financial stewardship of limited resources; and

WHEREAS, through a competitive process, Climatec, LLC was chosen to perform an audit of the City's municipal energy/water usage and to develop a comprehensive list of energy/water saving projects that could be constructed/implemented with zero upfront financial commitments on the part of the City; and

WHEREAS, California Government Code Sections 4217.10 to 4217.18 authorize the City Council to enter into an Installation Agreement with Climatec, LLC if the City Council finds that it is in the best interest of the City to enter into such Agreements; and

WHEREAS, the cost to the City for the Installation Agreement by and between the City and Climatec, LLC for the implementation of certain energy conservation measures will be less than the anticipated marginal cost to the City of thermal, electrical, or other energy that would have been consumed by the City in the absence of the improvements under both of these Agreements; and

WHEREAS, those City street lights that previously did not have Smart nodes attached will be upgraded to include the Smart nodes and the entire software system encompassing all City street lights will be upgraded, improving opportunities for the use of future Smart technologies; and

WHEREAS, the City received the first tranche of American Rescue Plan Act (ARPA) funds in May 2021, with the second tranche anticipated in May 2022 for a total of approximately $19 million dollars, and for which the City Council has previously provided staff direction in how to allocate ARPA funds; and

WHEREAS, the proposed Heating Ventilation Air Conditioning (HVAC) replacements, including the upgrade to MERV-13 filters, that are recommended to help fight the spread of COVID-19, meet the ARPA funding requirements and represent the largest portion of project funding at $3,314,916 (over two years); and

WHEREAS, the proposed funding source from the California Energy Commission (CEC), in the form of a 1% loan for $1,640,380 will be brought to Council for consideration at a future meeting; and

WHEREAS, implementation of the Climatec documents is contingent upon the City Council's approval of said funding option.

NOW, THEREFORE, the City of San Leandro City Council hereby RESOLVES as follows:

1. It is in the best interest of the City to enter into the Installation Agreement with Climatec, LLC for the implementation of certain energy, Smart node, and COVID-19 prevention improvements to City facilities; and

2. Under the Contract, the anticipated cost to the City for electrical energy services provided by the energy conservation facilities will be less than the anticipated marginal costs to the City for thermal, electrical, or other energy consumed by the City in the absence of those purchases. Therefore, the City Council hereby authorizes the City Manager to execute the Installation Agreement by and between the City and Climatec, LLC, subject to edits approved as to form by the City Attorney, for the implementation of certain energy, Smart node, and COVID-19 prevention improvements to City facilities in accordance with these findings and California Government Code Sections 4217.10 to 4217.18; and

3. The City Council approves appropriation of $3,314,916 in ARPA funds in account 190-17-815-5240; and

4. The balance of $395,828 will come from existing Fiscal Year 2021-22 appropriations for major building maintenance capital improvement funds allocated to account 210-18 -149-5240.