PERFORMANCE CONTRACT

This Performance Contract (this "Agreement") is made the 26th day of September 2017 between:

PARTIES

JOHNSON CONTROLS, INC. ("JCI"), a Wisconsin corporation
9630 Ridgehaven Court, Suite A
San Diego, CA 92123

and

City of Chula Vista ("Customer" or "City"), a California chartered municipal corporation
276 4th Avenue
Chula Vista, CA 91910

RECITALS

WHEREAS, on September 26, 2017, the City of Chula Vista at a regularly scheduled City Council meeting, held a Public Hearing to discuss entering into an Energy Services Performance Contract pursuant to California Public Resource Code 25008 and California Government Code Chapter 3.2. Energy Conservation Contracts, Section 4217.10-4217.18; and

WHEREAS, on July 10, 2017, the City of Chula Vista retained JCI with the Project Development Agreement for the Energy Services Performance Contract; and

WHEREAS, the City of Chula Vista is authorized and empowered pursuant to California Government Code Section 4217.10-4217.18 to retain JCI, and the Customer has complied with all requirements of said laws; and

WHEREAS, Customer desires to retain JCI to perform the work specified in Schedule 1 (Scope of Work) hereto (the "Work") relating to the installation of the improvement measures (the "Improvement Measures") described therein; and

WHEREAS, Customer selected JCI to perform the Work after determining JCI's proposal was the most advantageous to Customer in accordance with all applicable procurement and other Laws.

WHEREAS, on September 26, 2017 Customer held a regularly scheduled City Council meeting with a Public Hearing to discuss entering into this Agreement and the City Council made the following findings:

(1) that the anticipated cost to the Customer for electrical energy and conservation services provided by the energy conservation facility under this Agreement will be less than the anticipated cost to the Customer of electrical energy that would have been consumed by the Customer in the absence of those purchases; and
(2) the funds for the repayment of the financing cost of design, construction and operation of the energy conservation facilities are projected to be available from revenues resulting from funding that otherwise would have been used for the purchase of electrical energy required by the City of Chula Vista in the absence of the energy conservation facilities.

NOW, THEREFORE, in consideration of the mutual promises set forth herein, the parties agree as follows:

AGREEMENT

1. **SCOPE OF THE AGREEMENT.** JCI shall perform the Work set forth in Schedule 1. After the Work is Substantially Complete (as defined below) and the Certificate of Substantial Completion is executed by Customer and JCI, JCI shall provide the assured performance guarantee (the "Assured Performance Guarantee") and the measurement and verification services (the "M&V Services") set forth in Schedule 2 (Assured Performance Guarantee). Customer shall make payments to JCI for the Work and the M&V Services in accordance with Schedule 4 (Price and Payment Terms).

2. **AGREEMENT DOCUMENTS:** In addition to the terms and conditions of this Agreement, the following Schedules are incorporated into and shall be deemed an integral part of this Agreement:

   Schedule 1 – Scope of Work
   Schedule 2 – Assured Performance Guarantee
   Schedule 3 – Customer Responsibilities
   Schedule 4 – Price and Payment Terms
   Attachment 1 – Notice To Proceed
   Attachment 2 – Change Order
   Attachment 3 – Certificate of Substantial Completion, Certificate of Final Completion
   Attachment 4 – M&V Services Agreement
   Attachment 5 – Insurance Addendum

2a. NOTICES TO PROCEED: SUBSTANTIAL COMPLETION; M&V SERVICES. This Agreement shall become effective on the date of the last signature on the signature page below. JCI shall commence performance of the Work within ten (10) business days of receipt of Customer's Notice to Proceed, a form of which is attached hereto as Attachment 1, unless Customer provides the Notice to Proceed after February 1, 2018. In the event that Customer fails to execute and deliver the Notice to Proceed to JCI by February 1, 2018, (a) Customer shall give JCI notice as to when, Customer intends to execute the Notice to Proceed, (b) based on Customer's anticipated Notice to Proceed date, JCI will advise Customer as to any cost increases as a result of such delay, and (c) provided that Customer does not otherwise terminate the Agreement or alter the scope of Work as set forth below, JCI may adjust its pricing based on any changes in pricing by JCI's subcontractors or suppliers. In the event of price increases (as set forth in the previous sentences) or a failure by Customer to obtain the financing required by California Government Code Sections 4710 et seq., Customer may either decline to execute the Notice to Proceed, or work with JCI to establish an amended scope of Work. In the event that Customer declines to execute the Initial Notice to Proceed, the Project Development Agreement will remain in force and effect, and $45,200 shall be due and payable to JCI. Upon Customer's acceptance in writing of the final project designs, JCI shall develop and submit to Customer for Customer's approval a project completion schedule, which will include a Substantial Completion deadline mutually acceptable to both Customer and JCI.

For purposes of this Agreement, "Substantial Completion" means that JCI has provided sufficient materials and services to permit Customer to operate the Improvement Measures on a site-by-site basis. The M&V Services shall commence on the first day of the month following the month in which Customer executes a Certificate of Substantial Completion and shall continue throughout the M&V Term, subject to earlier termination of the Assured Performance Guarantee as provided herein. Customer acknowledges and agrees that if, for any reason, it (i) cancels or terminates receipt of M&V Services, (ii) fails to pay for M&V Services in accordance with Schedule 4, (iii) fails to fulfill any of Customer's responsibilities necessary to enable JCI to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Agreement, the Assured Performance Guarantee shall automatically terminate and JCI shall have no liability thereunder.

3. **DELAYS AND IMPACTS.** If JCI is delayed in the commencement, performance, or completion of the Work and/or M&V Services by causes beyond its control and without its fault, including but not limited to inability to access property; concealed or unknown conditions encountered at the project, differing from the conditions represented by Customer in the bid documents or otherwise disclosed by Customer to JCI prior to the commencement of the Work; a Force Majeure (as defined below) condition; failure by Customer to perform its obligations under this Agreement; or failure by Customer to cooperate with JCI in the timely completion of the Work, JCI shall provide written notice to Customer of the existence, extent of, and reason for such delays and impacts. Under such circumstances, an equitable adjustment in the time for performance, price and payment terms, and the Assured Performance Guarantee shall be made.

4. **ACCESS.** Customer shall provide JCI, its subcontractors, and its agents reasonable and safe access to all facilities and properties in Customer's control that are subject to the Work and M&V Services. Customer further agrees to assist JCI, its subcontractors, and its agents to gain access to facilities and properties that are not controlled by Customer but are necessary for JCI to complete the Work and provide the M&V Services. An equitable adjustment in the time for performance, price and payment terms, and Assured Performance Guarantee shall be made as a result of any failure to grant such access.

5. **PERMITS, TAXES, AND FEES.** Unless otherwise specified in Schedule 3 (Customer Responsibilities), JCI shall be responsible for obtaining all building permits required for it to perform the Work. Unless otherwise specified in Schedule 1 (Scope of Work), Customer shall be responsible for obtaining all other permits, licenses, approvals, permissions and certifications, including but not limited to, all zoning and land use changes or exceptions required for the provision of the Work or the ownership and use of the Improvement Measures. JCI shall not be obligated to provide any changes to or improvement of the facilities or any portion thereof required under any applicable building, fire, safety, sprinkler or other applicable code, standard, law, regulation, ordinance or other requirement unless the same expressly regulates the installation of the Improvement Measures. Without limiting the foregoing, JCI's obligations with respect to the Work is not intended to encompass any changes or improvements that relate to any compliance matters (whether known or unknown) that are not directly related to the installation of the Improvement Measures or which have been imposed or enforced because of the occasion or opportunity of review by any governmental authority. Customer shall be responsible for and shall pay when due all assessments, charges and sales, use, property, excise, or other taxes now or hereafter imposed by any governmental body or agency upon the provision of the Work or the M&V Services, implementation or presence of the Improvement Measures, the use of the Improvement Measures or payments due to JCI under this Agreement, other than taxes upon the net income of JCI. Customer shall also be responsible for real or personal property taxes relating to equipment or material included in the Improvement Measures. Any fees, taxes, or other lawful charges paid by JCI on account of Customer shall become immediately due from Customer to JCI.

6. **WARRANTY.** JCI will perform the Work in a professional, workman-like manner, in accordance with the industry standard of care. JCI will promptly re-perform any non-conforming Work for no charge, as long as Customer provides written notice to JCI within one (1) year following Substantial Completion or such other period identified in Schedule 1. If JCI installs or furnishes goods or equipment under this Agreement, and such goods or equipment are covered by an end-user warranty from their manufacturer, JCI will transfer the benefits of such warranty to Customer. The foregoing remedy with respect to the Work, together with any remedy provided by goods or equipment manufacturers, shall be Customer's sole and exclusive remedies for warranty claims. Customer agrees that the one (1) year period following Substantial Completion, or such other period identified in Schedule 1, shall be a reasonable time for purposes of submitting valid warranty claims with respect to the Work. These exclusive remedies shall not have failed of their essential purpose so long as JCI transfers the benefits of any goods or equipment end-user warranty to Customer and remains willing to re-perform any non-conforming Work for no charge within the one (1) year period described above or such other period identified in Schedule 1. NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING IMPLIED

WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE PROVIDED BY JCI. This warranty does not extend to any Work that has been abused, altered, or misused, or repaired by Customer or third parties without the supervision or prior written approval of JCI. Except with respect to goods or equipment manufactured by JCI and furnished to Customer hereunder, for which JCI shall provide its express written manufacturer's warranty, JCI shall not be considered a merchant or vendor of goods or equipment.

7. CLEANUP. JCI shall keep the premises and the surrounding area free from accumulation of waste materials or rubbish caused by the Work and, upon completion of the Work, JCI shall remove all waste materials, rubbish, tools, construction equipment, machinery, and surplus materials.

8. SAFETY; COMPLIANCE WITH LAWS. JCI shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Work and M&V Services. Each of JCI and Customer shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities (collectively, "Laws") in connection with its performance hereunder.

9. ASBESTOS-CONTAINING MATERIALS AND OTHER HAZARDOUS MATERIALS.

Asbestos-Containing Materials: Neither party desires to or is licensed to undertake direct obligations relating to the identification, abatement, cleanup, control, removal or disposal of asbestos-containing materials ("ACM"). Consistent with applicable Laws, Customer shall supply JCI with any information in its possession relating to the presence of ACM in areas where JCI undertakes any Work or M&V Services that may result in the disturbance of ACM. It is JCI's policy to seek certification for facilities constructed prior to 1982 that no ACM is present, and Customer shall provide such certification for buildings it owns, or aid JCI in obtaining such certification from facility owners in the case of buildings that Customer does not own, if JCI will undertake Work or M&V Services in the facility that could disturb ACM. If either Customer or JCI becomes aware of or suspects the presence of ACM that may be disturbed by JCI's Work or M&V Services, it shall promptly stop the Work or M&V Services in the affected area and notify the other. As between Customer and JCI, Customer shall be responsible at its sole expense for addressing the potential for or the presence of ACM in conformance with all applicable Laws and addressing the impact of its disturbance before JCI continues with its Work or M&V Services, unless JCI had actual knowledge that ACM was present and acted with intentional disregard of that knowledge, in which case (i) JCI shall be responsible at is sole expense for (a) remediating areas impacted by the disturbance of the ACM, (b) having procured and maintained the insurance coverage identified in on page 1., section 7., of the Insurance Addendum attached to this Agreement as Attachment 5; and (ii) Customer shall resume its responsibilities for the ACM after JCI's remediation has been completed.

Other Hazardous Materials: JCI shall be responsible for removing or disposing of any Hazardous Materials (as defined below) that it uses in providing Work or M&V Services ("JCI Hazardous Materials") and for the remediation of any areas impacted by the release of JCI Hazardous Materials. For other Hazardous Materials that may be otherwise present at Customer's facilities ("Non-JCI Hazardous Materials"), Customer shall supply JCI with any information in its possession relating to the presence of such materials if their presence may affect JCI's performance of the Work or M&V Services. If either Customer or JCI becomes aware of or suspects the presence of Non-JCI Hazardous Materials that may interfere with JCI's Work or M&V Services, it shall promptly stop the Work or M&V Services in the affected area and notify the other. As between Customer and JCI, Customer shall be responsible at its sole expense for removing and disposing of Non-JCI Hazardous Materials from its facilities and the remediation of any areas impacted by the release of Non-JCI Hazardous Materials, unless JCI had actual knowledge that Non-JCI Hazardous Materials were present and acted with intentional disregard of that knowledge, in which case (i) JCI shall be responsible at its sole expense for (a) remediating any areas impacted by its release of such Non-JCI Hazardous Materials and (b) having procured and maintained the insurance coverage identified in on page 1., section 7., of the Insurance Addendum

attached to this Agreement as Attachment 5; and (ii) Customer shall remain responsible at its sole expense for the removal of Non-JCI Hazardous Materials that have not been released and for releases not resulting from JCI's performance of the Work or M&V Services. For purposes of this Agreement, "Hazardous Materials" means any material or substance that, whether by its nature or use, is now or hereafter defined or regulated as a hazardous waste, hazardous substance, pollutant or contaminant under applicable Law relating to or addressing public or employee health and safety and protection of the environment, or which is toxic, explosive, corrosive, flammable, radioactive, carcinogenic, mutagenic or otherwise hazardous or which is or contains petroleum, gasoline, diesel, fuel, another petroleum hydrocarbon product, or polychlorinated biphenyls. "Hazardous Materials" specifically includes mold and lead-based paint and specifically excludes ACM. JCI shall have no obligations relating to the identification, abatement, cleanup, control, removal, or disposal of mold, regardless of the cause of the mold.

10. CHANGE ORDERS. The parties, without invalidating this Agreement, may request changes in the Work to be performed under this Agreement, consisting of additions, deletions, or other revisions to the Work ("Change Orders"). The price and payment terms, time for performance and, if necessary, the Assured Performance Guarantee, shall be equitably adjusted in accordance with the Change Order. Such adjustments shall be determined by mutual agreement of the parties. Customer and JCI shall explore and consider value engineering options when evaluating change orders involving additional costs. JCI may delay performance until adjustments arising out of the Change Order are clarified and agreed upon in writing. Any Change Order must be signed by an authorized representative of each party.

The Authorized Representative for the Customer, shall be the Director of Finance/Treasure, who will have the authority to approve any Change Order below $25,000. Any Change Order, resulting in an amount over $25,000, shall be valid only on the approval of the City Council.

If concealed or unknown conditions are encountered at the project, differing from the conditions represented by Customer in the bid documents or otherwise disclosed by Customer to JCI prior to the commencement of the Work, price and payment terms, time for performance and, if necessary, the Assured Performance Guarantee, shall be equitably adjusted. Claims for equitable adjustment may be asserted in writing within a reasonable time from the date a party becomes aware of a change to the Work by written notification. Failure to promptly assert a request for equitable adjustment, however, shall not constitute a waiver of any rights to seek any equitable adjustment with respect to such change.

11. CUSTOMER FINANCING; TREATMENT; TAXES. The parties acknowledge and agree that JCI is not making any representation or warranty to Customer with respect to matters not expressly addressed in this Agreement, including, but not limited to:

(a) Customer's ability to obtain or make payments on any financing associated with paying for the Improvement Measures, related services, or otherwise;
(b) Customer's proper legal, tax, accounting, or credit rating agency treatment relating to this Agreement; and
(c) the necessity of Customer to raise taxes or seek additional funding for any purpose.

Customer is solely responsible for its obligations and determinations with respect to the foregoing matters. In addition, the parties acknowledge and agree that Customer shall be responsible to comply, at its cost and expense, with all Laws that may be applicable to it relating to performance contracting, including, without limitation, any requirements relating to the procurement of goods and/or services and any legal, accounting, or engineering opinions or reviews required or obtained in connection with this Agreement.

12. INSURANCE. JCI shall maintain insurance as required by Attachment 5, and shall provide a certificate evidencing such coverage promptly following Customer's request therefor.

13. **INDEMNIFICATION.** To the maximum extent allowed by law, JCI shall defend, indemnify, protect and hold harmless Customer, its elected and appointed officers, agents and employees, from and against any and all claims, demands, causes of action, costs, expenses, including reasonable attorneys' fees and actual costs, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of or incident to any alleged acts, omissions, negligence, or willful misconduct of JCI, its officials, officers, employees, agents, or contractors, arising out of or in connection with this Agreement or JCI's performance pursuant to this Agreement. This indemnity provision does not include any claims, damages, liability, costs, or expenses arising from the sole negligence or sole willful misconduct of Customer, or its officers, or employees. Also covered is liability arising from, connected with, caused by, or claimed to be caused by, the active or passive negligent acts or omissions of Customer, its agents, officers, or employees, which may be in combination with the active or passive negligent acts or omissions of JCI, its employees, agents, or officers, or any third party.

14. **LIMITATION OF LIABILITY.** NEITHER JCI NOR CUSTOMER WILL BE RESPONSIBLE TO THE OTHER FOR ANY SPECIAL, INDIRECT, CONSEQUENTIAL, REMOTE, PUNITIVE, EXEMPLARY, LOSS OF PROFITS OR REVENUE, LOSS OF USE, OR SIMILAR DAMAGES, REGARDLESS OF HOW CHARACTERIZED AND REGARDLESS OF A PARTY HAVING BEEN ADVISED OF THE POSSIBILITY OF SUCH POTENTIAL LOSSES OR RELIEF, ARISING IN ANY MANNER FROM THIS AGREEMENT, THE WORK, THE IMPROVEMENT MEASURES, THE PREMISES, THE M&V SERVICES, OR OTHERWISE. WITHOUT LIMITING JCI'S EXPRESS OBLIGATIONS UNDER THE ASSURED PERFORMANCE GUARANTEE, JCI'S LIABILITY UNDER THIS AGREEMENT, REGARDLESS OF THE FORM OF ACTION, SHALL IN NO EVENT EXCEED $25,000,000.00 (TWENTY-FIVE MILLION DOLLARS). If this Agreement covers fire safety or security equipment, Customer understands that JCI is not an insurer regarding those services, and that JCI shall not be responsible for any damage or loss that may result from fire safety or security equipment that fails to prevent a casualty loss. The foregoing waivers and limitations are fundamental elements of the basis for this Agreement between JCI and Customer, and each party acknowledges that JCI would not be able to provide the work and services contemplated by this Agreement on an economic basis in the absence of such waivers and limitations, and would not have entered into this Agreement without such waivers and limitations.

15. **FORCE MAJEURE.** Neither party will be responsible to the other for damages, loss, injury, or delay caused by conditions that are beyond the reasonable control, and without the intentional misconduct or negligence of that party. Such conditions (each, a "Force Majeure") include, but are not limited to: acts of God; acts of government agencies; strikes; labor disputes; fires; explosions or other casualties; thefts; vandalism; riots or war; acts of terrorism; electrical power outages; interruptions or degradations in telecommunications, computer, or electronic communications systems; changes in Laws; or unavailability of parts, materials or supplies matters related to environmental review including CEQA Certification, CEQA challenges and litigation related to environmental review/CEQA.

16. **JCI'S PROPERTY.** All materials furnished or used by JCI personnel and/or JCI subcontractors or agents at the installation site, including documentation, schematics, test equipment, software and associated media remain the exclusive property of JCI or such other third party. Customer agrees not

to use such materials for any purpose at any time without the express authorization of JCI. Customer agrees to allow JCI personnel and/or JCI subcontractors or agents to retrieve and to remove all such materials remaining after installation or maintenance operations have been completed. Customer acknowledges that any software furnished in connection with the Work and/or M&V Services is proprietary and subject to the provisions of any software license agreement associated with such software. Notwithstanding the aforementioned, the Customer shall have full use of the Plans, Specification and/or As-Built Drawings for future planning, maintenance activities, clarifications or any other uses in its day to day operational activities.

17. **DISPUTES.** JCI and Customer will attempt to settle any controversy, dispute, difference, or claim between them concerning the performance, enforcement, or interpretation of this Agreement (collectively, "Dispute") through direct discussion in good faith, but if unsuccessful, will submit any Dispute to non-binding mediation in the nearest major metropolitan area of the state where the project is performed. If the parties are unable to agree on a mediator or a date for mediation, either party may request JAMS, Inc. to appoint a mediator and designate the time and procedure for mediation. Such mediator shall be knowledgeable, to each party's reasonable satisfaction, with respect to matters concerning construction law. Neither JCI nor Customer will file a lawsuit against the other until not less than sixty (60) days after the mediation referred to herein has occurred, unless one or both parties is genuinely and reasonably concerned that any applicable statute of limitations is on the verge of expiring.

18. **GOVERNING LAW.** This Agreement and the construction and enforceability thereof shall be interpreted in accordance with the laws of the state where the Work is conducted.

19. **CONSENTS; APPROVALS; COOPERATION**. Whenever Customer's consent, approval, satisfaction or determination shall be required or permitted under this Agreement, and this Agreement does not expressly state that Customer may act in its sole discretion, such consent, approval, satisfaction or determination shall not be unreasonably withheld, qualified, conditioned or delayed, whether or not such a "reasonableness" standard is expressly stated in this Agreement. Whenever Customer's cooperation is required by JCI in order to carry out JCI's obligations hereunder, Customer agrees that it shall act in good faith and reasonably in so cooperating with JCI and/or JCI's designated representatives or assignees or subcontractors. Customer shall furnish decisions, information, and approvals required by this Agreement in a timely manner so as not to delay the performance of the Work or M&V Services.

20. **FURTHER ASSURANCES.** The parties shall execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Agreement.

21. **INDEPENDENT CONTRACTOR.** The relationship of the parties hereunder shall be that of independent contractors. Nothing in this Agreement shall be deemed to create a partnership, joint venture, fiduciary, or similar relationship between the parties.

22. **POWER AND AUTHORITY.** Each party represents and warrants to the other that (i) it has all requisite power and authority to execute and deliver this Agreement and perform its obligations hereunder, (ii) all corporate, board, body politic, or other approvals necessary for its execution, delivery, and performance of this Agreement have been or will be obtained, and (iii) this Agreement constitutes its legal, valid, and binding obligation.

23. **SEVERABILITY.** In the event that any clause, provision, or portion of this Agreement or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not affect the validity or enforceability of the remaining portions of this Agreement unless the result would be manifestly inequitable or materially impair the benefits intended to inure to either party under this Agreement.

24. **COMPLETE AGREEMENT.** It is understood and agreed that this Agreement contains the entire agreement between the parties relating to all issues involving the subject matter of this Agreement. No binding understandings, statements, promises or inducements contrary to this Agreement exist. This Agreement supersedes and cancels all previous agreements, negotiations, communications, commitments and understandings with respect to the subject matter hereof, whether made orally or in writing. Each of the parties to this Agreement expressly warrants and represents to the other that no promise or agreement which is not herein expressed has been made to the other, and that neither party is relying upon any statement or representation of the other that is not expressly set forth in this Agreement. Each party hereto is relying exclusively on the terms of this Agreement, its own judgment, and the advice of its own legal counsel and/or other advisors in entering into this Agreement. Customer acknowledges and agrees that any purchase order issued by Customer associated with this Agreement is intended only to establish payment authority for Customer's internal accounting purposes. No purchase order shall be considered a counteroffer, amendment, modification, or other revision to the terms of this Agreement.

25. **HEADINGS.** The captions and titles in this Agreement are for convenience only and shall not affect the interpretation or meaning of this Agreement.

26. **COUNTERPARTS.** This Agreement may be executed in any number of counterparts, all of which when taken together shall constitute one single agreement between the parties.

27. **NOTICES.** All notices or communications related to this Agreement shall be in writing and shall be deemed served if and when sent by facsimile or mailed by certified or registered mail: to Johnson Controls, Inc. at the address listed on the first page of this Agreement, ATTN: Regional Solutions Manager, with a copy to Johnson Controls, Inc., ATTN: General Counsel – Building Efficiency Americas, 507 East Michigan Street, Milwaukee, Wisconsin, 53202: and to Customer at the address listed on the first page of this Agreement, to the attention of: Director of Finance.

28. **ADMINISTRATIVE CLAIMS REQUIREMENTS AND PROCEDURES.** No suit, arbitration, or mediation, shall be brought arising out of this Agreement against Customer, unless a claim has first been presented in writing and filed with the City and acted upon by City in accordance with the procedures set forth in Chapter 1.34 of the Chula Vista Municipal Code, as same may from time-to-time be amended, the provisions of which are incorporated by this reference as if fully set forth herein, and such policies and procedures used by City in implementation of same.

[SIGNATURES BEGIN ON FOLLOWING PAGE]

JOHNSON CONTROLS, INC.

Signature:_____

Printed Name: Mark Martinez
Title: Regional General Manager, Energy Solutions

Date:_____

CITY OF CHULA VISTA

By: _____

Mary Casillas Salas, Mayor

Attest:

_____

Kerry Bigelow, Acting City Clerk

Approved as to form:

_____

Glen R. Googins, City Attorney

SCHEDULE 1 – SCOPE OF WORK
Improvement Measures

Scope of Work General

Johnson Controls will provide the City of Chula Vista with approximately 2,434 kW (nominal DC rating) of solar PV capacity. The solar PV will be generated through a combination of systems including carports and roof mounted arrays located at 12 sites. Three (3) of the sites will also receive battery Energy Storage Systems (ESS) to further enhance the savings benefits of the project by reducing billed power demand charges. The scope of work is further defined herein.

Customer acknowledges that the design of the Scope of Work is still evolving, and that the Assured Performance Guarantee may change and is subject to revisions depending on, but not limited to, the locations of equipment on the sites and/or another site if required for any reason, including the ability of the existing structure to support the arrays, such as solar arrays, energy storage systems, and point of interconnection based upon the final engineering and design. The Customer shall participate in any modifications by providing timely feedback, direction, and ultimately final approvals. If any items of the Scope of Work are determined to be removed after the final design is complete, JCI may make the necessary amendments to the Agreement via a Change Order, and based upon the Schedule of Values per site. Customer's final approval of the plans shall not be unreasonably withheld. The Customer also agrees that during the final engineering phase, JCI may need to remove certain items and/or scope, to accommodate the price of the Work and the financial criteria of the project. Notwithstanding, the price of the Work shall not exceed Total Price for the Work (as set forth in Section 1 of Schedule 4 below), unless the Customer approves and elects to contribute additional funds, and the overall project must still meet the financial metric of being self-funding from energy and/or operational cost savings on a cash flow basis within the finance term.

Table 1: Scope of Work of Facility Improvement Measures (FIMs)

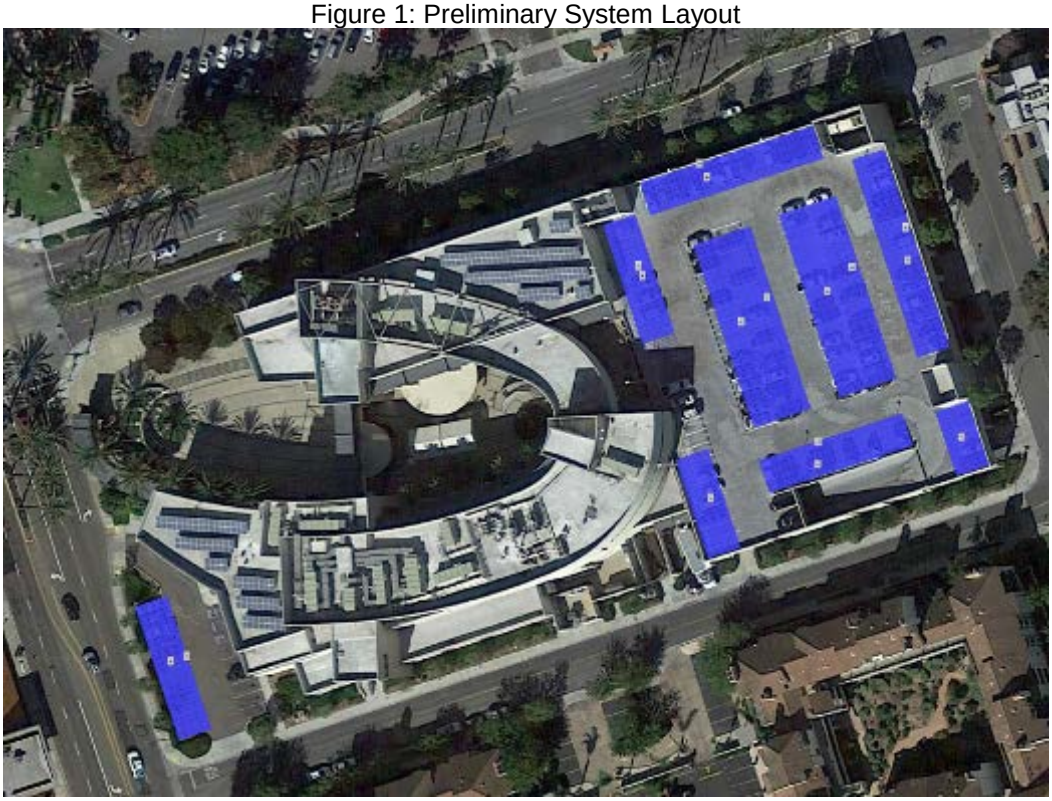
FIM NUMBER	FIM
S-1	Police Station PV System with Energy Storage
S-2	Civic Center PV System
S-3	Main Library PV System
S-4	Public Works Facility PV System with Energy Storage
S-5	South Library PV System
S-6	Loma Verde Aquatic Center PV System
S-7	Parkway Aquatic Center PV System
S-8	Montevalle Rec Center PV System with Energy Storage
S-9	Boys & Girls Club PV System
S-10	Mount San Miguel Park PV System
S-11	Animal Care PV System
S-12	Salt Creek Recreation Center PV System
F-1	Feasibility Study

FIM S-1 Police Station PV System with Energy Storage

This measure includes the installation of a photovoltaic (PV) system and energy storage system. The PV system will generate electricity through the conversion of solar energy. The energy storage system will generate cost savings by storing electricity during low cost and/or low site-demand periods and discharging electricity to mitigate demand charges. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Chula Vista Police Station (315 4th Ave, Chula Vista, CA 91910) as identified herein. The preliminary layout of the PV systems is shown in Figure 1.

Figure 1: Preliminary System Layout



System Type	Nominal Capacity*	Electrical Point of Connection
Carports	343 kW $_{DC}$	Main distribution panel located outdoors on the south side of the site.
Energy Storage System	60 kW / 137 kWh	Main distribution panel located outdoors on the south side of the site.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits.
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Energy Storage System
    a. Provide site preparation for installation of the energy storage system. This includes, where needed, a concrete housekeeping pad, safety bollards, and anchorage.
    b. Provide an energy storage system (ESS) rated at 60 kW / 137 kWh. ESS shall be manufactured by Johnson Controls. Approximate footprint is 10’ x 8’. ESS includes inverter batteries, battery management system, fire suppression system, HVAC system, and metering.
    c. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection. Interconnection includes a new AC fused disconnect switch, installation of a new 100A circuit breaker at the existing main distribution panel, and associated conduit, wiring, and connections.
    d. Provide cutting, trenching, and directional boring as needed to route conduits.
    e. Provide backfill and patching to match existing surfaces.
5. Provide startup of new equipment in accordance with manufacturer’s written instructions.
6. Including one initial module washing at the time of startup.
7. Provide functional performance testing of new equipment.
8. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

Excludes:

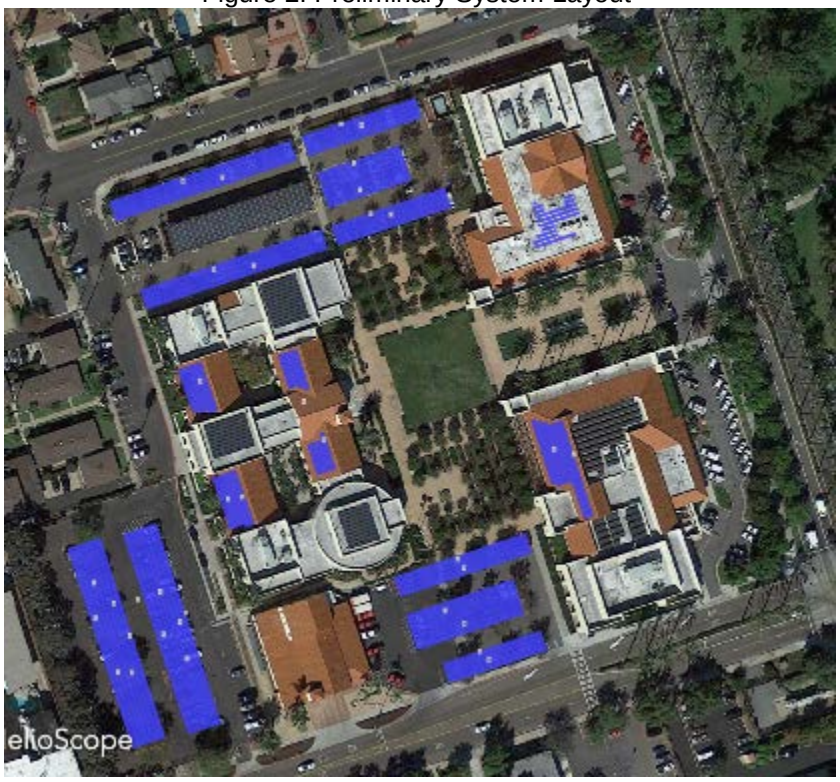
1. Cleanup and disposal of existing waste and debris in the outdoor trash storage area adjacent to the main electrical service. The Energy Storage System (ESS) is expected to be installed in this general area. Customer shall make ready for work the area where the ESS is installed by removing and disposing unused items.

FIM S-2 Civic Center PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Chula Vista Civic Center (276 4th Ave, Chula Vista, CA 91910) as identified herein. The preliminary layout of the PV systems is shown in Figure 2.

Figure 2: Preliminary System Layout



System Type	Nominal Capacity*	Electrical Point of Connection
Carports	554 kW_{DC}	Main distribution panel at the nearest building; located indoors.
Rooftop	144 kW_{DC}	Main distribution panel of the building; located indoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
    c. With Customer assistance and sign off, complete applications for utility rate change.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits.
        ix. Where accessible, provide a redundant 4" conduit from the point of interconnection to each carport.
        x. Provide backfill and patching to match existing surfaces.
    b. Rooftop
        i. For PV arrays attached to Spanish tile roofing, the engineering design shall be reviewed at the 50% design stage by City staff and key stakeholders as identified by the customer. Johnson Controls will make revisions to the proposed design and provide updated pricing as a result of design modifications.
        ii. For PV arrays attached to Spanish tile roofing, provide racking designed specifically for installation onto tile roofs. Racking shall be attached to the roof substrate and no drilling of tiles shall be performed.
        iii. For PV arrays mounted on low-slope (or flat) roofing, provide racking designed specifically for installation onto low-slope (or flat) roofs. Racking shall be non-penetrating.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
    c. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
        vi. Provide a wall mounted flat screen LED TV and configure to display data from the DAS for public viewing.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.

6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

Excludes:

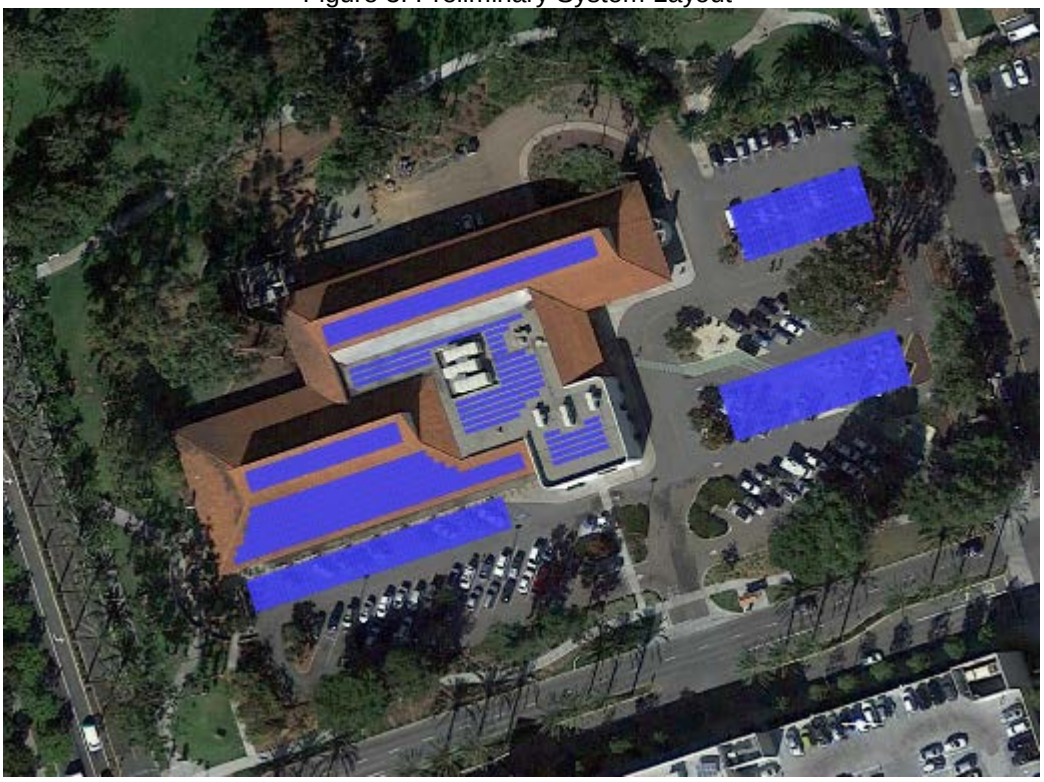
1. Additional Design Rework
   a. The cost of additional design rework and bidding, subsequent to stakeholder review meetings, is excluded. The cost of additional design work beyond that which is typically required for obtaining building permits (EG: 3D renderings of facilities, additional design review meetings, multiple design alternatives, bidding of multiple designs) is excluded. Johnson Controls will provide these items at the request of key stakeholders identified by City Staff and the additional cost incurred will be paid by the Customer, including overhead and profit, through the change order process.
2. Roofing modifications
   a. Existing roofing shall be made ready by Customer for the installation of new PV arrays at areas indicated.
   b. Existing low-slope (or flat) roofing shall be replaced by the Customer prior to installation of new PV arrays. It is anticipated that this project will be completed as part of the Measure P program.
   c. Existing Spanish tile roofing shall be replaced by the Customer prior to installation of new PV arrays. It is anticipated that this project will be completed as part of the Measure P program.
   d. Where roofing is modified or replaced by the Customer, Customer shall coordinate with JCI such that installation of the PV system(s) can be performed seamlessly, and in a timely manner, while roofing contractors are on site.

FIM S-3 Main Library PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Main Library (365 F St, Chula Vista, CA 91910) as identified herein. The preliminary layout of the PV systems is shown in Figure 3.

Figure 3: Preliminary System Layout



System Type	Nominal Capacity*	Electrical Point of Connection
Carports	179 kW_{DC}	Main distribution panel of the building; located indoors.
Rooftop	189 kW_{DC}	Main distribution panel of the building; located indoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
    c. With Customer assistance and sign off, complete applications for utility rate change.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Rooftop
        i. For PV arrays attached to Spanish tile roofing, the engineering design shall be reviewed at the 50% design stage by City staff and key stakeholders as identified by the customer. Johnson Controls will make revisions to the proposed design and provide updated pricing as a result of design modifications.
        ii. For PV arrays attached to Spanish tile roofing, provide racking designed specifically for installation onto tile roofs. Racking shall be attached to the roof substrate and no drilling of tiles shall be performed.
        iii. For PV arrays mounted on low-slope (or flat) roofing, provide racking designed specifically for installation onto low-slope (or flat) roofs. Racking shall be non-penetrating.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
    c. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training

for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

Excludes:

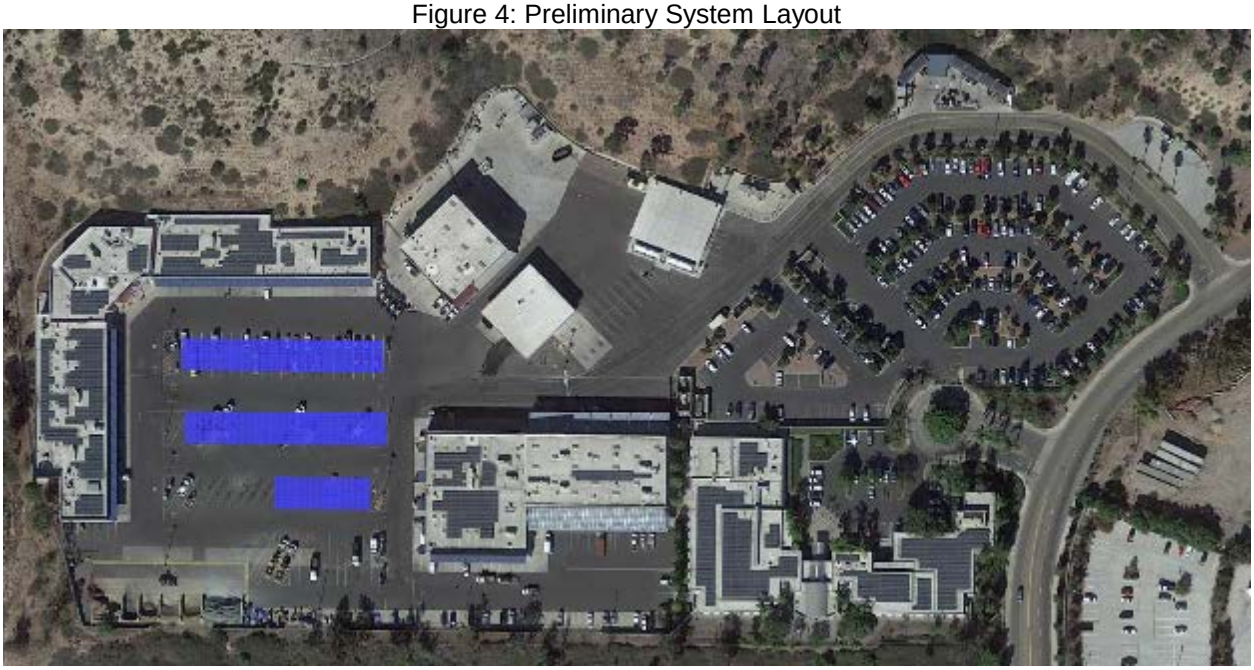
1. Additional Design Rework
   a. The cost of additional design rework and bidding, subsequent to stakeholder review meetings, is excluded. The cost of additional design work beyond that which is typically required for obtaining building permits (EG: 3D renderings of facilities, additional design review meetings, multiple design alternatives, bidding of multiple designs) is excluded. Johnson Controls will provide these items at the request of key stakeholders identified by City Staff and the additional cost incurred will be paid by the Customer, including overhead and profit, through the change order process.
2. Roofing modifications
   a. Existing roofing shall be made ready by Customer for the installation of new PV arrays at areas indicated.
   b. Existing low-slope (or flat) roofing shall be replaced by the Customer prior to installation of new PV arrays. It is anticipated that this project will be completed as part of the Measure P program.
   c. Existing Spanish tile roofing shall be replaced by the Customer prior to installation of new PV arrays. It is anticipated that this project will be completed as part of the Measure P program.
   d. Where roofing is modified or replaced by the Customer, Customer shall coordinate with JCI such that installation of the PV system(s) can be performed seamlessly, and in a timely manner, while roofing contractors are on site.

FIM S-4 Public Works Facility PV System with Energy Storage

This measure includes the installation of a photovoltaic (PV) system and energy storage system. The PV system will generate electricity through the conversion of solar energy. The energy storage system will generate cost savings by storing electricity during low cost and/or low site-demand periods and discharging electricity to mitigate demand charges. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Public Works Facility (1800 Maxwell Rd, Chula Vista, CA 91911) as identified herein. The preliminary layout of the PV systems is shown in Figure 4.

Figure 4: Preliminary System Layout



System Type	Nominal Capacity*	Electrical Point of Connection
Carports	323 kW_{DC}	Main distribution panel located outdoors between the Administration and Shops buildings.
Energy Storage System	60 kW / 137 kWh	Main distribution panel located outdoors between the Administration and Shops buildings.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits.
        ix. Where accessible, provide a redundant 4" conduit from the point of interconnection to each carport.
        x. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Energy Storage System
    a. Provide site preparation for installation of the energy storage system. This includes, where needed, a concrete housekeeping pad, safety bollards, and anchorage.
    b. Provide an energy storage system (ESS) rated at 60 kW / 137 kWh. ESS shall be manufactured by Johnson Controls. Approximate footprint is 10' x 8'. ESS includes inverter batteries, battery management system, fire suppression system, HVAC system, and metering.
    c. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection. Interconnection includes a new AC fused disconnect switch, installation of a new 100A circuit breaker at the existing main distribution panel, and associated conduit, wiring, and connections.
    d. Provide cutting, trenching, and directional boring as needed to route conduits.
    e. Provide backfill and patching to match existing surfaces.
5. Provide startup of new equipment in accordance with manufacturer's written instructions.
6. Including one initial module washing at the time of startup.
7. Provide functional performance testing of new equipment.
8. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM S-5 South Library PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the South Library (389 Orange Ave, Chula Vista, CA 91911) as identified herein. The preliminary layout of the PV systems is shown in Figure 5.

Figure 5: Preliminary System Layout

System Type	Nominal Capacity*	Electrical Point of Connection
Carports	187 kW_{DC}	Main distribution panel of the building; located indoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
    c. With Customer assistance and sign off, complete applications for utility rate change.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM S-6 Loma Verde Aquatic Center PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Loma Verde Aquatic Center (1420 Loma Ln, Chula Vista, CA 91911) as identified herein. The preliminary layout of the PV systems is shown in Figure 6.

Figure 6: Preliminary System Layout

System Type	Nominal Capacity*	Electrical Point of Connection
Carports	112 kW_{DC}	Main distribution panel of the building; located outdoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
    c. With Customer assistance and sign off, complete applications for utility rate change.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM S-7 Parkway Aquatic Center PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Parkway Aquatic Center (373 Park Way, Chula Vista, CA 91910) as identified herein. The preliminary layout of the PV systems is shown in Figure 7.

Figure 7: Preliminary System Layout

System Type	Nominal Capacity*	Electrical Point of Connection
Rooftop	85 kW_{DC}	Main distribution panel of the building; located outdoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
3. Solar PV
    a. Rooftop
        i. For PV arrays mounted on low-slope (or flat) roofing, provide racking designed specifically for installation onto low-slope (or flat) roofs. Racking shall be non-penetrating.
        ii. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        iii. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        iv. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

Excludes:

1. Roofing modifications
    a. Existing roofing shall be made ready by Customer for the installation of new PV arrays at areas indicated.
    b. Existing low-slope (or flat) roofing shall be replaced by the Customer prior to installation of new PV arrays. It is anticipated that this project will be completed as part of the Measure P program.
    c. Where roofing is modified or replaced by the Customer, Customer shall coordinate with JCI such that installation of the PV system(s) can be performed seamlessly, and in a timely manner, while roofing contractors are on site.

FIM S-8 Montevalle Rec Center PV System with Energy Storage

This measure includes the installation of a photovoltaic (PV) system and energy storage system. The PV system will generate electricity through the conversion of solar energy. The energy storage system will generate cost savings by storing electricity during low cost and/or low site-demand periods and discharging electricity to mitigate demand charges. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Montevalle Recreation Center (840 Duncan Ranch Rd, Chula Vista, CA 91914) as identified herein. The preliminary layout of the PV systems is shown in Figure 8.

Figure 8: Preliminary System Layout

System Type	Nominal Capacity*	Electrical Point of Connection
Carports	79 kW_{DC}	Main distribution panel; located outdoors.
Energy Storage System	60 kW / 137 kWh	Main distribution panel; located outdoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

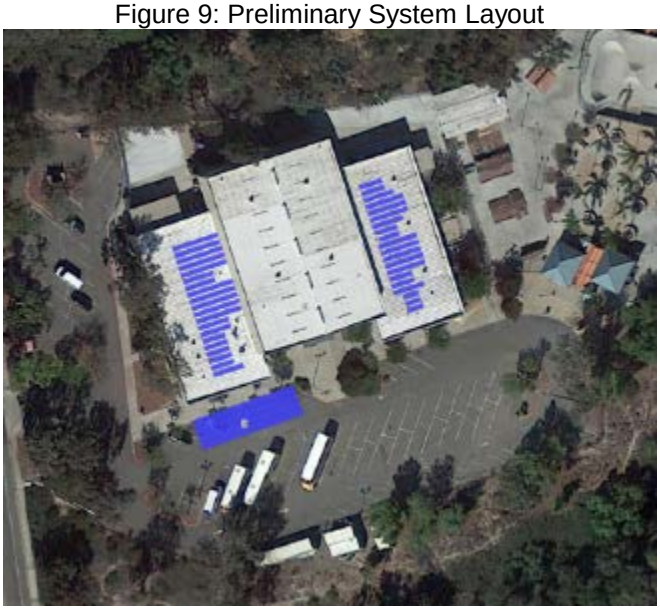
1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Energy Storage System
    a. Provide site preparation for installation of the energy storage system. This includes, where needed, a concrete housekeeping pad, safety bollards, and anchorage.
    b. At Montevalle, site preparation includes the expansion of the corrugated fence enclosing the existing SDGE service to enclose the new concrete pad and ESS.
    c. Provide an energy storage system (ESS) rated at 60 kW / 137 kWh. ESS shall be manufactured by Johnson Controls. Approximate footprint is 10’ x 8’. ESS includes inverter batteries, battery management system, fire suppression system, HVAC system, and metering.
    d. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection. Interconnection includes a new AC fused disconnect switch, installation of a new 100A circuit breaker at the existing main distribution panel, and associated conduit, wiring, and connections.
    e. Provide cutting, trenching, and directional boring as needed to route conduits.
    f. Provide backfill and patching to match existing surfaces.
5. Provide startup of new equipment in accordance with manufacturer’s written instructions.
6. Including one initial module washing at the time of startup.
7. Provide functional performance testing of new equipment.
8. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM S-9 Boys & Girls Club PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Boys and Girls Club (1301 Oleander Ave, Chula Vista, CA 91911) as identified herein. The preliminary layout of the PV systems is shown in Figure 9.

Figure 9: Preliminary System Layout



System Type	Nominal Capacity*	Electrical Point of Connection
Carports	24 kW_{DC}	Main distribution panel at the nearest building; located outdoors.
Rooftop	46 kW_{DC}	Main distribution panel of the building; located outdoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Rooftop
        i. For PV arrays mounted on low-slope (or flat) roofing, provide racking designed specifically for installation onto low-slope (or flat) roofs. Racking shall be non-penetrating.
        ii. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        iii. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        iv. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
    c. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

Excludes:

1. Roofing modifications
   a. Existing roofing shall be made ready by Customer for the installation of new PV arrays at areas indicated.
   b. Existing low-slope (or flat) roofing shall be replaced by the Customer prior to installation of new PV arrays. It is anticipated that this project will be completed as part of the Measure P program.
   c. Where roofing is modified or replaced by the Customer, Customer shall coordinate with JCI such that installation of the PV system(s) can be performed seamlessly, and in a timely manner, while roofing contractors are on site.

FIM S-10 Mount San Miguel Park PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at Mount San Miguel Park (2335 Paseo Veracruz, Chula Vista, CA 91914) as identified herein. The preliminary layout of the PV systems is shown in Figure 10.

Figure 10: Preliminary System Layout

System Type	Nominal Capacity*	Electrical Point of Connection
Carports	64 kW_{DC}	Main distribution panel of the building; located outdoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

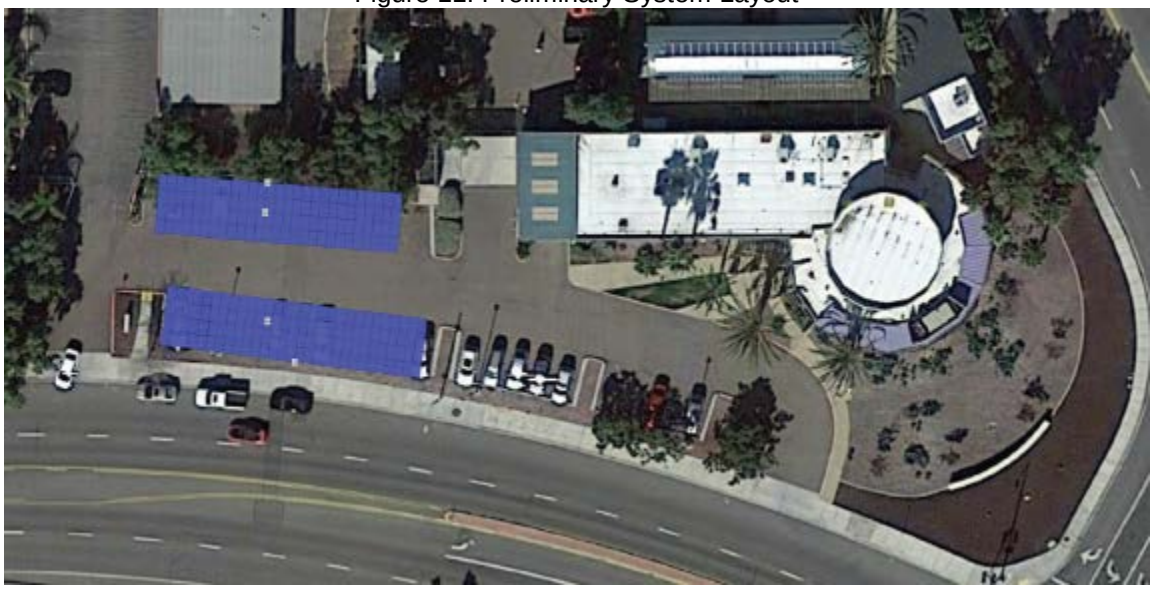
1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM S-11 Animal Care PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Animal Care facility (130 Beyer Way, Chula Vista, CA 91911) as identified herein. The preliminary layout of the PV systems is shown in Figure 11.

Figure 11: Preliminary System Layout



System Type	Nominal Capacity*	Electrical Point of Connection
Carports	60 kW_{DC}	Main distribution panel of the building; located outdoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
    c. With Customer assistance and sign off, complete applications for utility rate change.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
        v. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM S-12 Salt Creek Recreation Center PV System

This measure includes the installation of a photovoltaic (PV) system. The PV system will generate electricity through the conversion of solar energy. The system(s) will be interconnected to the facility's main electrical service.

The systems will be located at the Salt Creek Recreation Center (2710 Otay Lakes Rd, Chula Vista, CA 91915) as identified herein. The preliminary layout of the PV systems is shown in Figure 12.

Figure 12: Preliminary System Layout

System Type	Nominal Capacity*	Electrical Point of Connection
Carports	44 kW_{DC}	Main distribution panel of the building; located indoors.

*Subject to change pending final design

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. Provide engineering plans, calculations, and documents for permit issuance. Provide as-built record documentation after the completion of the work.
2. Utility Coordination
    a. With Customer assistance and sign off, complete applications for utility interconnection.
    b. Attend Customer meetings with the Utility provider to address design and interconnection items as needed.
    c. With Customer assistance and sign off, complete applications for utility rate change.
3. Solar PV
    a. Carports
        i. Provide structural foundations.
        ii. Provide structural framing using steel structural frames.
        iii. Provide racking and accessories to attach PV modules to structural framing.
        iv. Provide PV modules. By JA Solar or equivalent as approved by Johnson Controls.
        v. Provide inverters. By SMA or equivalent as approved by Johnson Controls.
        vi. Provide lighting mounted on carports.
        vii. Provide the electrical balance of system. This includes conduit, wiring, electrical connections, and interconnection.
        viii. Provide cutting, trenching, and directional boring as needed to route conduits
        ix. Provide backfill and patching to match existing surfaces.
    b. Data Acquisition System (DAS)
        i. Provide revenue grade metering and web based DAS including monitoring system manufactured by Locus or equivalent as approved by Johnson Controls.
        ii. DAS shall transmit data via cellular modem.
        iii. Monitoring system includes one meteorological station to monitor plane-of-array irradiance, cell temperature, ambient temperature, and wind speed.
        iv. Monitoring system includes five year subscription for monitoring service. After the initial five years, Customer must contract to maintain the monitoring service for the term of the M&V period.
    c. Configure web based data monitoring of solar PV systems provided as part of this contract from a single web interface.
4. Provide startup of new equipment in accordance with manufacturer's written instructions.
5. Including one initial module washing at the time of startup.
6. Provide functional performance testing of new equipment.
7. Provide O&M training for customer staff. Training may be conducted independent of a specific project site and shall be limited to 24 hours and up to 4 sessions for the entire project (total training for all FIMs and all sites shall not exceed 24 hours). Training shall include the provision of O&M manuals and warranty documentation.

FIM F-1 Feasibility Study

This measure includes professional services as required to identify additional work needed to advance the Customer's Smart City goals.

Includes:

In general the following are the significant elements of the scope of work unless otherwise noted:

1. EV Charging Station Feasibility Study
   a. Tasks
      i. Attend one meeting with City and SDGE staff to identify and understand the scope of work that will be provided by SDGE in terms of charging station type, quantities, payment methods, points of connection to electrical distribution systems, and conduit routing.
      ii. Attend one meeting with City staff to identify and understand the City's goals for fleet electrification, and plans for constituent vehicle electrification, in terms of charger locations, charging station type, quantities, and payment methods.
      iii. Provide up to two days (16 hours) of onsite inspection of existing electrical distribution systems, at facilities identified by the City as prioritized installation sites, to understand the ability of existing electrical distribution systems to support EV charging stations.
      iv. Review existing as-built construction documents to understand the ability of existing electrical distribution systems to support EV charging stations.
      v. Develop preliminary specifications for EV charging station installation and develop rough order of magnitude (ROM) cost estimates for installation.
   b. Deliverables
      i. Provide a recommended scope of work and opinion of probable cost to provide EV charging stations at sites as yet to be determined.

2. Citywide Utility Efficiency Feasibility Study
   a. Tasks
      i. Attend one meeting with City and SDGE staff (or sub-consultant) to identify and understand the energy auditing that has been performed to date as part of Measure P in terms of facilities that have been audited, building sub-systems that have been audited, measures that have been considered, and the costing and savings analysis methodologies.
      ii. Attend one meeting with City staff to identify and understand the City's goals for utility efficiency and establish alignment with the Smart City Master Plan, Climate Action Plan, Operations Sustainability Plan, City Strategic Plan, Measure P, and others as applicable. Identify and understand City staff's goals for priority sites, priority systems, equipment preferences, and functional requirements.
      iii. Provide up to five days (40 hours) of onsite inspection of existing building sub-systems to identify opportunities for increased efficiency.
      iv. Building sub-systems to be evaluated include, but are not limited to:
         1. Building automation and controls
         2. HVAC; inclusive of terminal units, air distribution systems, air handling equipment, heating systems, and cooling systems.
         3. Building envelope
         4. Lighting (including street lighting)
         5. Domestic hot water
         6. Miscellaneous electrical loads (e.g. plug loads, process equipment).
         7. Electrical distribution
         8. Potable water and irrigation
         9. Fire and security

v. Facilities to be evaluated include:
    1. Police Station
    2. Civic Center
    3. Public Works Facility
    4. Main Library
    5. Living Coast Discovery Center
    6. Montevalle Recreation Center
    7. South Library
    8. Loma Verde Aquatic Center
    9. Mount San Miguel Park
    10. Parkway Aquatic Center and Parkway Community Center
    11. Salt Creek Recreation Center
    12. Heritage Park
    13. Animal Care Facility
    14. Chula Vista Community Park
    15. Norman Park Senior Center
    16. Mountain Hawk Park
    17. Veterans Park Recreation Center
    18. Fire Stations (1 through 9)
vi. Identify potentially cost-effective Facility Improvement Measures (FIMs)
vii. Develop rough order of magnitude (ROM) cost estimates for installation.
viii. Develop ROM estimates of cost savings.
ix. Develop a preliminary business case that illustrates the costs and benefits of the proposed FIMs.

b. Deliverables
    i. Provide a PowerPoint presentation that identifies the sites where work is proposed, the proposed FIMs, and the preliminary business case.

3. Solar PV Data Acquisition System (DAS) Integration
    a. Tasks
        i. Identify existing Locus brand data monitoring equipment and assess equipment condition and operation.
        ii. Identify existing solar PV systems (installed prior to this project) that lack data acquisition and monitoring systems.
    b. Deliverables
        i. Provide a recommended scope and price to provide new data monitoring equipment and/or service subscriptions to integrate these systems into a city-wide PV data monitoring system.

Excludes:

1. Engineering design documents.
2. Detailed energy savings calculations.
3. Detailed reports.

Exclusions – Applicable to all FIMs and Sites.

1. Any work not specifically described as included in the preceding scope of work.
2. Any work related to permit applications for past projects at facilities where work is proposed.
3. Warranty, repair, or replacement of existing systems in disrepair or not compliant with current codes (including, but not limited to, requirements of the Americans with Disabilities Act (ADA) or Fire & Life Safety system requirements).
4. Remedies for encounters with unforeseen/undocumented site conditions. Resolution of existing design, service, and or distribution conditions known or unknown and including utility company requirements are excluded.
5. Permit fees, Inspection fees, laboratory, or testing fees.
6. Hazardous material testing and/or removal. When documentation is not available that suspected areas are free of asbestos containing materials (ACMs) the Customer shall provide spot testing and abatement, as necessary, of the work area.
7. Any additional SDGE fees or related work other than the initial interconnection application cost and applications for rate changes. This includes any electrical upgrades onsite, or offsite, that are not included in Schedule 1.
8. JCI excludes any guarantee regarding the availability or continued existence of electric utility rate cost components or the customer's ability to change rates into the future.
9. Engineering studies or fees for California Environmental Quality Act (CEQA), Storm Water Pollution Prevention Plan (SWPPP) or grading permits.
10. Any work to modify or upgrade (including ADA upgrades) the existing parking lot(s) that will contain the proposed PV system(s).
11. Overtime and shift labor is excluded. JCI will coordinate access and system shutdowns with Customer prior to and concurrent with construction activities. JCI excludes the provision of temporary power to facilities during construction.
12. JCI does not anticipate and has not included any hard diffing (I.E. no blasting or rock removal). All trenching to be performed by normal means (Case 580 backhoe). Should additional means of excavation be required then JCI shall notify the customer to mitigate or address additional cost.
13. JCI has not included repair, replacement, testing (I.E. arc flash studies) of the existing electrical switchgear. Existing electrical switchgear is assumed to be rated for PV connection. In the event that the electrical service is found to be deficient for the purpose of this project, the Customer and JCI agree to negotiate in good faith to identify and implement a remedy for the issue.
14. Geotechnical soil borings or reports.
15. Cellular data service subscriptions for data monitoring systems are not included and must be provided by Customer for the term of the M&V period.
16. Customer's obligations as set forth in Schedule 3.

SCHEDULE 2 – ASSURED PERFORMANCE GUARANTEE

OVERVIEW

The Assured Performance Guarantee for the Improvement Measures described in Schedule 1 shall be for twenty-five (25) years, and will have five (5) years of Measurement and Verification, or M&V, Services that will take effect on the first day of the month that follows the date when the Certificate of Final Completion for the Performance Contract is approved and executed by the Customer and JCI. Such M&V Services will continue for sixty (60) consecutive months with an Annual Report provided each year within 60 days following the Anniversary Date of the commencement of the Performance Period. The specific details of the M&V processes, the International Performance Measurement and Verification Protocol *(*IPMVP) procedures, and savings are described in detail in the following sections.

In addition, the project's benefits, including operation and maintenance savings from efficiencies gained as a result of the project, were determined in collaboration with City Treasurer, Director of Public Works, Deputy Director Public Works, City Engineer, Facilities Manager and three Conservation staff members. The Workshop described in detail the M&V methodology to be applied and the procedures and details of the savings calculations. Based upon this meeting the results are the following.

I. PROJECT BENEFITS

A. Certain Definitions. For purposes of this Agreement, the following terms have the meanings set forth below:

Annual Project Benefits are the portion of the projected Total Project Benefits to be achieved in any one year of the Guarantee Term.

Annual Project Benefits Realized are the Project Benefits actually realized for any one year of the Guarantee Term.

Annual Project Benefits Shortfall is the amount by which the Annual Project Benefits exceed the Annual Project Benefits Realized in any one year of the Guarantee Term.

Annual Project Benefits Surplus is the amount by which the Annual Project Benefits Realized exceed the Annual Project Benefits in any one year of the Guarantee Term.

Baseline is the mutually agreed upon data and/or usage amounts that reflect conditions prior to the installation of the Improvement Measures as set forth in Section IV below.

Guarantee Term will commence on the first day of the month next following the Final Substantial Completion date and will continue for a period of twenty-five (25) years, subject to earlier termination as provided in this Agreement.

Installation Period is the period beginning on JCI's receipt of Customer's Notice to Proceed and ending on the commencement of the Guarantee Term.

Measured Project Benefits are the utility savings and cost avoidance calculated in accordance with the methodologies set forth in Section II below.

M&V Term will commence on the first day of the month next following the Final Completion date and will continue through the duration of the M&V Services set forth above, subject to earlier termination as provided in this Agreement.

Non-Measured Project Benefits are identified in Section II below. The Non-Measured Project Benefits have been agreed to by Customer and will be deemed achieved in accordance with the schedule set forth in the Total Project Benefits table below. Customer and JCI agree that: (i) the Non-Measured Project Benefits may include, but are not limited to, future capital and operational costs avoided as a result of the Work and implementation of the Improvement Measures, (ii) achievement of the Non-Measured Project Benefits is outside of JCI's control, and (iii) Customer has evaluated sufficient information to conclude that the Non-Measured Project Benefits will occur and bears sole responsibility for ensuring that the Non-Measured Project Benefits will be realized. Accordingly, the Non-Measured Project Benefits shall not be measured or monitored by JCI at any time during either the M&V Term or the Guarantee Term, but rather shall be deemed achieved in accordance with the schedule set forth in the Total Project Benefits table below.

Project Benefits are the Measured Project Benefits plus the Non-Measured Project Benefits to be achieved for a particular period during the term of this Agreement.

Total Project Benefits are the projected Project Benefits to be achieved during the entire term of this Agreement.

B. Project Benefits Summary. Subject to the terms and conditions of this Agreement, JCI and Customer agree that Customer will be deemed to achieve a total of $834,123 in Non-Measured Project Benefits, and JCI guarantees that Customer will achieve a total of $25,829,416 in Measured Project Benefits during the term of this Agreement, for Total Project Benefits of $26,817,964, as set forth in the Total Project Benefits table below.

Table 2: Total Benefits (Overall Project)

Year	Measured Utility Cost Avoidance**	Non Measured Utility Cost Avoidance**	Non Guaranteed Rebates	Total Annual Benefits
0*	$0	$226,894	$0	$226,894
1	$662,684	$15,679	$154,425	$832,788
2	$686,038	$16,224	$0	$702,263
3	$710,201	$16,789	$0	$726,989
4	$735,198	$17,372	$0	$752,570
5	$761,059	$17,975	$0	$779,034
6	$787,813	$18,599	$0	$806,412
7	$815,489	$19,244	$0	$834,733
8	$844,119	$19,910	$0	$864,029
9	$873,734	$20,599	$0	$894,333
10	$904,368	$21,312	$0	$925,680
11	$936,055	$22,048	$0	$958,103
12	$968,830	$22,809	$0	$991,639
13	$1,002,729	$23,596	$0	$1,026,325
14	$1,037,790	$24,410	$0	$1,062,199
15	$1,074,051	$25,250	$0	$1,099,301
16	$1,111,553	$26,119	$0	$1,137,672
17	$1,150,336	$27,017	$0	$1,177,353
18	$1,190,444	$27,945	$0	$1,218,389
19	$1,231,919	$28,904	$0	$1,260,823
20	$1,274,808	$29,895	$0	$1,304,703
21	$1,319,158	$30,919	$0	$1,350,076
22	$1,365,015	$31,977	$0	$1,396,992
23	$1,412,430	$33,070	$0	$1,445,500
24	$1,461,455	$34,200	$0	$1,495,654
25	$1,512,141	$35,367	$0	$1,547,508
Total	$25,829,416	$834,123	$154,425	$26,817,964

*Year 0 represents the construction period. Any savings that are projected to occur during this time period are not guaranteed.

** Utility Cost Avoidance figures in the table above are based on anticipated increases in unit energy costs as set forth in the table in Section IV below.

Within sixty (60) days of the commencement of the M&V Term, JCI will calculate the Measured Project Benefits achieved during the Installation Period plus any Non-Measured Project Benefits applicable to such period and advise Customer of same. Any Project Benefits achieved during the Installation Period may, at JCI's discretion, be allocated to the Annual Project Benefits for the first year of the M&V Term. Within sixty (60) days of each anniversary of the commencement of the M&V Term, JCI will calculate the Measured Project Benefits achieved for the applicable year plus any Non-Measured Project Benefits applicable to such period during the M&V Term and advise Customer of same.

Customer acknowledges and agrees that if, for any reason, it (i) cancels or terminates receipt of M&V Services, (ii) fails to pay for M&V Services in accordance with Schedule 4, (iii) fails to fulfill any of its responsibilities necessary to enable JCI to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Agreement, the Assured Performance Guarantee shall automatically terminate and JCI shall have no liability hereunder.

C. Project Benefits Shortfalls or Surpluses.

(i) *Project Benefits Shortfalls*. If an Annual Project Benefits Shortfall occurs for any one year of the M&V Term, JCI shall, at its discretion and in any combination, (a) set off the amount of such shortfall against any unpaid balance Customer then owes to JCI, (b) where permitted by applicable law, increase the next year's amount of Annual Project Benefits by the amount of such shortfall, (c) pay to Customer the amount of such shortfall, or (d) subject to Customer's agreement, provide to Customer additional products or services, in the value of such shortfall, at no additional cost to Customer; provided, however, that if such a Shortfall occurs in the last year of the M&V Term, then JCI shall not have the option set forth in clause (b).

(ii) *Project Benefits Surpluses*. If an Annual Project Benefits Surplus occurs for any one year of the M&V Term, JCI may, at its discretion and in any combination, (a) apply the amount of such surplus to set off any subsequent Annual Project Benefit Shortfall during the M&V Term, or (b) bill Customer for the amount of payments made pursuant to Section C(i)(c) above and/or the value of the products or services provided pursuant to clause C(i)(d) above, in an amount not to exceed the amount of such surplus. Project Benefits Surpluses will be carried over from one guarantee year to the next and any such surpluses will accumulate over the M&V Term. This accumulated surplus will be utilized to set off any subsequent Annual Project Benefit Shortfall during the M&V Term. Any savings achieved during the installation period savings, which are not guaranteed, will also be included in the cumulative surplus savings.

(iii) *Additional Improvements*. Where an Annual Project Benefits Shortfall has occurred, JCI may, subject to Customer's approval (which approval shall not be unreasonably withheld, conditioned, or delayed), implement additional Improvement Measures, at no cost to Customer, which may generate additional Project Benefits in future years of the Guarantee Term.

D. Energy Savings Dispute. To remedy a dispute over the Annual Project Benefits, both parties will mutually agree to select a disinterested third party engineer and agree to abide by the independent Engineer's report.

(i) Engineers Credentials. The Engineer shall be a California registered Professional Engineer (PE) in good standing. In addition, the Engineers shall be certified by the

Association of Energy Engineers with the designations of a Certified Energy Manager (CEM) and Certified Measurement & Verification Professional (CMVP),

(ii) Engineers Compensation. If the third party engineer's review indicates a shortfall of greater than ten (10%) of JCI's Annual Benefit Report, JCI, will reimburse the Customer for all reasonable costs for the third party engineer's review costs.

(iii) JCI's Compensation. If the third party engineer's review does not indicate an error of more than a ten (10%) percent shortfall of JCI's Annual Project Benefits, the Customer will be responsible for JCI's reasonable engineering costs to substantiate the savings report.

E. Project Benefits Shortfalls or Surpluses at the end of the M&V Term

At the end of the M&V Term, upon completion of the final Energy Year's Savings Report, JCI will both (1) calculate the Annual Project Benefits Realized for that year, including any shortfall payments, and (2) determine whether the aggregate of the Annual Project Benefits Realized during the M&V Term (the "Total Realized Benefits") exceed or are less than the aggregate of the Annual Project Benefits during the same time period (the "Total Anticipated Benefits"). If the Total Realized Benefits exceed the Total Anticipated Benefits, then savings guarantee shall have been met for the remaining Guarantee Term (years 6 through 25).

If the Total Realized Benefits are short of the Total Anticipated Benefits, and the shortfall has not been otherwise mitigated by JCI, the average shortfall over the M&V Term will be multiplied by the twenty (20) years remaining on the Guarantee Term, and will be discounted, at the rate of two and one tenth percent (2.10%), to establish the net present value of the aggregate remaining shortfall. JCI will remit payment of the net present value of the aggregate remaining shortfall within 90 days of the determination.

If the Total Realized Benefits are short of the Total Anticipated Benefits, and the shortfall has been mitigated by JCI, the average shortfall over the M&V Term, after offsetting the effects of JCI's shortfall mitigation efforts, will be multiplied by the twenty (20) years remaining on the Guarantee Term, and will be discounted, at the rate of two and one tenth percent (2.10%), to establish the net present value of the aggregate remaining shortfall. JCI will remit payment of the net present value of the aggregate remaining shortfall within 90 days of the determination.

II. MEASUREMENT AND VERIFICATION METHODOLOGIES

The following is a brief overview of the measurement and verification methodologies applicable to the Improvement Measures set forth below. JCI shall apply these methodologies, as more fully detailed in the guidelines and standards of the International Performance Measurement and Verification Protocol (IPMVP) in connection with the provision of M&V Services hereunder.

IPMVP Option A
Retrofit Isolation: Key Parameter Measurement

Measured Project Benefits are determined by partial field measurement of the energy use of the system(s) to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Specific measurement means that some but not all parameters will be measured. Careful review of the design and installation of Improvement Measures is intended to demonstrate that the agreed upon parameters fairly represent the actual parameters. Agreed upon parameters will be shown in the measurement and verification plan. Engineering calculations using measurements and agreed upon parameters are used to calculate Measured Project Benefits for the duration of the M&V Term. In certain instances, as set forth in the Measurement & Verification Plan contained herein, pre-retrofit measurements will be taken during the construction period, and in advance of equipment installation, in order to establish certain baseline parameters. Measured Project Benefits from the following Improvement Measures will be calculated using Option A:

Electric Rate Change(s)

IPMVP Option B
Retrofit Isolation: All Parameter Measurement

Measured Project Benefits are determined by field measurement of the energy use of the systems to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Short-term, long-term or continuous measurements are taken throughout the pre and post-retrofit periods. Engineering calculations using short term, long-term or continuous pre and post-retrofit measurements are used to calculate the Measured Project Benefits for the duration of the M&V Term. Measured Project Benefits from the following Improvement Measures will be calculated using IPMVP Option B:

Table 3: Option B Applicable FIMs

FIM NUMBER	FIM
S-1	Police Station PV System with Energy Storage
S-2	Civic Center PV System
S-3	Main Library PV System
S-4	Public Works Facility PV System with Energy Storage
S-5	South Library PV System
S-6	Loma Verde Aquatic Center PV System
S-7	Parkway Aquatic Center PV System
S-8	Montevalle Rec Center PV System with Energy Storage
S-9	Boys & Girls Club PV System
S-10	Mount San Miguel Park PV System
S-11	Animal Care PV System
S-12	Salt Creek Recreation Center PV System

CHANGES IN USE OR CONDITION; ADJUSTMENT TO BASELINE AND/OR ANNUAL PROJECT BENEFITS

Customer agrees to notify JCI, within fourteen (14) days, of (i) any actual or intended change, whether before or during the Guarantee Term, in the use of any facility, equipment, or Improvement Measure to which this Schedule applies; (ii) any proposed or actual expansions or additions to the premises or any building or facility at the premises; (iii) a change to utility services to all or any portion of the premises; or (iv) any other change or condition arising before or during the M&V Term that reasonably could be expected to change the amount of Project Benefits realized under this Agreement.

Such a change, expansion, addition, or condition would include, but is not limited to: (a) changes in the primary use of any facility, Improvement Measure, or portion of the premises; (b) changes to the hours of operation of any facility, Improvement Measure, or portion of the premises; (c) changes or modifications to the Improvement Measures or any related equipment; (d) changes to the M&V Services provided under this Agreement; (e) failure of any portion of the premises to meet building codes; (f) changes in utility suppliers, utility rates, method of utility billing, or method of utility purchasing; (g) insufficient or improper maintenance or unsound usage of the Improvement Measures or any related equipment at any facility or portion of the premises (other than by JCI); (h) changes to the Improvement Measures or any related equipment or to any facility or portion of the premises required by building codes or any governmental or quasi-governmental entity; (i) additions or deletions of Improvement Measures or any related equipment at any facility or portion of the premises; or (j) Customer's failure to adhere to or satisfy its obligations as set forth in Schedule 3 to this Agreement.

Such a change or condition need not be identified in the Baseline in order to permit JCI to make an adjustment to the Baseline and/or the Annual Project Benefits. If JCI does not receive the notice within the time period specified above or travels to either Customer's location or the project site to determine the nature and scope of such changes, Customer agrees to pay JCI, in addition to any other amounts due under this Agreement, the applicable hourly consulting rate for the labor required to determine the changes and to make any adjustments and/or corrections to the project as a result of the changes, plus all reasonable and documented out of pocket expenses, including travel costs. Upon receipt of such notice, or if JCI independently learns of any such change or condition, JCI shall calculate and send to Customer a notice of adjustment to the Baseline and/or Annual Project Benefits to reflect the impact of such change or condition, and the adjustment shall become effective as of the date the change or condition first arose. Should Customer fail to promptly provide JCI with notice of any such change or condition, JCI may make reasonable estimates as to the impact of such change or condition and as to the date on which such change or condition first arose in calculating the impact of such change or condition, and such estimates shall be conclusive.

III. NON-MEASURED PROJECT BENEFITS

Peak Demand Savings from Solar PV

M&V Option & Summary

The savings associated with this measure are agreed upon based on the Savings Methodology shown below. It will be verified that the proposed scope has been implemented. Any deviation from the proposed scope and its impact to the guaranteed savings will be documented in the post installation report.

Savings Methodology

For every applicable site:

$$Annual\ Savings = Baseline\ Demand\ Charges - Post\ PV\ Demand\ Charges$$

Where

$$Baseline\ Demand\ Charges = Baseline\ Demand\ Profile * Proposed\ Rate\ Schedule$$

And

$$Post\ PV\ Demand\ Charges = (Baseline\ Demand\ Profile - Modeled\ Solar\ Demand\ Impact) * Proposed\ Rate\ Schedule$$

Installation Period M&V Activities

Following the installation of the PV System, peak kW data will be collected utilizing the Data Acquistion System (DAS). Through this data collection it will be verified that the PV system is operating at its rated power. Based upon this verification, it shall be assumed that the PV systems will continue to produce approximately this rated power during all instances at which peak demand occurs at the facilities included in the proposed scoped of work.

Table 4 shows the peak demand impact that the PV installation will have at each affected site.

Table 4: PV System Peak Demand Savings

Site	Annual Max kW Savings	Annual On Peak kW Savings
Civic Center	387	421
Main Library	405	279
Animal Care	40	50
South Library	226	199

Performance Period M&V Activities

There are no performance period M&V activities associated with this FIM component. The savings verified based upon the installation period M&V activities will be agreed upon for the remainder of the guarantee term, subjected to applicable escalation rates.

Customer agrees that the Non-Measured Project Benefits are reasonable and that the installation of the Improvement Measures will enable Customer to take actions that will result in the achievement of such Non-Measured Project Benefits.

IV. BASELINE CALCULATIONS AND UTILITY RATES

For the purpose of sizing the PV systems, the Baseline Utility usage for electricity represents the 12 month billed utility usage of the facilities for calendar year 2016; the most recent calendar year for which complete billing was made available. Due to the number of facilities included in the project, and the inconsistency by the utility in alignment of meter read dates and billing dates, the 12 month baseline period, for the purpose of this Agreement, means the usage and cost indicated on the 12 sequential bills for each account starting with the first bill received in calendar year 2016.

For the purpose of calculating savings, the Baseline Utility usage for electricity represents the most recent 12 months of 15 minute interval data which was made available by SDGE. For each site, the start and end dates are as follows:

Table 5: Baseline Interval Data Start and End Dates

Site Name	Interval Data Start Date	Interval Data End Date
Public Works/1800 Maxwell	5/1/2016	4/30/2017
Police Station	5/1/2016	4/30/2017
Civic Center 1	5/1/2016	4/30/2017
Civic Center 2	5/1/2016	4/30/2017
Civic Center 3	5/1/2016	4/30/2017
Main Library	5/1/2016	4/30/2017
Montevalle Rec Center	5/1/2016	4/30/2017
Salt Creek Rec Center	1/1/2016	12/31/2016
Loma Verde Aquatic Center	1/1/2016	12/31/2016
Parkway Community Center/Aquatic Center	1/1/2016	12/31/2016
Boys & Girls Club*	5/1/2016	4/30/2017
Mount San Miguel Park	1/1/2016	12/31/2016
Animal Care	5/1/2016	4/30/2017
South Library	5/1/2016	4/30/2017

The Base Utility Cost shall be escalated annually by the actual utility cost escalation but such escalation shall be no less than the mutually agreed "floor" escalation rate of **four** percent (**4**%). The first year of savings is scheduled to occur in 2019 and therefore for Year 1 savings, the calculated savings were escalated for the 17 month expected duration of construction (1.42 years) at the rate of 4% each year. The annual energy cost escalation rate is shown in Table 6 and was mutually agreed upon during the Workshop conducted on August 9, 2017 between the Customer and JCI.

Table 6: Utility Rate and O&M Escalation

Year	kWh	kWh Net*	kW	kW Net*	O&M
Year 0	4.00%	4.00%	4.00%	4.00%	3.00%
Year 1	4.00%	4.00%	4.00%	4.00%	3.00%
Year 2	4.00%	3.48%	4.00%	3.48%	3.00%
Year 3	4.00%	3.48%	4.00%	3.48%	3.00%
Year 4	4.00%	3.47%	4.00%	3.47%	3.00%
Year 5	4.00%	3.47%	4.00%	3.47%	3.00%
Year 6	4.00%	3.47%	4.00%	3.47%	3.00%
Year 7	4.00%	3.47%	4.00%	3.47%	3.00%
Year 8	4.00%	3.46%	4.00%	3.46%	3.00%
Year 9	4.00%	3.46%	4.00%	3.46%	3.00%
Year 10	4.00%	3.46%	4.00%	3.46%	3.00%
Year 11	4.00%	3.46%	4.00%	3.46%	3.00%
Year 12	4.00%	3.45%	4.00%	3.45%	3.00%
Year 13	4.00%	3.45%	4.00%	3.45%	3.00%
Year 14	4.00%	3.45%	4.00%	3.45%	3.00%
Year 15	4.00%	3.44%	4.00%	3.44%	3.00%
Year 16	4.00%	3.44%	4.00%	3.44%	3.00%
Year 17	4.00%	3.44%	4.00%	3.44%	3.00%
Year 18	4.00%	3.43%	4.00%	3.43%	3.00%
Year 19	4.00%	3.43%	4.00%	3.43%	3.00%
Year 20	4.00%	3.43%	4.00%	3.43%	3.00%
Year 21	4.00%	3.43%	4.00%	3.43%	3.00%
Year 22	4.00%	3.42%	4.00%	3.42%	3.00%
Year 23	4.00%	3.42%	4.00%	3.42%	3.00%
Year 24	4.00%	3.42%	4.00%	3.42%	3.00%
Year 25	4.00%	3.41%	4.00%	3.41%	3.00%

*kWh Net and kW net represents the effective utility rate escalation applied to each year to account for 0.5% annual degradation in PV system output.

Table 7: Existing SDGE Accounts and Applicable Rate Schedules

FACILITY	SDGE ACCOUNT	SDGE ELEC. METER NUMBER	CURRENT RATE SCHEDULE	2016 BASELINE USAGE [kWh]
Police Station	8947375455	05892355	ASTODPSW	1,817
Police Station	666513104	06686908	ALTOU	2,154,176
Civic Center	2826466104	06686367	ALTOUCP2	573,051
Civic Center	1150613925	06687260	ALDGRCP2	305,699
Civic Center	2245280622	06687905	ALTOUDGR	236,504
Main Library	929572850	06686536	ALTOU	616,297
Public Works Facility	4969451834	06691465	ALTOUDGR	535,112
South Library	9412423289	06691822	ALTOU	502,557
Loma Verde Aquatic Center	9422134002	06579353	ALDGRCP2	217,614
Parkway Aquatic Center	1321687451	06686366	ALDGRCP2	114,507
Parkway Comm. Center	9196680108	06576932	ASTODPSW	40,288
Montevalle Rec Center	435606965	06562729	ALTOUDGR	195,883
Boys & Girls Club	1591153151	6416656	ASTODPSW	61,634
Boys & Girls Club	2716153152	6416654	ASTODPSW	20,834
Boys & Girls Club	3841153154	6416657	ASTODPSW	40,793
Boys & Girls Club	4966156092	6416655	ASTODPSW	7,631
Mount San Miguel Park	3091597986	06686356	ASTODPSW	157,817
Animal Care	4881094457	06686239	ALTOUCP2	118,881
Salt Creek Recreation Center	3324732606	06691696	ALDGRCP2	99,033
TOTAL				**7,374,497**

Table 8: Public Works Demand Baseline

Month	Summer Season				Winter Season			
	On-Peak	Part-Peak	Off-Peak	Max	On-Peak	Part-Peak	Off-Peak	*Max*
Jan	0	0	0	***0***	253	283	228	***283***
Feb	0	0	0	***0***	232	270	267	***270***
Mar	0	0	0	***0***	262	295	296	***296***
Apr	0	0	0	***0***	176	287	322	***322***
May	0	0	0	***0***	219	340	370	***370***
Jun	200	296	343	***343***	0	0	0	***0***
Jul	210	277	292	***292***	0	0	0	***0***
Aug	188	244	275	***275***	0	0	0	***0***
Sep	215	310	265	***310***	0	0	0	***0***
Oct	238	248	260	***260***	0	0	0	***0***
Nov	0	0	0	***0***	245	278	201	***278***
Dec	0	0	0	***0***	269	272	211	***272***
	1,051	**1,376**	**1,434**	**1,851**	**1,656**	**2,025**	**1,895**	**2,591**

Table 9: Montevalle Rec Center Demand Baseline

Month	Summer Season				Winter Season			
	On-Peak	Part-Peak	Off-Peak	Max	On-Peak	Part-Peak	Off-Peak	*Max*
Jan	0	0	0	***0***	172	53	44	***172***
Feb	0	0	0	***0***	200	143	36	***200***
Mar	0	0	0	***0***	225	153	50	***225***
Apr	0	0	0	***0***	225	165	34	***225***
May	0	0	0	***0***	159	139	33	***159***
Jun	167	159	29	***167***	0	0	0	***0***
Jul	162	158	64	***162***	0	0	0	***0***
Aug	192	115	59	***192***	0	0	0	***0***
Sep	227	102	52	***227***	0	0	0	***0***
Oct	204	106	81	***204***	0	0	0	***0***
Nov	0	0	0	***0***	239	90	79	***239***
Dec	0	0	0	***0***	200	71	40	***200***
	952	**640**	**285**	**1,197**	**1,420**	**814**	**317**	**1,676**

Table 10: Police Station Demand Baseline

Month	Summer Season				Winter Season			
	On-Peak	Part-Peak	Off-Peak	Max	On-Peak	Part-Peak	Off-Peak	*Max*
Jan	0	0	0	***0***	289	292	245	***292***
Feb	0	0	0	***0***	294	307	296	***307***
Mar	0	0	0	***0***	307	340	279	***340***
Apr	0	0	0	***0***	315	324	308	***324***
May	0	0	0	***0***	310	308	298	***310***
Jun	377	382	316	***382***	0	0	0	***0***
Jul	416	451	349	***451***	0	0	0	***0***
Aug	430	457	340	***457***	0	0	0	***0***
Sep	432	429	347	***432***	0	0	0	***0***
Oct	369	360	282	***369***	0	0	0	***0***
Nov	0	0	0	***0***	383	395	279	***395***
Dec	0	0	0	***0***	289	292	271	***292***
	2,023	**2,078**	**1,633**	**2,090**	**2,187**	**2,257**	**1,975**	**2,259**

The valuation of electricity delivered by solar PV and energy storage systems, for the purpose of calculating Year 1 cost savings, prior to the application of utility rate escalation, shall be based on Table 11, Table 12 and

Table 17. Table 11 and Table 12 summarize the current applicable rate schedules (Baseline Rate).

Table 17 shows the proposed rate schedule that shall be applied to each meter (Proposed Rate).

Table 11: Marginal Rates for Electricity Usage [$/kWh]

SDGE RATE SCHEDULE	SUMMER ON PEAK	SUMMER OFF PEAK	SUMMER SUPER OFF PEAK	WINTER ON PEAK	WINTER OFF PEAK	WINTER SUPER OFF PEAK
ASTODPSW	$0.261790	$0.232910	$0.201940	$0.227640	$0.213330	$0.193510
ALTOU	$0.127250	$0.117510	$0.086660	$0.115370	$0.099820	$0.078400
ALTOUCP2	$0.127252	$0.117512	$0.086662	$0.115372	$0.099820	$0.078402
ALDGRCP2	$0.174720	$0.164990	$0.134200	$0.162910	$0.147360	$0.125940
ALTOUDGR	$0.364080	$0.233860	$0.192750	$0.158970	$0.150970	$0.140920
RESBCT-CPP	$0.11776	$0.10803	$0.07724	$0.10595	$0.0904	$0.06898

*Includes transmission & distribution (UDC Total), commodity charges (Electric Energy Commodity Cost), miscellaneous charges (DWR Bond Charge), and taxes.

Table 12: Marginal Rates for Electricity Demand [$/kW]

SDGE RATE SCHEDULE	SUMMER ON PEAK	SUMMER OFF PEAK	SUMMER SUPER OFF PEAK	WINTER ON PEAK	WINTER OFF PEAK	WINTER SUPER OFF PEAK
ASTODPSW	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
ALTOU	$10.25	$0.00	$0.00	$7.57	$0.00	$24.51
ALTOUCP2	$10.25	$0.00	$0.00	$7.57	$0.00	$24.51
ALDGRCP2	$2.13	$0.00	$0.00	$0.66	$0.00	$12.26
ALTOUDGR	$2.03	$0.00	$0.00	$0.61	$0.00	$11.34
RESBCT-CPP	N/A	N/A	N/A	N/A	N/A	N/A

*Includes transmission & distribution (UDC Total), commodity charges (Electric Energy Commodity Cost), miscellaneous charges (DWR Bond Charge), and taxes.

The application of these rates will vary according to the time of day when generation occurs and shall be based on the newly adopted Time of Use (TOU) periods. These are defined, for SDG&E, in the Proposed Decision of the California Public Utilities Commission (CPUC) entitled “DECISION ADOPTING REVENUE ALLOCATION AND RATE DESIGN FOR SAN DIEGO GAS & ELECTRIC COMPANY REV. 2” and dated 8/10/2017. The adopted TOU periods are as follows and presented in Table X.

Table 13: Adopted TOU Periods (Weekdays)

TOU Period	Summer (June-October)	Winter (November-May)
On-peak	4:00 p.m.-9:00 p.m.	4:00 p.m.-9:00 p.m.
Off-peak	6:00 a.m.-4:00 p.m.; 9:00 p.m.-midnight	6:00 a.m.-4:00 p.m. excluding 10:00 a.m.-2:00 p.m. in March and April; 9:00 p.m.-midnight
Super-off-peak	Midnight- 6:00 a.m.	Midnight- 6:00 a.m.; 10:00 a.m.-2:00 p.m. in March and April

Table 14: Adopted TOU Periods (Weekends and Holidays)

TOU Period	Summer (June-October)	Winter (November-May)
On-peak	4:00 p.m.-9:00 p.m.	4:00 p.m.-9:00 p.m.
Off-peak	2:00 p.m.-4:00 p.m.; 9:00 p.m.-midnight	2:00 p.m.-4:00 p.m.; 9:00 p.m.-midnight
Super-off-peak	Midnight- 2:00 p.m.	Midnight- 2:00 p.m.

For the purpose of calculating the dollar value of savings during the performance period, blended effective electricity rates shall be used.

Table 15 shows the blended rates to be utilized in recalculating the measured savings from the FIMs. The rates were calculated using Equation 1 and are based on dividing the Year 1 savings, prior to applying escalation, by the Year 1 savings in units of energy and power. Escalation shall be applied to calculate the final dollar value of savings.

Equation 1: Blended Rate Calculation

$$Blended\ Rate\left(\frac{\$}{kWh\ or\ kW}\right) = \frac{Annual\ Cost\ Avoidance}{Annual\ kWh\ or\ kW\ Savings}$$

Table 15: Proposed Year 1 Blended Rate without Escalation

Site Name	Proposed Effective Rate ($/kWh)	Proposed Effective Rate ($/kW)
Public Works Facility	$0.1819	$8.2580
Police Station	$0.1049	$17.0277
Civic Center	$0.1523	
Main Library	$0.1496	
Montevalle Rec Center	$0.1820	$6.7639
Salt Creek Recreation Center	$0.1446	
Loma Verde Aquatic Center	$0.1427	
Parkway Aquatic Center	$0.1399	
Boys & Girls Club	$0.1993	
Mount San Miguel Park	$0.2008	
Animal Care	$0.1290	
South Library	$0.1244	

V. MODIFICATIONS TO UTILITY METERING AND RATES

The valuation of electricity delivered by solar PV and energy storage systems, for the purpose of projecting cost savings, is also based on the applicable interconnection type; in addition to the values published in the rate schedules and the applicable TOU periods. Relevant terminology is described in Table 15.

Table 16: Interconnection Terminology

Terminology	Description
OAS	Otherwise Applicable Schedule. These are the rate schedules (aka tariffs) that are currently in effect at each facility and, by which, the cost of electricity is valued.
DGR	Distributed Generation Renewable. This is an optional rate schedule made available by SDGE. The DGR schedule effectively transfers cost from the demand portion of the rate to the energy portion of the rate. This schedule provides financial benefits when solar PV offsets a large percentage of electricity usage at a site. This schedule can effect a financial penalty when solar PV offsets a small percentage of electricity usage at a site.
NEM-ST	Net Energy Metering Successor Tariff. This rate schedule enables customers to receive nearly full retail credit for the value of electricity produced using solar PV. Valuation is in accordance with the OAS. NEM-ST is generally applicable to single sites with single meters.
NEM-ST Aggregation	Net Energy Metering Aggregation. This Special Condition of rate schedule NEM-ST enables customers to aggregate loads (electricity usage) among multiple facilities. This enables customers to install solar at sites where it is more cost effective and receive bill credit on accounts, or meters, at other adjacent sites where installation may have been less cost effective. EG: The Chula Vista Police Station has little space available for solar PV, relative to the magnitude of its electrical load, and, so, can have its load offset, in addition to what can be produced on-site, by electricity generated at an adjacent City-owned property (Main Library).
NEM-V-ST	Virtual Net Energy Metering Successor Tariff. This rate schedule functions similarly to NEM-ST (and NEM-ST Aggregation) but applies to multi-tenant and multi-meter properties (EG: Chula Vista Civic Center). This rate schedule provides a method for installing solar PV at a single property with multiple meters and then obtain financial credit at each meter. This rate schedule does not provide for the aggregation of loads among multiple sites.

The proposed interconnection types, and applicable rate schedules, are provided in

Table 17. The modeling software ERSGAP uses the following methodology to apply utility rates:

- Apply existing and proposed new rates to baseline consumption and demand for each site
- Apply existing and proposed new rates to post retrofit solar and storage output for each site

The modeling tool thus takes into account the impact of rate changes on the portion of the facility load profile which is unaffected by the solar and battery output(s).

Table 17: Proposed Interconnection Types and Rate Schedules

FACILITY	SDGE ACCOUNT	SDGE ELEC. METER NUMBER	INTERCONNECTION TYPE	PROPOSED RATE SCHEDULE
Police Station	8947375455	05892355	NEM-ST	ASTODPSW
Police Station	666513104	06686908	NEM-ST	ALTOU
Civic Center	2826466104	06686367	NEM-ST	ALDGR-CPP
Civic Center	1150613925	06687260	NEM-ST	ALDGR-CPP
Civic Center	2245280622	06687905	NEM-ST	ALTOUDGR
Main Library	929572850	06686536	NEM-ST	ALTOUDGR
Public Works Facility	4969451834	06691465	NEM-ST	ALTOUDGR
South Library	9412423289	06691822	NEM-ST	ALTOUDGR
Loma Verde Aquatic Center	9422134002	06579353	NEM-ST	ALDGR-CPP
Parkway Aquatic Center	1321687451	06686366	NEM-ST [1]	ALDGR-CPP
Parkway Comm. Center	9196680108	06576932	NEM-ST [1]	ALDGR-CPP
Montevalle Rec Center	435606965	06562729	NEM-ST	ALTOUDGR
Boys & Girls Club	1591153151	6416656	NEM-V-ST [2]	TOU-A
Boys & Girls Club	2716153152	6416654	NEM-V-ST [2]	TOU-A
Boys & Girls Club	3841153154	6416657	NEM-V-ST [2]	TOU-A
Boys & Girls Club	4966156092	6416655	NEM-V-ST [2]	TOU-A
Mount San Miguel Park	3091597986	06686356	NEM-ST	TOUAP
Animal Care	4881094457	06686239	NEM-ST	ALDGR-CPP
Salt Creek Recreation Center	3324732606	06691696	NEM-ST	ALDGR-CPP

Note 1: The Boys & Girls Club is a single property with multiple meters. These will be aggregated together for the purpose of receiving generation credit from SDGE.

Note 2: The Parkway Aquatic Center and Parkway Community Center loads will be aggregated under the terms of the NEM-ST Aggregation Special Condition.

VI. MEASUREMENT & VERIFICATION ACTIVITIES

JCI will perform the M&V Activities set forth below in connection with the Assured Performance Guarantee.

Data records maintained in the ordinary course of system operation shall be used and relied upon by Johnson Controls in connection with the Measurement and Verification Activities. Johnson Controls will use commercially reasonable efforts to ensure the integrity of the data collected to calculate the required metrics. In the event data are lost due to equipment failure, power failure or other interruption in data collection, transmission or storage, Johnson Controls will use reasonable engineering methods to estimate or replace the lost data.

Table 18: M&V Plan Summary

FIM	M&V Option	Installation Period Activities	Performance Period Activities
Electric Rate Change(s)	A	Verify that proposed rate is effective through post-retrofit utility bill	None. Agreed upon for the duration of the contract based on installation period verification, subject to escalation.
PV Systems	B	Collect PV production (kW, kWh) and insolation data to recalculate savings. Verify proper installation and document changes in scope.	Collect PV production (kW, kWh) and insolation data to recalculate savings.
DES Systems	B	Collect DES demand output (kW) and compare to guaranteed output to recalculate savings. Verify proper installation and document changes in scope.	Collect DES demand output (kW) and compare to guaranteed output to recalculate savings.

FIM: Electric Rate Change(s)

M&V Option and Summary

The savings for this FIM will be verified using IPMVP Option A, Retrofit Isolation with Key Parameter Measurement. The savings for this FIM are generated through a reduction in utility costs by switching to a utility rate which provides a higher value for the PV system; therefore, the measurement boundary is the utility rate itself.

Savings Methodology

Savings from this FIM will be achieved as the result of changing the electric rate schedule from the Otherwise Applicable Schedule (OAS) to a rate schedule which provides a higher value for the electricity produced by the PV system; or by entering into an interconnection type agreement which enables the PV generation to be valued at a more favorable rate. Refer to

Table 17 for details. The modeling software ERSGAP uses the following methodology to apply utility rates:

- Apply existing and proposed new rates to baseline consumption and demand for each site
- Apply existing and proposed new rates to post retrofit solar and storage output for each site

The modeling tool thus takes into account the impact of rate changes on the portion of the facility load profile which is unaffected by the solar and battery output(s).

$$Annual\ Savings = \ Baseline\ Electricity\ Cost - Proposed\ Electricity\ Cost$$

Where

$$Baseline\ Electricity\ Cost = (Baseline\ Electricity\ Profile - Measured\ PV\ kWh\ \pm kWh\ Adjustments) * Current\ Rate\ Schedule$$

And

$$Proposed\ Electricity\ Cost = (Baseline\ Electricity\ Profile - Measured\ PV\ kWh\ \pm kWh\ Adjustments) * Proposed\ Rate\ Schedule$$

Where

$$kWh\ Adjustments = Measured\ PV\ kWh * \left(1 - \frac{Modeled\ Solar\ Irradiance}{Measured\ Solar\ Irradiance}\right) + Lost\ Output\ kWh$$

And

$$Lost\ Output\ kWh = Estimated\ kWh\ lost\ due\ to\ downtime\ or\ partial\ system\ damage\ related\ to\ acts\ of\ God, vandalism, etc.$$

Installation Period M&V Activities

Following the installation of the proposed scope, utility billing (SDG&E) will be inspected to verify that the proposed rate change and/or interconnection type, as proposed under this Agreement, is in effect. Refer to

Table 17 for details. The cost savings will be deemed to have been achieved based on this verification.

Performance Period M&V Activities

There are no performance period M&V activities associated with this FIM. The savings recalculated based upon the installation period M&V activities will be agreed upon for the remainder of the guarantee term, subjected to applicable escalation rates.

FIM PV Systems (All applicable sites)

M&V Option and Summary

The savings associated with this FIM will be measured using IPMVP Option B methodology. Measured Project Benefits are determined by field measurement of the energy use of the systems to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Short-term, long-term or continuous measurements are taken throughout the pre and post-retrofit periods. Engineering calculations using short term, long-term or continuous pre and post-retrofit measurements are used to calculate the Measured Project Benefits for the duration of the M&V Term.

Savings Calculation Methodology:

Energy savings from these renewable resource FIMs result from the displacement of utility-provided electricity by PV array-produced electricity. The energy production of the PV system was estimated utilizing Typical Meteorological Year 3 (TMY3) weather data for Chula Vista Brownfield weather station. Hourly solar radiation data was used to calculate electrical energy output for a given PV array DC rating, AC derate factor and panel orientation.

$$Annual\ Savings = \ Baseline\ kWh\ Charges - Post\ PV\ kWh\ Charges$$

Where

$$Baseline\ kWh\ Charges = Baseline\ kWh\ Profile * Proposed\ Rate\ Schedule$$

And

$$Post\ PV\ kWh\ Charges = (Baseline\ kWh\ Profile - Measured\ PV\ kWh\ \pm kWh\ Adjustments) * Proposed\ Rate\ Schedule$$

So

$$Annual\ Savings = \ (Measured\ PV\ kWh\ \pm kWh\ Adjustments) * Proposed\ Rate\ Schedule$$

And by substituting a blended effective rate, specific to each site, in place of the proposed rate schedule

$$Annual\ Savings = \left(Measured\ PV\ kWh * \left(\frac{Modeled\ Solar\ Irradiance}{Measured\ Solar\ Irradiance}\right) \pm kWh\ Adjustments\right) * Effective\ kWh\ Rate$$

Where

$$kWh\ Adjustments = Estimated\ kWh\ lost\ due\ to\ downtime\ or\ partial\ system\ damage\ related\ to\ acts\ of\ God, vandalism, etc.$$

Installation Period M&V Activities

Installation of the proposed scope of work will be verified following acceptance of the project. Any deviation from the proposed scope of work will be documented and its impact on the guaranteed energy savings will be evaluated. ***It should be noted that the installation period savings are not guaranteed.*** However, the benefit achieved during the installation period will be calculated using the same methodology as described in the Performance Period M&V Activities section below and documented in the post installation report.

Performance Period M&V Activities

JCI will validate the energy production and savings realized from the implementation of this FIM by collecting information on key variables on key variables associated with this FIM utilizing a data acquisition system (DAS). The data on the following variables will be collected on a monthly basis:

- Solar Insolation (Global Horizontal) (kWh/m^2)
- PV system electricity production (kW and kWh)

The data will be accessed remotely by JCI and will require authorization for remote access. Using an Excel based spreadsheet, JCI will compile the data on the PV Systems' actual performance for use in determining the Performance Period Energy. The data will be subjected to the following set of equations in order to recalculate savings and will be compared with the guaranteed savings to reconcile the savings guarantee on an annual basis.

Table 19: Annual Degradation Factor

Guarantee Year	Annual Degradation Factor
Year 1	0%
Year 2 to Year 25	0.5%

Table 20 shows the proposed annual production along with PV capacity (kW) for each site. The annual PV production (kWh) is shown for the duration of the M&V Term.

Table 20: Proposed Performance Period PV Energy Production[1]

Facility	Nameplate Capacity [kW]	Year 1 Production [kWh]	Year 2 Production [kWh]	Year 3 Production [kWh]	Year 4 Production [kWh]	Year 5 Production [kWh]
Police Station	343	535,301	532,625	529,948	527,272	524,595
Civic Center	700	1,062,636	1,057,322	1,052,009	1,046,696	1,041,383
Main Library	368	577,505	574,618	571,730	568,843	565,955
Public Works	323	512,597	510,034	507,471	504,908	502,345
South Library	187	282,920	281,506	280,091	278,676	277,262
Loma Verde	110	180,620	179,717	178,814	177,911	177,007
Parkway Aquatic Center	85	123,974	123,354	122,734	122,114	121,494
Montevalle	82	128,218	127,577	126,936	126,295	125,654
Boys & Girls Club	70	99,057	98,562	98,067	97,572	97,076
Mount San Miguel	64	97,448	96,961	96,474	95,987	95,499
Animal Care	61	91,838	91,379	90,919	90,460	90,001
Salt Creek	44	70,610	70,257	69,904	69,551	69,198
Total Guaranteed Production	NA	3,762,725	3,743,911	3,725,097	3,706,284	3,687,470

[1] The guarantee reconciliation for a given performance year will be based on the total PV production for all the applicable sites.

Table 21 shows the baseline insolation data.

Table 21: Baseline Monthly Irradiance Data (kWh/m^2)

Month	Global Horizontal Insolation (kWh/m^2)
January	103.14
February	104.63
March	142.86
April	202.37
May	205.99
June	210.28
July	236.74
August	219.71
September	166.65
October	128.55
November	105.51
December	98.43
Total	1,924.85

FIM ESS Systems (All applicable sites)

M&V Option and Summary

The savings associated with this FIM will be measured using IPMVP Option B methodology. Measured Project Benefits are determined by field measurement of the energy use of the systems to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Short-term, long-term or continuous measurements are taken throughout the pre and post-retrofit periods. Engineering calculations using short term, long-term or continuous pre and post-retrofit measurements are used to calculate the Measured Project Benefits for the duration of the M&V Term.

Savings Calculation Methodology:

Energy savings from these renewable resource FIMs result from the electricity discharge of the Distributed Energy Storage (DES) Systems (where applicable) to limit certain peak demand. The DES savings analysis was performed with 2016 electric 15-minute demand data obtained for the affected utility electric meters. The data was loaded into a proprietary spreadsheet tool used by Johnson Controls to model savings from the DES. The actual current utility rates were incorporated into this spreadsheet model. The proprietary spreadsheet tool used for the analysis is called ERSGAP, which stands for Electric Rate Schedule Generation Analysis Program. This tool was used to model the campus electrical demand in half-hourly increments for a one-year period, both with and without the energy storage system. The tool is able to model various system sizes for each of these proposed measures, and to then evaluate the effect on Chula Vista's (for sites included in the scope of work) electric consumption from each modeled case. The savings for each of the modeled FIMs is essentially the reduction in the electric consumption seen in the model for that FIM. The model included Chula Vista's actual electrical demand data for 15-minute increments for the calendar year 2016, along with a detailed model of the current utility rate structure(s). System initial and ongoing costs are modeled in the program as well. Using all of this data, the spreadsheet is able to perform an economic performance analysis for the term of the project, to look at the system components that maximize the long-term payback.

Installation Period M&V Activities

Installation of the proposed scope of work will be verified following acceptance of the project. Any deviation from the proposed scope of work will be documented and its impact on the guaranteed energy savings will be evaluated. ***It should be noted that the installation period savings are not guaranteed.*** However, the benefit achieved during the installation period will be calculated using the same methodology as described in the Performance Period M&V Activities section below and documented in the post installation report.

Performance Period M&V Activities

Interval demand (kW) data sampled every 15 minutes will be collected on a monthly basis, utilizing a data acquisition system that archives data for the following key variabes:

- Facility/Site Interval Data (kW)[2]
- ESS Output (kW)

[2] A facility meter mirroring the utility meter will be installed in order to validate the impact of the DES system on the site demand data (kW)

- Solar PV Production (kW)

The data will be accessed remotely by JCI and will require authorization for remote access. Based on the collected interval demand data, a demand profile will be created for a given site. The post-retrofit demand expenditure for the site will then be calculated by applying the applicable proposed rate schedule as outlined in

Table 17. This post-retrofit interval demand profile will also be subjected to the baseline utility rates as outlined in

Table 7 to calculate baseline demand expenditure. The difference between the baseline demand expenditure and post-retrofit demand expenditure will compared to the guaranteed demand cost avoidance associated with this FIM to reconcile the guarantee.

Using an Excel based spreadsheet, JCI will compile the data on the DES System's actual performance for use in determining the Performance Period Energy. The data will be subjected to the following set of equations in order to recalcualte savings and will be compared with the guaranteed savings to reconcile the savings guarantee on an annual basis. The following set of equations will be utilized to recalculate savings.

The savings for the ESS are calculated after the application of solar PV to the baseline demand profile:

$$Annual\ Savings = \ Adjusted\ Baseline\ Demand\ Charges - Post\ ESS\ Demand\ Charges$$

Where

$$Adjusted\ Baseline\ Demand\ Charges = (Measured\ Demand\ Profile + Measured\ PV\ Demand\ Impact + Measured\ ESS\ Demand\ Reduction \pm kW\ Adjustments) * Proposed\ Rate\ Schedule$$

And

$$Post\ ESS\ Demand\ Charges = (Measured\ Demand\ Profile + Measured\ PV\ Demand\ Impact \pm kW\ Adjustments) * Proposed\ Rate\ Schedule$$

So

$$Annual\ Savings = (Measured\ ESS\ Demand\ Impact\ \pm kW\ Adjustments) * Proposed\ Rate\ Schedule$$

And by substituting a blended effective rate, specific to each site, in place of the proposed rate schedule

$$Annual\ Savings = \ (Measured\ ESS\ Demand\ Impact\ \pm kW\ Adjustments) * Effective\ kW\ Rate$$

Where

$$kW\ Adjustments = Lost\ Output\ kW \pm Facility\ Load\ Profile\ Changes$$

And

$$Lost\ Output\ kW = Estimated\ kW\ lost\ due\ to\ downtime\ or\ partial\ system\ damage\ related\ to\ acts\ of\ God, vandalism, etc.$$

And

$$Facility\ Load\ Profile\ Changes = Estimated\ kW\ lost\ due\ to\ differences\ between\ peak\ demand\ measured\ during\ the\ performance\ period\ as\ compared\ with\ baseline\ interval\ data;\ in\ terms\ of\ duration\ or\ magnitude\ of\ peaks$$

Baseline Adjustments:

Baseline adjustments will be claimed for the following events (not limited to):

- A change in operation, building addition etc. that causes facility demand to increase beyond the baseline demand as published in Schedule 2, Section IV.
- If the post retrofit demand profile is significantly higher the baseline demand data (peak demand is higher than baseline peak demand in any given month, of a duration longer than 2 hours or multiple spikes requiring discharge) such that savings are not achieved, then JCI will have the right to adjust the baseline.
- Energy/Demand Loss Due to Outages (due to force majeure or equipment damage) will be estimated depending on the amount of time and cause of the outage.

Each of the buildings have historical electricity usage data that JCI has parameterized to understand the energy and demand profiles for the sites. With the application of the Solar Energy Systems, the demand impacts will be first met with the Solar PV systems in some cases and will be firmed through the use of the energy storage systems using a demand management application through Metasys.
The parameterized usage data has defined demand thresholds to which the energy storage system is going to control to. These monthly thresholds are user programmable inside of the MetaSys DLLR Application and as the facility's load profile changes, these values can be modified to meet new load conditions if such an event were to arise. Through the use of a rolling average demand register, the system will react to discharge when above that threshold and charge below that threshold in order to be ready for a new demand event.

The MetaSys Network Interface Engine (NIE) will be located inside of the Energy Storage Container and will be connected through the JCI established network to a meter that is placed at the service entrance, which essentially measures what the utility will measure.

The demand thresholds for each building are defined below.

Table 22: Public Works Monthly Demand Threshold

Public Works	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max kW	283	270	296	322	370	343	292	275	310	260	278	272
Threshold	40.12%	28.99%	40.64%	25.12%	35.13%	30.53%	33.51%	29.75%	29.68%	36.56%	26.04%	37.14%
Threshold kW	113	78	120	81	130	105	98	82	92	95	72	101

Table 23: Montevalle Monthly Demand Threshold

Montevalle	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
On Peak kW	172	200	225	225	159	167	162	192	227	204	239	200
Threshold	25.66%	26.48%	40.13%	44.55%	50.21%	43.87%	45.36%	45.76%	39.71%	26.46%	23.38%	24.28%
Threshold kW	44	53	90	100	80	73	73	88	90	54	56	48

Table 24: Police Station Monthly Demand Threshold

Police Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
On Peak kW	292	307	340	324	310	382	451	457	432	369	395	292
Threshold	16.77%	18.43%	11.08%	12.65%	11.68%	15.59%	12.86%	11.55%	8.82%	16.01%	18.03%	17.35%
Threshold kW	49	57	38	41	36	59	58	53	38	59	71	51

Table 13 shows the guaranteed peak demand output (kW) for each site included in the scope of work associated the DES system.

Table 25: Proposed Performance Period DES Annual Peak Demand Output (kW)

Site	Annual Max kW Savings	Annual On Peak kW Savings
Public Works Facility	1,067	604
Police Station	903	835
Montevalle Rec Center	638	642

VII. MEASUREMENT & VERIFICATION SERVICES

JCI will provide the M&V Services set forth below in connection with the Assured Performance Guarantee.

1. During the Installation Period, a JCI Performance Engineer will track Measured Project Benefits. JCI will report the Measured Project Benefits achieved during the Installation Period, as well as any Non-Measured Project Benefits applicable to the Installation Period, to Customer within 60 days of the commencement of the Guarantee Term.

2. During the M&V Term, within 60 days of each anniversary of the commencement of the Guarantee Term, JCI will provide Customer with an annual report containing:
    A. an executive overview of the project's performance and Project Benefits achieved to date;
    B. a summary analysis of the Measured Project Benefits accounting; and
    C. depending on the M&V Option, a detailed analysis of the Measured Project Benefits calculations.

3. During the M&V Term, a JCI Performance Engineer will monitor the on-going performance of the Improvement Measures, as specified in this Agreement, to determine whether anticipated Measured Project Benefits are being achieved. In this regard, the Performance Engineer will periodically assist Customer, on-site or remotely, with respect to the following activities:
    A. review of information furnished by Customer from the facility management system/data acquisition system to recalculate energy savings;
    B. advise Customer's designated personnel of any performance deficiencies based on such information;
    C. coordinate with Customer's designated personnel to address any performance deficiencies that affect the realization of Measured Project Benefits; and
    D. inform Customer of opportunities to further enhance project performance and of opportunities for the implementation of additional Improvement Measures.

4. For specified Improvement Measures utilizing an "Option B" M&V protocol, JCI will:
    A. confirm that the appropriate metering and data points required to track the variables associated with the applicable Improvement Measures' benefits calculation formulas are established; and
    B. set up appropriate data capture systems (e.g., trend and totalization data on the facility management system) necessary to track and report Measured Project Benefits for the applicable Improvement Measure.

SCHEDULE 3 – CUSTOMER RESPONSIBILITIES

In order for JCI to perform its obligations under this Agreement with respect to the Work, the Assured Performance Guarantee, and the M&V Services, Customer shall be responsible for:

1. Providing JCI, its subcontractors, and its agents reasonable and safe access to all facilities and properties that are subject to the Work and/or M&V Services;

2. Providing alternative parking facilities for staff and non-staff vehicles that will be impacted by the Work;

3. Providing a laydown area for material storage at each worksite;

4. Providing for shut down and scheduling of affected locations during installation, including timely shutdowns of electrical systems as needed to accomplish the Work and/or M&V Services;

5. Providing timely reviews and approvals of design submissions, proposed change orders, and other project documents;

6. Providing the following information with respect to the project and project site as soon as practical following JCI's request:

    a. surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;
    b. geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the project site;
    c. temporary and permanent easements, zoning and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the project and enable JCI to perform the Work;
    d. a legal description of the project site;
    e. as-built and record drawings of any existing structures at the project site, environmental studies, reports and impact statement describing the environmental conditions, including hazardous conditions or materials, in existence at the project site.

7. Securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable JCI to perform the Work;

8. Providing assistance to JCI in obtaining any permits, approvals, and licenses that are JCI's responsibility to obtain as set forth in Schedule 1;

9. Obtaining any permits, approvals, and licenses that are necessary for the performance of the Work and are not JCI's responsibility to obtain as set forth in Schedule 1;

10. Properly maintaining, and performing appropriate preventative maintenance on, all equipment and systems affecting the Assured Performance Guarantee in accordance with manufacturers' recommendations and specifications;

    a. For Solar PV systems the customer is responsible for providing the operations and maintenance of such systems (O&M). Customer shall maintain PV systems such that output does not drop below 98% of estimated system kWh output. Johnson Controls is under no obligation to provide for replacement of components that fail after the 1-year warranty period set forth in the Agreement has expired. During the term of any manufacturers' warranty periods, Customer shall seek replacement of any failed parts from the manufacturer. Estimates of inverter replacement costs have been presented in the pro forma cash flow to enable the Customer to budget for these costs in future

years. These costs are not included in the price of the project as set forth in Schedule 4 below and are for illustration purposes only.

b. For Energy Storage Systems, the first five years of O&M service, and warranty fees, is included in the Planned Service Agreement. Customer is responsible for providing for O&M and any warranty after year 5. Johnson Controls is under no obligation to provide for replacement of components that fail after the warranty period has expired. Johnson Controls is under no obligation to provide for planned overhauls of battery systems at the end of their useful life. Estimates of overhaul cost have been presented in the pro forma cash flow to enable the Customer to budget for these costs in future years. These costs are not included in the price of the project and are for illustration purposes only.

c. It is understood by Customer that the useful life of some of the components in this Project are less than the 25-year term of the guarantee, and that to achieve the Project Benefits desired by Customer, it may become necessary for Customer to replace such components outside of the applicable warranty periods at Customer's sole cost and expense.

11. Providing the utility bills, reports, and similar information reasonably necessary for administering JCI's obligations under the Assured Performance Guarantee within five (5) days of Customer receipt and/or generation or JCI's request therefor;

12. Providing all records relating to energy and/or water usage and related maintenance of the premises and relevant equipment requested by JCI;

13. Providing and maintaining a dedicated cellular service to each site to facilitate remote monitoring of relevant equipment;

14. Promptly notifying JCI of any change in use or condition described in Schedule 2 or any other matter that may impact the Assured Performance Guarantee; and

15. Taking all actions reasonably necessary to achieve the Non-Measured Project Benefits.

SCHEDULE 4 – PRICE AND PAYMENT TERMS

Customer shall make payments to JCI pursuant to this Schedule 4.

1. *Compensation*. The Total Price for the Work consists of two (2) primary components: (a) the Price for the Work (explained in more detail below) and (b) the City's Controlled Allowance. The two (2) components of The Total Price are as follows:

1.	Price for the Work:	$12,968,393.
2.	City's Controlled Allowance:	$ 486,366.
Total Price for the Work:		**$13,454,759.**

JCI's compensation for construction of the Work shall be based upon a cost plus basis, not to exceed the Total Price for the Work set forth above subject to amendment by Change Order. The overhead and profit calculation, shall be fifteen (15%) percent gross margin for overhead plus an additional ten (10%) percent gross margin added to actual project costs and overhead for profit. Any unused money will be credited back to the Customer at the conclusion of the Project and prior to close out. JCI's Price for the Work will be comprised of the following: JCI's overhead and profit, all actual Project Related Costs, as established pursuant to Schedule 4A, with the exception of JCI's Internal Labor JCI's Internal Labor will be charged out based upon the Labor Rate Schedule, Charge Rates in Schedule 4B.

2. *Payments.* Are made up of three (3) separate components: a). Initial Mobilization Payment (25%), b). Progress Payments (70%), and c). Retention (5%).

   a. **Initial Mobilization Payment (25%):** A payment of twenty five (25%) percent of the Total Price for the Work set forth above will be due upon the Customer issuing JCI the Notice To Proceed; for Project Development, Engineering and Mobilization.

   b. **Progress Payments (70%):** In addition to the Initial Payment, Monthly progress payments, based upon percent of Work completed that month, as defined by the Project Schedule of Values for Work. Included in the Work completed calculation, will be all costs for stored materials. JCI will provide invoices for the remaining payments on a monthly basis, and shall be based upon the percentage of Work completed to date. Such invoices will be paid once the Work is inspected to ensure the Work is in compliance with and in furtherance of the Agreement, including the guarantees provided herein. Such inspection, approval and payment by the Customer with respect to each invoice shall be done within thirty (30) days of Customer's receipt of such invoice. In the event that Customer raises an issue regarding the compliance and/or completion of the Work, Customer shall pay all amounts that are not in dispute within such thirty (30) day period.

   c. **Retention (5%):** The Progress Payments will continue up to ninety five percent (95%) percent of the Total Price for the Work. The final five (5%) percent shall be billed once the Final Notice of Completion is approved by the Customer.

3. *Payments Instructions.* Payments shall be submitted by either by a Wire Transfer or Overnight Mail. The instructions for the payments are listed below:

Remit via Wire Transfer	**Remit via Overnight**
JP Morgan Chase	JP Morgan Chase Bank
One First National Plaza	14800 Frye Rd TX1-0029
Chicago, IL 60670	Fort Worth, TX 76155
Credit to Johnson Controls Inc.	Attn: Johnson Controls Inc.
ABA# 071-000013	PO Box 730068
Depositor Acct #55-14347- Checking Account	PPhone 817-399-5042
~~Account type: Checking~~	

Job Number: 7PZ5-0055

4. *Owner Controlled Allowance.*

   The Owner Controlled Allowance shall remain under the control of the Customer. Customer may authorize Johnson Controls to provide additional Work or services through the change order process described in Section 10 of the Agreement.

5. *Planned Services Agreement for Post Construction Measurement & Verification Services*.

   The Total Price for JCI's M&V Services, as detailed in Schedule 2 of this Agreement, is $215,970. This also includes Operation, Maintenance, and Warranty for Energy Storage Systems. Please refer to Attachment 4 for scope of work associated with the Energy Storage System O&M and Warranty. This amount will be paid to JCI in annual installments as shown in Table 26. For the sake of clarity, amounts due for M&V Services are not reflected in the Total Price for the Work set forth above. These payments will be due and payable when Customer receives JCI's invoice and in advance of the services JCI is to provide, and shall be made throughout the M&V Term. If the Customer elects to cancel M&V Services, the Customer must do so in writing within 30 days of the renewal date, otherwise full service will continue for the remainder of the year and the Customer will be responsible for payment of the full year.

Table 26: M&V Payments

Year	Total
Year 1	$40,679
Year 2	$41,899
Year 3	$43,156
Year 4	$44,451
Year 5	$45,784
Total	$215,970

Schedule 4A
Schedule of Values

Project Related Costs: The Project Related Costs shall include, but not limited to, the following: all Sub-Contracts, Consulting Agreements, Direct Purchases, Bonds/Insurance, Rental Equipment, Duplication, Communication, Trash Disposal, Temporary Facilities and related expenses, Temporary Utilities, Safety Equipment and Travel Expenses.

All of JCI's internal Labor Costs for Engineering, Project Management, Supervision, Estimating, Contract Administration, Measurement & Verification, Commissioning and Training will be based upon the Charge Rates, listed in Schedule 4B.

The Schedule of Values (SOV) will be submitted to the Customer and attached herein, within ten (10) business days of JCI receiving the NTP. While the SOV may allocate amounts on a site-by-site basis, it is understood by the parties that JCI may reallocate such amounts from one site to another site and from category to another category at JCI's reasonable discretion, so long as JCI's compensation does not exceed the Total Price for the Work.

Other JCI Business Unit(s) Participation: Other JCI Business Unit(s) may provide proposal's for labor, materials or equipment for this project. If the Customer deems their proposal(s) to be the best value, the Other JCI Business Unit(s) may be retained as a subcontractor or supplier. For the purpose of the Price calculation, the Other JCI Business Unit(s) will be treated like any and all other Project Related Costs and will be subject to the aforementioned overhead and profit calculation in the Price. In the event JCI's other Business Unit(s) participate in the Project, their proposal shall be submitted directly to the Customer, at least twenty four (24) hours in advance of all other competitive proposals.

Schedule 4B
2017 Charge Rate Schedule

JCI's internal labor for all Project Related Costs, shall be charged pursuant to the following Rate Schedule.

Item Number	Labor Type	Charge Rate Per/Hour
1	Engineering - Manager	$ 192.40
2	Engineering - Solar & Commissioning	$ 182.00
3	Engineering - Project Development	$ 171.60
4	Engineering - Water	$ 171.60
5	Engineering - HVAC Commissioning	$ 161.20
6	Engineering - Measurement & Verification	$ 153.92
7	Engineering - Lighting	$ 150.80
8	Operations - Manager	$ 192.40
9	Operations - Construction Manager	$ 166.40
10	Operations - Site Superintendent	$ 156.00
11	Operations - Contract s Administration	$ 88.40
12	Estimating	$ 175.76
13	Training	$ 141.44
14	Safety	$ 130.00

The aforementioned Charge Rates do not apply to other JCI Business Units.

Charge Rates are effective through each calendar year and shall be increased by the rate of three (3%) on January 1, of each new calendar year.

NOTICE TO PROCEED

Johnson Controls, Inc.
9630 Ridgehaven Court, Suite A
San Diego, CA 92123

ATTN: Mark Martinez, Regional General Manager, Energy Solutions

Re: Notice to Proceed for City of Chula Vista Performance Contract

Dear Mark Martinez:

This Notice to Proceed is being issued by City of Chula Vista ("Customer") to Johnson Controls, Inc. ("JCI") pursuant to that certain Performance Contract entered into between Customer and JCI for the purpose of notifying JCI to commence work under such contract.

In the event that this Notice to Proceed is delivered by Customer prior to the execution of the Performance Contract by Customer and JCI, Customer understands and expects JCI will incur significant costs and expenses in complying with this Notice to Proceed. In the event the Performance Contract is not executed by the parties, for any reason, Customer agrees to pay JCI for its costs and fees incurred in complying with this Notice to Proceed on a time and material basis. Customer also agrees JCI shall be entitled to a reasonable markup thereon for profit and overhead. Customer agrees to pay amounts billed by JCI no later than five (5) days after Customer receives JCI's payment application. JCI will continue to submit payment applications to Customer until the Performance Contract is executed. Once the Performance Contract is executed, JCI will begin submitting its payment applications to Customer in accordance with the terms and conditions set forth therein. Any amounts already paid by Customer will be credited towards the Performance Contract price.

By signing and dating this Notice to Proceed, the parties hereto agree to these terms and represent and warrant they have the authority to execute this Notice to Proceed on behalf of their respective organizations.

CITY OF CHULA VISTA	**JOHNSON CONTROLS, INC.**
Signature:_____	Signature:_____
Printed Name:	Printed Name: Mark Martinez
Title:	Title: Regional General Manager, Energy Solutions
Date:_____	Date:_____

Attachment 2

CHANGE ORDER

Performance Contract dated , 20 between Johnson Controls, Inc. and Customer	Change Order No.		Date (mo/day/yr)
Customer: City of Chula Vista			

The above referenced Performance Contract is hereby modified to the extent described below in accordance with the Terms and Conditions of the CHANGE ORDERS section thereof.

Scope of Work changed as follows:

Total amount of this Change Order	$
Total Performance Contract amount as revised by this Change Order	$
The time for completion is: ☐ increased, ☐ decreased, ☐ unchanged. The new completion date resulting from this Change Order is:	(mo, day, yr)

[check if applicable] Assured Performance Guarantee changed as follows:

Unless specifically changed by this Change Order, all terms, conditions and provisions of the above referenced Performance Contract remain unchanged and in full effect.

JOHNSON CONTROLS, INC.	**CUSTOMER**
Signature:	Signature:
Printed Name:	Printed Name:
Title:	Title:

CERTIFICATE OF SUBSTANTIAL COMPLETION

PARTIES: JOHNSON CONTROLS, INC. ("JCI")
9630 Ridgehaven Court, Suite A
San Diego, CA 92123

and

City of Chula Vista ("Customer")
276 4th Avenue
Chula Vista, CA 91910

PROJECT: City of Chula Vista Performance Contract dated _____ __, 2017 between JCI and the Customer.

SITE: _____.
Project Site, Name and Address to be added for each site, listed in Schedule 4

By executing this Certificate of Substantial Completion, Customer acknowledges the following:

a. The work set forth in the Performance Contract, at the aforementioned Project Site, is substantially complete.

b. Customer has received the manuals, warranty information, and training required under the Performance Contract.

c. The following punch list items must be completed by JCI (check as applicable):
   ☐ punch list attached
   ☐ punch list complete

d. Upon completion of the punch list items, or if such punch list items are complete, JCI and Customer shall sign the Certificate of Final Completion attached hereto. Dated: , 20 .

CITY OF CHULA VISTA

Signature:_____

Printed Name:

Title:

Date:_____

JOHNSON CONTROLS, INC.

Signature:_____

Name: Mark Martinez

Title: Regional General Manager, Energy Solutions

Date:_____

Signature:_____

Name: Sandra Spencer

Title: Project Assurance Manager

Date:_____

CERTIFICATE OF FINAL COMPLETION

PARTIES: JOHNSON CONTROLS, INC. ("JCI")
9630 Ridgehaven Court, Suite A
San Diego, CA 92123

and

City of Chula Vista ("Customer")
276 4th Avenue
Chula Vista, CA 91910

PROJECT: City of Chula Vista Performance Contract dated _____, 2017 between JCI and Customer

By executing this Certificate of Final Completion, Customer acknowledges the following:

a. The work set forth in the Performance Contract has been reviewed and determined by Customer to be fully complete.

b. Customer accepts the work at all Project Sites as complete and hereby releases JCI's obligations under any performance and payment bonds posted for the project as of the date set forth below.

Dated , 20 .

CITY OF CHULA VISTA

Signature:_____

Printed Name:

Title:

Date:_____

JOHNSON CONTROLS, INC.

Signature:_____

Printed Name: Mark Martinez

Title: Regional General Manager, Energy Solutions

Date:_____

Signature:_____

Name: Sandra Spencer

Title: Project Assurance Manager

Date:_____

M&V SERVICES AGREEMENT

City of Chula Vista ("Customer")
276 4th Avenue
Chula Vista, CA 91910

Scope of Services

Johnson Controls, Inc. ("JCI") and the Customer (collectively the "Parties") agree Services, as defined in Scope of Work (below), will be provided by JCI at the Customer's facility. Terms and Conditions of this Agreement are as set forth in the Performance Contract and incorporated by this reference and cover the rights and obligations of both the Customer and JCI. This Service Agreement and the Price and Payment Terms are set forth fully herein (collectively the "Agreement"),

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Term

This Agreement takes effect on the day the Certificate of Final Completion for the Performance Contract is approved by the Customer and JCI, and will continue for three hundred (300) consecutive months ("Original Term"). JCI will not terminate this Agreement early providing the Customer fulfills its obligations of the Agreement.

Price and Payment Terms

The total Contract Price for JCI's Services during the Original Term is $215,970. This amount will be paid to JCI in annual installments (refer to Schedule 4). These payments will be due and payable within thirty (30) days of the invoice date and such timely payment by Customer shall be a condition precedent to JCI's obligation to perform its Services. A penalty of one and a half percent (1.5%) of the amount due per month shall accrue for payments received after the payment due date. If the Customer elects to cancel M&V Services, the Customer must do so in writing within 30 days of the renewal date, otherwise full service will continue for the remainder of the year and the Customer will be responsible for payment of the full year.

Scope of Work

Measurement & Verification Services

The M&V scope of work is described in detail in Schedule 2 and 2A of the Performance Contract agreement under the heading "Detailed Description of M&V Activities and Deliverables". Please refer to that section for the specific work to be completed under this service Agreement.

Energy Storage System O&M

JCI shall provide the following maintenance services for the Energy Storage System(s) on an annual basis:

Personnel trained in safety of ESS and trained to operate, repair and maintain ESS are the only personnel allowed to perform below tasks. Please reviews Appendix A for additional details.

- Check structural integrity of all pre-assembled structure within container. Visually inspect every structural connection. In case of bolted connections, torque bolts as shown on installation drawings.
- Check for condensation in all visible areas
- Check for cobwebs near penetrations to outside, as these are indicative of a breach in the seal
- Check (visually) all cables, wiring and wiring harnesses for integrity of harness wire and connection.
- Check Bonding and Grounding connections
- Check all visible AC connections at panels and at equipment, at disconnects
- Check all visible DC connections at panels and at equipment, at disconnects
- Inspect fire-suppression, fire protection, fire detection system
- Inspect Inverter in accordance with manufacturer's recommendations.
- Note damage and contact operations staff, note vandalism and alert operations staff
- Perform major component refurbishment for inverter as recommended by equipment manufacturer
- Inspect HVAC system in accordance with manufacturer's recommendations.
- Review report showing excursions to operating limits. Take corrective action at HMI or contact manufacturer for assistance
- Test Fire Alarm Control Panel operation
- Perform major component refurbishment for energy storage system, every five years, as recommended by equipment manufacturer
- Perform software updates, if available to DESS and peripheral systems
- Verify fan operation
- Clean container of any foreign objects

The following maintenance checklist will be completed during the annual inspection and provided to the Customer.

Johnson Controls - L2000 Maintenance Checklist
Version: 1.00

Date:

Site Information:

DESS Model:

Num of Containers:

DESS Serial Number:

Number of Battery Modules:

Inspections:		Frequency	Ok	Bad	NA	Comments
1	**Physical Container**					
1.1	Inspect container for damage (vandal, rodent, collision).	Yearly				
1.2	Verify doors can be opened from the inside without keys.	Yearly				
1.3	Verify High Voltage labeling on each door is in place.	Yearly				
1.4	Visually verify that container meets weather-proofing requirements.	Yearly				
1.6	Verify lightning protection is intact.	Yearly				
1.7	Verify container is grounded is connected.	Yearly				
1.8	Inspect portable Class C fire extinguisher.	Yearly				
1.9	Inspect UPS power supply (if installed).	Yearly				
1.10	Verify that area is clean.	Yearly				
2	**External AC Input**					
2.1	Verify container AC Breakers can be actuated.	Yearly				
2.3	Verify External AC cable is in good condition.	Yearly				
2.4	Verify External AC cable terminals and heat shrinks are in good condition.	Yearly				
3	**External Communications Wiring**					
3.1	Verify that all communications wires are labeled.	Yearly				
3.2	Verify that all junction boxes, hubs, and routers are installed and secure.	Yearly				
3.3	Verify that all communications wiring is in good condition.	Yearly				
3.4	Verify that all communications cables are securely plugged in.	Yearly				
3.5	Check that there are no sharp bends in any fiber-optic cable.	Yearly				
3.5	Verify area is clean	Yearly				
4	**External DC Output**					
4.1	Verify DC Disconnect can be actuated.	Yearly				
4.3	Verify External DC cable is in good condition?	Yearly				
4.4	Verify External DC cable terminals and heat shrinks are in good condition?	Yearly				
4.5	Verify external DC cables are connected to proper DC buss bars?	Yearly				
4.6	Check for corrosion on DC terminations.	Yearly				
4.8	Verify area is clean	Yearly				

Johnson Controls, Inc. Initials: _____ Customer Initials: _____

5	**Battery Racks**				
5.1	Check for corrosion on rack DC terminations.	Yearly			
5.2	Verify continuity of rack communications wiring.	Yearly			
5.3	Verify the ground connection of each rack.	Yearly			
6	**Battery Modules**				
6.1	Check for corrosion on rack DC terminations.	Yearly			
6.2	Verify latest software is downloaded to each module.	Yearly			
6.3	Verify fan operation of each module.	Yearly			
6.4	Verify the ground connection on each module.	Yearly			
7	**String Boxes**				
7.2	Verify that latest software is downloaded to string box.	Yearly			
7.3	Check for corrosion on string box DC terminations.	Yearly			
7.4	Verify rack DC cables are in good condition.	Yearly			
7.5	Verify rack DC cable terminals and heat shrinks are in good condition.	Yearly			
7.6	Verify rack DC cables are connected to proper terminations on the string box.	Yearly			
7.7	Verify main buss bar DC cables are in good condition.	Yearly			
7.8	Verify main buss bar DC cable terminals and heat shrinks are in good condition.	Yearly			
7.9	Verify main buss bar DC cables are connected to proper terminations on the string box.	Yearly			
8	**Battery Control System**				
8.1	Verify communications wiring to/from Battery Controller.	Yearly			
8.1	Analyze the "error log" of the battery controller to identify any intermittent faults.	Monthly			
8.2	Verify communications from Battery Controller to internet.	Monthly			
8.3	Verify that latest software is downloaded to Battery Controller.	Yearly			
8.4	Verify data logging is functional for each device for which data is being logged.	Monthly			
9	**Balance Of System (BOS) Checks**				
9.1	Check HVAC system in accordance with manufacturer's recommendations.	Yearly			
9.2	Check Fire Detection system in accordance with manufacturer's recommendations.	Yearly			
9.3	Check Ground Fault Detector in accordance with manufacturer's recommendations.	Yearly			
9.4	Check Security system in accordance with manufacturer's recommendations.	Yearly			
9.4	Check UPS system in accordance with manufacturer's recommendations.	Yearly			
10	**Operational Checks**				
10.1	Measure the Depth of Discharge (DOD) for each string	Yearly			
10.2	Charge each battery string @ 2C and check for outlier cell voltages	Yearly			
10.3	Discharge each battery string @ 2C and check for outlier cell voltages	Yearly			
10.4	Charge each battery string @ 2C and check for outlier cell currents	Yearly			
10.5	Discharge each battery string @ 2C and check for outlier cell currents	Yearly			
10.6	Determine Round Trip Efficiency of the System.	Yearly			

Energy Storage System Warranty:

Please review Appendix B for details associated with the warranty included with this PSA.

CITY OF CHULA VISTA	**JOHNSON CONTROLS, INC.**
Signature:_____	Signature:_____
Name: Gary Halbert	Name: Mark Martinez
Title: City Manager	Title: Regional General Manager, Energy Solutions
Date:_____	Date:_____

Insurance Addendum

JCI shall procure and maintain for the duration of the contract, *and for 5 years thereafter*, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by JCI, its agents, representatives, employees, or subcontractors.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. **Commercial General Liability (CGL)**: Insurance Services Office Form CG 00 01, including products and completed operations, with limits of no less than **$5,000,000** per occurrence for bodily injury, personal injury, and property damage. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability**: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than **$5,000,000** per accident for bodily injury and property damage.
3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than $1,000,000 per accident for bodily injury or disease.
4. **Builder's Risk** (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.
5. **Surety Bonds** as described below.
6. **Professional Liability** (if Design/Build), with limits no less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.
7. **JCIS's Pollution Legal Liability** and/or Asbestos Legal Liability and/or Errors and Omissions (only if JCI undertakes to remediate environmental hazards) with limits no less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.

   If JCI maintains higher limits than the minimums shown above, the City requires and shall be entitled to coverage for the higher limits maintained.

   (The requirements of this section 7. shall apply pursuant to section 9. of the Agreement.)

8. **Technology Professional Liability** (Cyber Errors and Omissions) Insurance appropriate to JCI's profession, with limits not less than **$2,000,000** per occurrence or claim, **$2,000,000** aggregate. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by JCI in this agreement and shall include, but not be limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress, invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, alteration of electronic information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

Other Insurance Provisions

The insurance policies are to contain, or be endorsed to contain, the following provisions:

Additional Insured Status

City, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of JCI including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to JCI's insurance (at least as broad as ISO Form CG 20 10 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used), specifically Additional Insured Endorsement must not exclude Products / Completed Operations.

Primary Coverage

For any claims related to this contract, the **JCI's insurance coverage shall be primary** insurance primary coverage at least as broad as ISO CG 20 01 04 13 as respects City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by City, its officers, officials, employees, or volunteers shall be excess of the JCI's insurance and shall not contribute with it.

Notice of Cancellation

Each insurance policy required above shall state that **coverage shall not be canceled, except with notice to City**.

Waiver of Subrogation

JCI hereby grants to City a waiver of any right to subrogation which any insurer of JCI may acquire against City by virtue of the payment of any loss under such insurance. JCI agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not City has received a waiver of subrogation endorsement from the insurer.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to City.

Claims Made Policies

If any of the required policies provide coverage on a claims-made basis:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided ***for at least five (5) years after completion of the contract of work.***
3. If coverage is canceled or non-renewed, and not ***replaced with another claims-made policy form with a Retroactive Dat***e prior to the contract effective date, JCI must purchase "extended reporting" coverage for a minimum of ***five (5)*** years after completion of contract work.

Verification of Coverage

JCI shall furnish City with original certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be

received and approved by City before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive JCI's obligation to provide them. City reserves the right to require complete, certified copies of all required insurance endorsements required by these specifications, at any time.

Subcontractors

JCI shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and JCI shall ensure that City is an additional insured on insurance required from subcontractors.

Special Risks or Circumstances

City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.