California Energy Commission
June 12, 2024 Business Meeting
Backup Materials for National Community Renaissance

The following backup materials for the above-referenced agenda item are available in this PDF packet as listed below:

1. Proposed Resolution
2. Grant Request Form
3. Scope of Work

[PROPOSED]

RESOLUTION NO: 24-0612-03f

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: National Community Renaissance

RESOLVED, that the State Energy Resources Conservation and Development Commission (CEC) adopts the staff CEQA findings contained in the Agreement or Amendment Request Form (as applicable); and

RESOLVED, that the CEC approves agreement EPC-23-035 with National Community Renaissance for a $8,000,000 grant. This project will build a 288-unit all-electric affordable housing mixed-use development with low-carbon technologies and advanced materials in San Diego. Staff recommends conditional approval of this item based upon funding availability as of the 2024 Budget Act; and

FURTHER BE IT RESOLVED, that the Executive Director or their designee shall execute the same on behalf of the CEC.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on June 12, 2024.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

_____
Kristine Banaag
Secretariat

STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

CEC-270 (Revised 9/2022)

GRANT REQUEST FORM (GRF)

A. New Agreement Number

IMPORTANT: New Agreement # to be completed by Contracts, Grants, and Loans Office.

New Agreement Number: EPC-23-035

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Heriberto Rosales
3. MS-51 :None**
4. Phone Number: 916-903-4671

C. Recipient's Information

1. Recipient's Legal Name: National Community Renaissance
2. Federal ID Number: 33-0521215

D. Title of Project

Title of project: Zero Emission Affordable Housing Design: Palm City Transit Village

E. Term and Amount

1. Start Date: 6/12/2024
2. End Date: 3/31/2027
3. Amount: $8,000,000.00

F. Business Meeting Information

1. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 6/12/2024
3. Consent or Discussion? Consent
4. Business Meeting Presenter Name: Heriberto Rosales
5. Time Needed for Business Meeting: 5 minutes.
6. The email subscription topic is: EPIC (Electric Program Investment Charge).

Agenda Item Subject and Description:

National Community Renaissance. Proposed resolution conditionally approving agreement EPC-23-035 with National Community Renaissance for a $8,000,000 grant and adopting staff's determination that this action is exempt from CEQA. This project will build a 288-unit all-electric affordable housing mixed-use development with low-carbon technologies and advanced materials in San Diego. Staff recommends conditional approval of this item based upon funding availability as of the 2024 Budget Act. (EPIC funding) Contact: Heriberto Rosales

G. California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
Yes

If yes, skip to question 2.

If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because:

2. **If Agreement is considered a "Project" under CEQA answer the following questions.**

a) Agreement **IS** exempt?

Yes

Statutory Exemption?
No
If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

PRC section number:

CCR section number: None

Categorical Exemption?
Yes

If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

CCR section number: 15332

Common Sense Exemption? 14 CCR 15061 (b) (3)
No

If yes, explain reason why Agreement is exempt under the above section. The modified Palm City Village Transit Oriented Development Project is categorically exempt from the California Environmental Quality Act review under 14 CCR section 15332 (Class 32) because it is in-fill development that (a) is consistent with the applicable general plan designation and applicable general plan policies as well as with applicable zoning designation and regulations; (b) occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses; (c) is located on a project site that has no value as habitat for endangered, rare or threatened species; (d) would not result in any significant effects related to traffic, noise, air quality, or water quality; and (e) is located on a site that can be adequately served by all required utilities and public services.

The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations as City of San Diego staff has determined that the modified Palm City Village Transit Oriented Development Project site is zoned RM-1-1, which allows for multi-family residential development of no greater than 29 units per acre. The project is eligible to apply for a density bonus that would allow a maximum density of unlimited units per acre. The land use and density are allowed by right with the utilization of the affordable housing density bonus regulations and are not subject to discretionary review.

The proposed development occurs within city limits on a project site of approximately 3.9 acres. The Palm Avenue Trolley Station and rail line and I-5 is on the west side of the site. Residential development is located on the east side and on the other side of the Palm Avenue to the south of the site. The project site has no value as habitat for endangered, rare or threatened species as the site is relatively flat and currently has 499 paved parking spaces.

The project is not expected to result in significant traffic, noise, air quality, or water quality effects, nor such effects above those expected from a typical building construction project. The project involves integrating housing into the adjacent transit station and reduces the number of parking spaces at the site. Additionally, this project does not involve impacts on any particularly sensitive environment; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

Additionally, the San Diego Metropolitan Transit System has approved a ground lease for the project and found that the project was exempt from CEQA review per 14 CCR section 15332.

b) Agreement **IS NOT** exempt.
IMPORTANT: consult with the legal office to determine next steps.

No

If yes, answer yes or no to all that applies. If no, list all as “no” and “None” as “yes”.

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes

H. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter “No subcontractors to report” and “0” to funds. **Delete** any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
Arup US, Inc.	$ 396,056	**$**0
Build Momentum (d.b.a. Momentum)	$ 200,000	**$**0
University of Southern California	$ 329,199	**$**0
Hope Through Housing Foundation	$ 20,000	**$**0

I. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter "No vendors or sellers to report" and "0" to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Studio E Architects	$20,000	$0
TBD - Structural Engineer	$20,000	$0
TBD - Mechanical & Plumbing	$50,000	$0
TBD - Dry and Wet Utilities	$5,000	$0

J. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

Key Partner Legal Company Name
No key partners to report

K. Budget Information

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	22-23	301.001J	$ 8,000,000

TOTAL Amount: $ 8,000,000

R&D Program Area: TIEB: EDMF

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

L. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Kendra Moore

Address: 801 K St , Suite 2800

City, State, Zip: Sacramento, CA 95814-3500

Phone: 916.444.3863

E-Mail: kendra@buildmomentum.io Recipient's Project Manager

Name: Kendra Moore

Address: 801 K St , Suite 2800

City, State, Zip: Sacramento, CA 95814-3500

Phone: 916.444.3863

E-Mail: kendra@buildmomentum.io Selection Process Used

There are three types of selection process. List the one used for this GRF.

Selection Process	Additional Information
Competitive Solicitation #	GFO-20-305p3
First Come First Served Solicitation #	Not applicable
Other	Not applicable

M. Attached Items

1. List all items that should be attached to this GRF by entering “Yes” or “No”.

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	Yes

Approved By

Individuals who approve this form must enter their full name and approval date in the MS Word version.

Agreement Manager: Heriberto Rosales

Approval Date: 3/25/2024

Branch Manager: Anthony Ng

Approval Date: 3/25/2024

Director: Anthony Ng for Cammy Peterson

Exhibit A
Scope of Work
National Community Renaissance

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR [1]	Task Name
1		General Project Tasks
2	X	Pre-installation and Design Review
3		Finance
4		Procurement
5		Interconnection Planning and Interconnection Approval
6		Installation
7	X	Commissioning
8		Measurement and Verification
9		Community Outreach and Engagement
10		Evaluation of Project Benefits
11		Technology & Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPR	Critical Project Review
TAC	Technical Advisory Committee

II. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES

A. Purpose of Agreement

The purpose of this Agreement is to fund the deployment of advanced clean energy technologies – designed in Phase I of this GFO – in a new, multifamily affordable housing and mixed-use development project. The project will be built on a four-acre transit agency-owned lot in San Diego. The project will be an all-electric, carbon-free community. The proposed design will make the development carbon-free by utilizing cutting-edge energy technologies and design approaches, underpinned by comprehensive resident engagement. This building project will demonstrate scalable

[1] Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

decarbonization strategies and model the future of housing in California. At completion, it will include apartment homes, and commercial uses that may include a childcare facility, retail area, and mobility hub surrounded by recreational walking and running paths. These amenities will serve the broader neighborhood, improving the community-at-large.

B. Problem/ Solution Statement

Problem

California must simultaneously address a housing crisis and a climate crisis. Yet as developers and builders rush to add high-quality housing units, the adoption of high-energy efficiency design strategies, all-electric builds, and clean energy technology in multifamily housing has lagged. While the anticipated decarbonization benefits of these approaches are evident, a post-COVID economy with high material and labor costs, coupled with a lack of sector knowledge, has heightened a sense of risk for new approaches. These sensitivities are especially acute in affordable housing developments. Demonstration of successful projects and practical knowledge are needed to catalyze implementation at scale, and drive deep decarbonization in multifamily housing, ultimately fostering more sustainable and cost-effective housing across California.

Solution

The development project will draw on extensive planning, design, and research from Phase I to deploy advanced energy technologies and strategies in a layered-on approach. The project team draws on extensive combined experience building 100 percent affordable, all-electric, zero net energy mixed-use projects. Through demonstration and validation of advanced design, engineering, construction approaches combined with a suite of advanced energy technologies, Palm City Transit Village will model the future of multifamily housing in California – housing that is more affordable, sustainable, and zero-carbon. Project knowledge will be transferred to policy makers, academics, builders, developers, property managers, and other stakeholders advance lower costs, replicability, and a deeper understanding of building decarbonization address California's parallel housing and climate crises.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- **Demonstrate Deployment and Operational Cost Effectiveness**: By implementing a layered-on approach, the project will showcase the cost-effectiveness of integrating advanced energy technologies into the conventional design and engineering process, and the approach's associated adaptability. Once constructed, the building will validate cost savings for property management and residents.

- **Demonstrate Feasibility and Market Readiness**: The project will showcase the feasibility of integrating high energy efficiency design strategies, all-electric builds, and advanced energy technology in multifamily housing, displacing less-efficient or fossil-fuel-based standard practice.
- **Demonstrate Benefits**: The project will provide tangible evidence of the benefits of adopting all-electric, zero-carbon, and energy-efficient measures in multifamily housing. By tracking and analyzing performance data, it will showcase decarbonization advantages, energy savings, and reduced environmental impact. The demonstration of these benefits will encourage wider adoption and support as well as future scaling efforts.
- **Transfer Knowledge and Support Policies**: The knowledge gained from this project will be disseminated to stakeholders, developers, builders, and policymakers, providing practical insights for successful implementation and acting as a case study to guide the transition to more sustainable standard practice. Better sector knowledge will catalyze the adoption of energy-efficient technologies in multifamily housing and drive deep-decarbonization efforts throughout California's housing sector.

Ratepayer Benefits:[2] This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety. The project will enhance **reliability** by being highly energy efficient, thus reducing load compared to a similar-sized building. It will utilize rooftop PV and energy storage to reduce grid energy usage, especially during peak periods, and ensure a minimum level of electricity access. Residents will be **safer** thanks to an in-building microgrid with islanding capability, to offer emergency power during outages, resilience for when power is restored, and space conditioned areas of refuge during heat events. Because there is no on-site combustion of natural gas, interior air quality will be higher.

Residents will enjoy **lower direct energy costs** thanks to high efficiency lighting, space conditioning, and appliances – especially demand-response based, load shifting water heating. Because the building is fully electric, residents will have no gas bill. High efficiency is of particular importance as San Diego County has the highest electricity rates in the continental US, and by far the highest in California and equally expensive natural gas. The average residential electricity rate in San Diego County is 42 ¢/kWh, which is 34% higher than the average electricity rate in California of 30.92 ¢/kWh. Efficiency in common areas, such as space conditioning and efficient laundry, and avoided energy costs from the buildings microgrid, ensure low operational costs for the building.

[2] California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC "Phase 2" Decision 12-05-037 at page 19, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF).

Technological Advancement and Breakthroughs:[3] This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by demonstrating and validating cutting-edge clean energy technologies and design methodologies in a multifamily mixed-use development. The public interest investment in this project will produce data on feasibility and cost-effectiveness, performance of high energy efficiency design strategies, and all-electric infrastructure. The project serves as a living case study for showcasing the tangible benefits of adopting all-electric, zero carbon, and energy-efficient measures in multifamily housing. The dissemination of this knowledge to stakeholders, developers, builders, and policymakers will ensure practical insights for successful implementation, ultimately catalyzing the widespread adoption of energy-efficient technologies throughout California's housing sector. Results will inform future iterations of California's energy code and buildings standards.

Agreement Objectives

The objectives of this Agreement are to:

- **Deploy** a suite of advanced energy technologies in a new-construction, multifamily housing development designed to be all-electric allowing building loads to regulate during high-demand periods from 4 to 9 p.m., assuring resource availability and thereby lowering energy costs.
- **Analyze** costs during procurement, deployment, and operation post-construction to draw conclusions about lifecycle costs and benefits.
- **Analyze** performance of high energy efficiency design strategies, all-electric, and advanced energy technology in multifamily housing, that will enhance building energy savings by 5% annually. Additionally, the projects' non-residential can expect upwards of 90% reduction in grid energy usage and associated savings.
- **Provide** tangible evidence of the benefits of adopting all-electric, zero carbon, and energy-efficient measures in multifamily housing to showcase decarbonization advantages, energy savings, and reduced environmental impact. These measures will provide a 40-50% reduction in tenant energy burden.
- **Transfer knowledge** using a comprehensive knowledge transfer plan to developers, builders, policymakers, providing practical insights for successful implementation, future policy updates and acting as a case study.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise

specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V).**

All products submitted which will be available for public view, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations**.**

All technical tasks should include product(s). Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, **"days"** means working days.

The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Consider incorporating all CAM comments into the final product. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product.
- Submit the revised product and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period, or approves a request for additional time.

For products that require a final version only

- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

For all products

- Submit all data and documents required as products in accordance with the following:

Instructions for Submitting Electronic Files and Developing Software:

  - **Electronic File Format**

- Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the California Energy Commission's (CEC) software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
- Text documents will be in MS Word file format, version 2007 or later.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

- **Software Application Development**

  Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:
  - Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
  - Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
  - Visual Studio.NET (version 2008 and up). Recommend 2010.
  - C# Programming Language with Presentation (UI), Business Object and Data Layers.
  - SQL (Structured Query Language).
  - Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
  - Microsoft SQL Reporting Services. Recommend 2008 R2.
  - XML (external interfaces).

  Any exceptions to the Electronic File Format requirements above must be approved in writing by the CAM. The CAM will consult with the CEC's Information Technology Services Branch to determine whether the exceptions are allowable.

MEETINGS

Subtask 1.2 Kick-off Meeting

The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The administrative portion of the meeting will include discussion of the following:
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Administrative products (subtask 1.1);
  - CPR meetings (subtask 1.3);
  - Match fund documentation (subtask 1.7);
  - Permit documentation (subtask 1.8);
  - Subcontracts (subtask 1.9); and
  - Any other relevant topics.

  The technical portion of the meeting will include discussion of the following:
  - The CAM's expectations for accomplishing tasks described in the Scope of Work;
  - An updated Project Schedule;
  - Technical products (subtask 1.1);
  - Progress reports (subtask 1.5);
  - Final Report (subtask 1.6);
  - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
  - Any other relevant topics.

- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones
  - List of potential risk factors and hurdles, and mitigation strategy

- Provide an *Updated Project Schedule, Match Funds Status Letter,* and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:

- Designate the date and location of the meeting.
- Send the Recipient a *Kick-off Meeting Agenda*.

Recipient Products:

- Kick-off Meeting Presentation
- Updated Project Schedule *(if applicable)*
- Match Funds Status Letter (subtask 1.7) *(if applicable)*
- Permit Status Letter (subtask 1.8) *(if applicable)*

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:

- Prepare and submit a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a *CPR Agenda* with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.

- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:
- CPR Report(s)

CAM Products:
- CPR Agenda
- Progress Determination

Subtask 1.4 Final Meeting
The goal of this subtask is to complete the closeout of this Agreement.

The Recipient shall:
- Meet with CEC staff to present project findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.
  - The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
  - The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
    - Disposition of any procured equipment.
    - The CEC's request for specific "generated" data (not already provided in Agreement products).
    - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
    - "Surviving" Agreement provisions such as repayment provisions and confidential products.
    - Final invoicing and release of retention.

- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:
- Final Meeting Agreement Summary *(if applicable)*
- Schedule for Completing Agreement Closeout Activities
- All Final Products

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

The Recipient shall:
- Submit a monthly *Progress Report* to the CAM. Each progress report must:
    - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Funds and in-state expenditures.

Products:
- Progress Reports
- Invoices

Subtask 1.6 Final Report

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this

Agreement. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a *Final Report Outline* in accordance with the *Energy Commission Style Manual* provided by the CAM.

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Energy Commission Style Manual
- Comments on Draft Final Report Outline
- Acceptance of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)
    - Acknowledgements page (optional)
    - Preface (**required**)
    - Abstract, keywords, and citation page (**required**)
    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:

  - Comments the recipient proposes to incorporate.
  - Comments the recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.

- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:
- Summary of TAC Comments
- Draft Final Report
- Written Responses to Comments *(if applicable)*
- Final Report

CAM Product:
- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds
The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this Agreement and applies them to the Agreement during the Agreement term.

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of CEC funds. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

  If match funds were a part of the proposal that led to the CEC awarding this

Agreement, then provide in the letter:
  - A list of the match funds that identifies:
    - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
    - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:
- Match Funds Status Letter
- Supplemental Match Funds Notification Letter *(if applicable)*
- Match Funds Reduction Notification Letter *(if applicable)*

Subtask 1.8 Permits
The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then

state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:

- A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
- The schedule the Recipient will follow in applying for and obtaining the permits.

The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

- Permit Status Letter
- Updated List of Permits *(if applicable)*
- Updated Schedule for Acquiring Permits *(if applicable)*
- Copy of Each Approved Permit *(if applicable)*

Subtask 1.9 Subcontracts

The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

The Recipient shall:

- Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required Energy Commission flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract terms.
- If required by the CAM, submit a draft of each *Subcontract* required to conduct the work under this Agreement.
- Submit a final copy of each executed subcontract.

- Notify and receive written approval from the CAM prior to adding any new subcontractors (see the discussion of subcontractor additions in the terms and conditions).

Products:

- Subcontracts *(draft if required by the CAM)*

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.

The TAC may be composed of qualified professionals spanning the following types of disciplines:

- Researchers knowledgeable about the project subject matter;

- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

- List of Potential TAC Members
- List of TAC Members
- Documentation of TAC Member Commitment

Subtask 1.11 TAC Meetings

The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

The Recipient shall:

- Discuss the TAC meeting schedule with the CAM at the Kick-off meeting. Determine the number and location of meetings (in-person and via teleconference) in consultation with the CAM.
- Prepare a *TAC Meeting Schedule* that will be presented to the TAC members during recruiting. Revise the schedule after the first TAC meeting to incorporate meeting comments.
- Prepare a *TAC Meeting Agenda* and *TAC Meeting Back-up Materials* for each TAC meeting.
- Organize and lead TAC meetings in accordance with the TAC Meeting Schedule. Changes to the schedule must be pre-approved in writing by the CAM.

- Prepare *TAC Meeting Summaries* that include any recommended resolutions of major TAC issues.

The TAC shall:

- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

Products:

- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)
- TAC Meeting Back-up Materials
- TAC Meeting Summaries

Subtask 1.12 Project Performance Metrics

The goal of this subtask is to identify key performance targets for the project. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic metrics that provide the most significant indicator of the research or technology's potential success.

The Recipient shall:

- Complete and submit the draft *Project Performance Metrics Questionnaire* to the CAM prior to the Kick-off Meeting.
- Present the draft *Project Performance Metrics Questionnaire* at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:
  - TAC comments the recipient proposes to incorporate into the final *Project Performance Metrics Questionnaire*.
  - TAC comments the recipient does not propose to incorporate with and explanation why.
- Submit a final *Project Performance Metrics Questionnaire* with incorporated TAC feedback.
- Develop and submit a *Project Performance Metrics Results* document describing

the extent to which the recipient met each of the performance metrics in the final *Project Performance Metrics Questionnaire*.
- Discuss the final *Project Performance Metrics Questionnaire* and *Project Performance Metrics Results* at the Final Meeting.

Products:
- Project Performance Metrics Questionnaire (draft and final)
- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2 PRE-INSTALLATION AND DESIGN REVIEW

The goals of this task are to ensure smooth commencement, completion, and reporting of grant-related designing and permitting, enabling safe, legal construction and installation of proposed advanced energy technologies and measures.

The Recipient shall:
- Undertake a site assessment to identify any changes to feasibility and suitability of measures recommended during Design Phase Grant, to prepare a *Site Status Report*
- Design review to verify design of major electrical components of the project, including all equipment and appurtenances and connections relevant to grant-funded durables. The Engineer of Record is being appointed directly by the Recipient outside of this GFO.
- Design review to verify design of major mechanical components of the project, including all equipment and appurtenances and connections.
- Design review to verify design of other grant-related structural components of the project (such as attachment of BIPV to the building façade).
- Submit *Final Design and Engineering Plans,* including:
    - Final design documents for grant-funded energy asset integration, including emerging energy technologies, microgrids, demand flexibility components, and Electric Vehicle Supply Equipment (EVSE), and any additional grant-funded systems, equipment.
    - Approval from applicable agencies, as needed, to initiate construction.
- Develop a *Microgrid Design and Installation Plan* that includes sizing, specifications, integration of the energy components and loads with the distribution infrastructure, microgrid operation logic, the operations and maintenance strategy.
- Develop a *Demand Flexibility Design and Installation Plan* that includes but is not limited to:
    - Preliminary system installation plans for load management controls and data visualization.

  - Preliminary load management performance metrics.
  - Investigating opportunities and methods to access local IOU demand flexibility signals to support load control demonstration.
  - Identifying grid data sources, e.g., California Independent System Operator, for developing load control parameters for grid operation status and forecast, time-dependent electricity price data, renewable energy generation and over-generation, and the carbon intensity of the hourly electricity supply.
  - Develop a plan on how residents will be engaged in dynamic energy management through automated and manual solutions.
- Develop an *EVSE Design and Installation Plan* to ensure that at least 20% of the parking spaces can respond to grid signals and all remaining parking spaces are EV-ready. The Final EVSE Design Plan includes details on:
  - Types and number of charging equipment, ownership model, payment structures, networking requirements, data collection, and estimated costs.
  - Plan to ensure that the selected equipment will provide bidirectional power solutions, including vehicle-to-building and/or vehicle-to-grid.
  - Compliance with local and state codes.
- Develop a *Miscellaneous Advanced Energy Features and Advanced Construction Materials Design and Installation Plan* that includes sizing, specifications, and integration of the associated components and final costs. This report will also detail the operation and maintenance strategy and how the components integrate with the distribution infrastructure.
- Based on the final designs of energy assets, provide final results in the *Build-Phase Building Energy and Emissions Performance Workbook*
- Prepare and submit a *Construction and Equipment List* to develop bid packages to be sent to vendors for grant-funded systems, equipment, and appliances.
- Participate in a CPR meeting and prepare a CPR Report #1.

Products:

- Site Status Report
- Final Design and Engineering Plans
- Microgrid Design and Installation Plan
- Demand Flexibility Design and Installation Plan
- EVSE Design and Installation Plan
- Miscellaneous Advanced Energy Features and Advanced Construction Materials Design and Installation Plan
- Written Notification of Completion of Design Plans
- Construction and Equipment List
- Build-Phase Building Energy and Emissions Performance Workbook
- CPR Report #1

TASK 3 –FINANCE

The goal of this task is to obtain commitments from debt and equity partners to close on construction financing necessary to fund the project. This task will also provide evidence that the project has secured all necessary regulatory approvals and incentives needed to begin construction.

The Recipient shall:

- Submit *Proof of Construction Lender(s) Commitment* for grant-funded elements.
- Submit *Proof of Tax Credit Equity Investor Commitment* for grant-funded elements.
- If applicable, submit *Proof of Lender Commitment Letter(s)* for grant-funded elements as needed to fill financing gaps.

Products:

- Proof of Construction Lender(s) Commitment
- Proof of Tax Credit Equity Investor Commitment
- Proof of Lender Commitment Letter(s) (if applicable)

TASK 4 PROCUREMENT

The goal of this task is to secure the goods and supplies to complete grant work as designed and engineered in Phase 1 and confirmed in Task 2, including supplier evaluation and selection, contract negotiation, and purchase order issuance.

Subtask 4.1 Planning and Procurement of the Microgrid

The Recipient shall:

- Engage vendors to identify one(s) that can provide the microgrid equipment meeting established design phase criteria
- Execute bid documents and provide *Vendor Contracts*.
- Prepare *Microgrid Equipment Procurement Plan* detailing equipment, the anticipated timeline for delivery, and remediation plan for equipment delay as applicable.
- Procure all equipment, materials, and technology including but not limited to on-site generation assets, on-site storage assets, and microgrid control systems.
- Summarize the final procurement details in the *Final Microgrid Equipment Procurement Memorandum*, including but not limited to the vendors, models, operation strategy, quality checks, and costs of all microgrid-related components.

Products:

- Microgrid Equipment Procurement Plan
- Vendor Contracts
- Final Microgrid Equipment Procurement Memorandum

Subtask 4.2 Planning and Procurement of Demand Flexibility Equipment

The Recipient shall:

- Engage vendors to identify one(s) that can provide the Demand Flexibility Equipment meeting established design phase criteria.
- Execute *vendor contract(s).*
- Prepare *Demand Flexibility Equipment Procurement Plan* detailing equipment, the anticipated timeline for delivery, and remediation plan for equipment delay as applicable.
- Procure all equipment, materials, and technology including but not limited to:
  - Automated demand flexibility-related equipment and technologies such as electric vehicle charging stations with demand flexibility capabilities.
  - Manual demand flexibility-related equipment and technologies, such as in-unit tablets or mobile apps used for immediate changes by customers for load management and demand flexibility events, Wi-Fi-enabled thermostats, and smart plugs for devices to be controlled remotely.
  - Receive delivery of, verify completeness of, and quality check all equipment.
- Summarize the final procurement details in the *Final Demand Flexibility Equipment Procurement Memorandum*, including but not limited to the vendors, models, operation strategy, quality checks, and costs of all demand flexibility-related components.

Products

- Demand Flexibility Equipment Procurement Plan
- Final Demand Flexibility Equipment Procurement Memorandum
- Vendor Contract(s)

Subtask 4.3 Planning and Procurement of EVSE

The Recipient shall:

- Engage vendors to identify one(s) that can provide the EVSE equipment meeting established design phase criteria
- Execute *vendor contract(s)*.
- Prepare *EVSE Procurement Plan* detailing EVSE equipment, the anticipated timeline for delivery, and remediation plan for equipment delay as applicable.
- Procure all equipment, materials, and technology including but not limited to EVSE to meet or exceed the solicitation's minimum requirements and enable V2G and/or V2B capabilities.
- Receive delivery of, verify completeness of, and quality check all equipment.
- Summarize the final procurement details in the *Final EVSE Procurement Memorandum*, including but not limited to the vendors, models, operation strategy, quality checks, and costs of all EVSE-related components.

Products:

- EVSE Procurement Plan
- *Final EVSE Procurement* Memorandum
- Vendor Contract(s)

Subtask 4.4 Planning and Procurement of Miscellaneous Advanced Energy Features and Advanced Construction Materials

The Recipient shall:

- Engage vendors to identify one(s) that can provide the Miscellaneous Advanced Energy Features and Advanced Construction Materials meeting established design phase criteria
- Execute bid documents, and obtain V*endor Contract(s)*.
- Prepare *Miscellaneous Advanced Energy Features and Advanced Construction Materials Procurement Plan* detailing equipment, the anticipated timeline for delivery, and remediation plan for equipment delay as applicable.
- Procure all equipment, materials, and technology reimbursable with Grant funds and that are not listed in Subtasks 4.1 through 4.3, such as:
    - Categories listed in Table 7: Eligible Next-Generation Energy Technologies of the GFO-20-305 Solicitation Manual, Addendum 16
    - Advanced Construction Processes
    - Any additional grant-funded systems or equipment or appliances
- Summarize the final procurement details in the *Final Miscellaneous Advanced Energy Features and Advanced Construction Materials Procurement Memorandum*, including but not limited to the vendors, models, operation strategy, and quality checks.

Products:

- Vendor Contract(s)
- Miscellaneous Advanced Energy Features and Advanced Construction Materials Procurement Plan
- Final Miscellaneous Advanced Energy Features and Advanced Construction Materials Procurement Memorandum

TASK 5 INTERCONNECTION PLANNING AND INTERCONNECTION APPROVAL

The goal of this task is to complete interconnection planning and approval for the microgrid with the utility distribution grid.

The Recipient shall:

- Submit a Rule 21 Pre-application Support Request.
- Negotiate with the local utility around islanding configurations and benefits.

- Research interconnection rules and communication protocols to enable electricity export to the grid and/or building from bidirectional EV chargers.
- Submit the Interconnection Application.
- Develop an *Interconnection Report* to show how community developers can work with their local utilities on interconnecting similar communities to the grid.
- Provide a *Permission to Operate (PTO)* from the utility.

Products:
- Interconnection Report
- Permission to Operate

TASK 6 INSTALLATION
The goal of this task is to complete and report on all construction activities.

The Recipient shall:
- Prepare and submit an *Installation Plan* comprised of:
    - A list of basic installation milestones for the grant-funded energy assets, including emerging energy technologies, advanced construction materials, demand flexibility technologies, the microgrid, EVSEs, and communication platforms.
    - A detailed installation schedule for the technologies listed above.
- Prepare and provide a *Written Notification of Site Preparedness* to notify that the site has been prepared to initiate installation.
- Install advanced energy technologies in compliance with grantor standards and applicable federal, state, county and local acts, codes, and laws
- Capture *High-Quality Digital Photos* of construction progress, at minimum, the site before work begins, work occurring, and work near completed or completed.
- Implement all other aspects of the Installation Plan.
- Prepare and provide a *Written Notification of Completion of Installation*.
- Prepare and submit an *Installation Report* to include the following:
    - A final schedule of completed milestones
    - A description of lessons learned
    - A description of any major changes between planning and completion
- Based on the final installation costs and applicable tariffs of grant-funded energy assets, provide an updated *Build-Phase Zero-Emission Cost-Benefit Analysis Report*, showing results with and without grant funding and other incentives.

Products:
- Installation Plan
- Written Notification of Site Preparedness
- High Quality Digital Photos
- Written Notification of Completion of Installation
- Installation Report

- Build-Phase Zero-Emission Cost-Benefit Analysis Report

TASK 7 COMMISSIONING

The goals of this task are to test and commission the grant-funded energy assets and interconnect with the local investor-owned utility.

The Recipient shall:

- Apply for or verify approval of all applicable operational permits and schedule inspections.
- Prepare and submit a *Commissioning Plan* comprised of:
    - A risk assessment and associated mitigation strategy
    - A description of the equipment to be tested
    - A description of the methodology to test the identified equipment
    - A list of goals and objectives for each test
    - A description of the quality control and quality assurance practices for the test methodology
- Implement all aspects of the Commissioning Plan.
- Commission the grant-funded energy assets and interconnect with the local investor-owned utility
- Perform necessary testing to receive utility signals for grid-interactive energy components, such as bidirectional EV charging, demand flexibility, and the microgrid.
- Prepare and submit a *Commissioning Report* to include the following:
    - A final schedule of completed milestones
    - A description of lessons learned, including the results of the interconnection, metering arrangement, and system commissioning process
    - A summary of major project changes and any unique challenges or lessons faced with bringing the development's system online.
    - A description of the results with commissioning testing including commissioning testing forms completed by Contractor.
- Prepare and provide a *Written Notification of Completion of Commissioning,* which confirms that the grant-funded energy assets have been successfully put into operation
- Obtain a *Certificate of Occupancy and Notice of Completion* before the end term of the build phase agreement.
- Prepare a *Rent Schedule*, showing the rents for affordable and/or low-income units and confirming that the development dedicates a minimum of 20% of the total units to affordable housing with at least 10% of the total units being dedicated to lower-income units or providing evidence of local affordability requirements.
- Obtain a *Title Report or Deed,* showing evidence of deed restrictions (if applicable).

- Participate in a CPR meeting and prepare a *CPR Report* #2.

Products:

- Commissioning Plan
- Commissioning Report
- Certificate of Occupancy
- Rent Schedule
- Title Report or Deed
- Written Notification of Completion of Commissioning
- High Quality Digital Photos
- CPR Report #2

TASK 8 MEASURMENT AND VERIFICATION

The goal of this task is to measure and verify performance of grant-funded equipment to ensure adherence to minimum operational standards, assure quality, and validate performance.

The Recipient shall:

- Prepare and provide a detailed *Measurement and Verification (M&V)* Plan to include:
    - A description of monitoring and data collection equipment.
    - A description of data to be measured, to what purpose, and in what terms.
    - Identification of required data acquisition criteria, such as sampling frequency for various parameters.
    - A description of the analysis methods to be employed. Analysis methods will allow for measurement of all performance criteria listed in the Agreement Objectives section of this Scope of Work.
    - Independent, third-party measurement and verification services to be employed, if applicable.
    - Identification of additional information that will be necessary to complete the measurement and verification task (e.g., costs for implementing baseline design vs. proposed design).
    - Identification of system operating modes and/or procedures to enable comparison of the baseline design vs. proposed design.
- Engage a third party to prepare a *Measurement and Verification Report* to document the following items:
    - The operational performance, including operational constraints, interactions with the grid, and response to grid emergencies.
    - Barriers and solutions to the deployment of the emerging energy technologies, demand flexibility technologies, the microgrid, and EVSE, including but not limited to technical complications, operational considerations, financing options, permitting requirements, and regulatory activities.

  - Measurements showing achievement of the project goals and objectives.
- Leverage Digital Transactive Platform data (including smart grid controller and smart water meter) to measure and verify general energy saving and demand response performance.
- Install/integrate monitoring software or hardware.
- Collect 12 months of data documenting grant-funded equipment operation
- Digitally Integrate HEMs
- Prepare and provide an *M&V Findings Report*.

Products:
- Measurement and Verification (M&V) Plan (Draft and Final)
- M&V Findings Report
- Third-Party Measurement and Verification Report

TASK 9 COMMUNITY & RESIDENT ENGAGEMENT
The goals of this task are to proactively identify and address knowledge and awareness gaps relating to the existence and use of the advanced energy systems; continue a robust, meaningful, dialog with community members and new residents; and analyze and evaluate racial and socioeconomic realities in new affordable housing. These tasks will span the duration of Phase II.

The Recipient shall:
- Create and execute an *Equity-Focused Analysis and Community Engagement Plan*
  - Building on Phase I, solicit community input and share project details, through community engagement.
  - Conduct the equity analysis to evaluate the project's impacts and contributions to addressing regional housing disparities, delivering environmental justice, and economic justice.
  - Develop a plan on how residents will be engaged in dynamic energy management through automated and manual solutions.
- Develop culturally-conscience, multi-lingual, multimedia *Resident Educational Materials* to raise awareness about the project's unique development features and functionality, how the residents will engage in dynamic energy management, and their benefits.
- Develop *Building Operator Educational Materials* geared towards the use and understanding of the project's energy-related features.
- Analyze digital equity in enabling the Digital Transactive Platform
- Summarize outcomes, impacts, and findings from the plan in an *Equity-Focused Analysis and Community Engagement Report*.

Products:
- Equity-Focused Analysis and Community Engagement Plan

- Resident Educational Materials
- Building Operator Educational Materials
- Equity-Focused Analysis and Community Engagement Report

TASK 10 EVALUATION OF PROJECT BENEFITS
The goal of this task is to report the benefits resulting from this project.

The Recipient shall:

- Complete the Initial Project Benefits Questionnaire. The Initial Project Benefits Questionnaire shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the Annual Survey by January 31st of each year. The Annual Survey includes but is not limited to the following information:
    - Technology commercialization progress
    - New media and publications
    - Company growth
    - Follow-on funding and awards received
- Complete the Final Project Benefits Questionnaire. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide Documentation of Project Profile on EnergizeInnovation.fund, including the profile link.
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include:
    - For Product Development Projects and Project Demonstrations:
        - Published documents, including date, title, and periodical name.
        - Estimated or actual energy and cost savings and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
        - Greenhouse gas and criteria emissions reductions.
        - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
        - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.

- A discussion of project product downloads from websites, and publications in technical journals.
- A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Additional Information for Product Development Projects:
    - Outcome of product development efforts, such copyrights and license agreements.
    - Units sold or projected to be sold in California and outside of California.
    - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
    - Investment dollars/follow-on private funding as a result of Energy Commission funding.
    - Patent numbers and applications, along with dates and brief descriptions.
- Additional Information for Product Demonstrations:
    - Outcome of demonstrations and status of technology.
    - Number of similar installations.
    - Jobs created/retained as a result of the Agreement.

- For Information/Tools and Other Research Studies:
    - Outcome of project.
    - Published documents, including date, title, and periodical name.
    - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
    - The number of website downloads.
    - An estimate of how the project information has affected energy use and cost or have resulted in other non-energy benefits.
    - An estimate of energy and non-energy benefits.
    - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
    - A discussion of project product downloads from websites, and publications in technical journals.
    - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.

- Respond to CAM questions regarding responses to the questionnaires.

The CEC may send the Recipient similar questionnaires after the Agreement term ends. Responses to these questionnaires will be voluntary.

Products:

- Initial Project Benefits Questionnaire
- Annual Survey
- Initial Project Benefits Questionnaire
- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund

TASK 11 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the technological learning that resulted from the project is captured and disseminated to the range of professions that will be responsible for future deployments of this technology or similar technologies.

The Recipient Shall:

- Develop and submit a *Project Case Study Plan (Draft/Final)* updated from the version approved during the Design Phase that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The *Project Case Study Plan* should include:
  - An outline of the objectives, goals, and activities of the case study.
  - The organization that will be conducting the case study and the plan for conducting it.
  - A list of professions and practitioners involved in the technology's deployment.
  - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
  - A description of the business model and financial strategy for procuring and maintaining the advanced energy elements.
  - An explanation on how the business model could be replicable for future developments without access to grant funding.
  - Demonstration of residential and commercial occupant bill savings.
  - Demonstration of additional benefits such as construction time and cost savings and how the benefits are passed along to the occupants
  - Explanation of how the mixed-use development leveraged advanced construction practices to save time and cost.
  - Identifying specific components (e.g., technological, financial, regulatory) of the demonstrated project that need improvement/advancement to increase future deployment of zero-emission, mixed-use developments.
  - Presentations/webinars/training events to disseminate the results of the case study.
- Submit the *Final Project Case Study Plan* to the CAM for approval.
- Execute the *Final Project Case Study Plan* and develop and submit a *Project Case Study (Draft/Final)*

- When directed by the CAM, develop presentation materials for an CEC-sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California CEC.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.
- Create a brief 3–5-minute *Project Video* highlighting your project.
    - Describe what is innovative and exciting about the project and successful progress made to date.
    - Discuss the role EPIC funding played in advancing the project.
    - Describe its impacts to California and its electric ratepayers.
    - Include testimonials from at least 1-2 potential end-use customers or external entities on the value of the project.

Products:

- Project Case Study Plan (Draft/Final)
- Summary of TAC Comments
- Project Case Study (Draft/Final)
- High Quality Digital Photographs
- Project Video
- Documentation of Project Site Tours to Industry Stakeholders

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.