

FIRST AMENDMENT TO AGREEMENT NO. 20-3723
BETWEEN THE CITY OF LOS ANGELES
WEST BASIN CONTAINER TERMINAL LLC AND
WIRELESS ADVANCED VEHICLE ELECTRIFICATION, LLC

THIS FIRST AMENDMENT to Agreement No. 20-3723 is made and entered into by and between the CITY OF LOS ANGELES, a municipal corporation ("City"), acting by and through its Board of Harbor Commissioners ("Board"), WEST BASIN CONTAINER TERMINAL LLC and WIRELESS ADVANCED VEHICLE ELECTRIFICATION, LLC as follows:

1. Section III EFFECTIVE DATE AND TERM OF AGREEMENT, Subsection (B) (1) is amended to read:

"1. June 30, 2025; or"

2. The First Amendment to the California Energy Commission Agreement ARV-17-049 is attached hereto and made a part of this Agreement, which shall replace and add to the exhibits of this Agreement as set forth in that First Amendment.

3. The Second Amendment to the California Energy Commission Agreement ARV-17-049 is attached hereto and made a part of this Agreement, which shall replace the exhibits of this Agreement as set forth in that Second Amendment.

4. Section IV REIMBURSEMENT AND PAYMENT, Subsection B is amended to read:

"B. The maximum amount to be reimbursed to WAVE pursuant to this Agreement and the Grant Agreement shall be Two Million Eight Hundred Forty-three Thousand Four Hundred Twenty Dollars (\$2,843,420).

5. The name of Subrecipient Wireless Advanced Vehicle Electrification, Inc. is hereby changed to "Wireless Advanced Vehicle Electrification, LLC" due to dissolution of Wireless Advanced Vehicle Electrification, Inc. and the incorporation in the State of Delaware of Wireless Advanced Vehicle Electrification, LLC in December, 2020 and by signing this First Amendment Wireless Advanced Vehicle Electrification, LLC agrees to assume all terms and conditions of Agreement No. 20-3723.

Except as amended herein, all remaining terms and conditions of Agreement No. 20-3723 shall remain in full force and effect.

The effective date of this Amendment shall be March 23, 2023, upon execution by the Executive Director after authorization of the Board and approval by City Council as required by Charter Section 373 and Administrative Code Section 10.5.

IN WITNESS THEREOF, the parties hereto have executed this First Amendment to Agreement No. 20-3723 on the date to the left of their signatures.

THE CITY OF LOS ANGELES, by its
Board of Harbor Commissioners

Dated: _____

By _____
EUGENE D. SEROKA
Executive Director

Attest _____
AMBER M. KLESGES
Board Secretary

WEST BASIN CONTAINER TERMINAL LLC

Dated: 3-16-23

By 
QUENTIN YANG VICE PRESIDENT - WBLT
(Print/type name and title)

Attest 
Matt Sentell General Manager
(Print/type name and title)

WIRELESS ADVANCED VEHICLE
ELECTRIFICATION, LLC

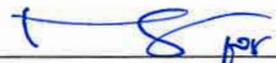
Dated: _____

By _____
(Print/type name and title)

Attest _____
(Print/type name and title)

APPROVED AS TO FORM AND LEGALITY

March 23, 2023
HYDEE FELDSTEIN SOTO, City Attorney
Steven Y. Otera, General Counsel

By  for _____
Heather M. McCloskey, Deputy

IN WITNESS THEREOF, the parties hereto have executed this First Amendment to Agreement No. 20-3723 on the date to the left of their signatures.

THE CITY OF LOS ANGELES, by its Board of Harbor Commissioners

Dated: _____

By _____

EUGENE D. SEROKA
Executive Director

Attest _____

AMBER M. KLESGES
Board Secretary

WEST BASIN CONTAINER TERMINAL LLC

Dated: _____

By _____

(Print/type name and title)

Attest _____

(Print/type name and title)

WIRELESS ADVANCED VEHICLE
ELECTRIFICATION, LLC

Dated: 03/16/2023

DocuSigned by:
Scott W Morrison
By _____

SCOTT W MORRISON CFO, WAVE LLC

(Print/type name and title)

DocuSigned by:
Vincent Pellecchia
Attest _____

Vincent Pellecchia VP of Commercial Dev.

(Print/type name and title)

APPROVED AS TO FORM AND LEGALITY

_____, 2023
HYDEE FELDSTEIN SOTO, City Attorney
Steven Y. Otera, General Counsel

By _____
Heather M. McCloskey, Deputy

CEC Agreement ARV-17-049
First Amendment

STATE OF CALIFORNIA
GRANT/LOAN AMENDMENT
 CEC-140 (Revised 9/11)

CALIFORNIA ENERGY COMMISSION



Check here if additional pages are attached. 35 Pages

AGREEMENT NUMBER:
ARV-17-049

AMENDMENT NUMBER:
01

1. This Agreement is entered into between the State Agency and the Recipient named below:

STATE AGENCY'S NAME

State Energy Resources Conservation and Development Commission

RECIPIENT'S NAME

City of Los Angeles Harbor Department

2. The term of this Agreement: From: 06/15/2018 To: 03/31/2024

3. The maximum amount of this Agreement after this amendment is: **\$ 7,842,270 (\$ Amendment)**

4. The parties mutually agree to this amendment as follows. All actions noted below are by this reference made a part of the Agreement and incorporated herein:

The purpose of this amendment is a 24-month term extension, to add Special Terms and Conditions, to reallocate the budgets and to update the Scope of Work's Task 2 and the Schedule of Products. Agreement ARV-17-049, approved by the Energy Commission on August 21, 2019 is amended as follows:

Exhibit A – Scope of Work is attached hereto and replaces the previously approved Exhibit A – Scope of Work in its entirety

Exhibit A-1 – Schedule of Products and Due Dates is attached hereto and replaces the previously approved Exhibit A-1 – Schedule of Products and Due Dates in its entirety.

Exhibit B – Budget is attached hereto and replaces the previously approved Exhibit B – Budget in its entirety.

Exhibit B – Sub Budget – Wireless Advanced Vehicle Electrification, LLC is attached hereto and replaces the previously approved Exhibit B – Sub Budget -- Wireless Advanced Vehicle Electrification, LLC in its entirety.

Exhibit C-1 – Special Terms and Conditions is added to the agreement

APPROVED AS TO FORM AND LEGALITY
 20

MICHAEL N. FEUER, City Attorney

By

Assistant City Attorney

RECIPIENT

RECIPIENT'S NAME (If other than an individual, state whether a corporation, partnership, etc)

BY (Authorized Signature)

DATE SIGNED (Do not type)

NAME AND TITLE OF PERSON SIGNING

ADDRESS

**425 S. Palos Verdes Street
 San Pedro, CA 90731**

STATE OF CALIFORNIA

AGENCY NAME

State Energy Resources Conservation and Development Commission

BY (Authorized Signature)

DATE SIGNED (Do not type)

NAME AND TITLE OF PERSON SIGNING

Adrienne Winuk, Contracts, Grants, and Loans Office Manager

ADDRESS

**1516 Ninth Street, MS-18
 Sacramento, CA 95814-5512**

TRANSMITTAL 1

Exhibit A SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2	X	Design and Development
3	X	Build, Install and Commission
4		Demonstration, Data Collection and Analysis

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Jacob Goldberg, <u>City of Los Angeles Harbor Department (Port of Los Angeles, or POLA) (POLA)</u>		
2	Jacob Goldberg (POLA); <u>Dac Hoang (POLA)</u> ; Shaouki Abouhosn (POLA)	WBCT <u>Wireless Advanced Vehicle Electrification, LLC</u> (WAVE) BYD	<u>West Basin Container Terminal, LLC (WBCT)</u>
3	Jacob Goldberg (POLA) Shaouki Abouhosn (POLA)	WBCT WAVE BYD	<u>WBCT</u>
4	Jacob Goldberg (POLA) Shaouki Abouhosn (POLA)	WBCT WAVE BYD	<u>South Coast Air Quality Management District (SCAQMD)</u> ; <u>BYD Motors, LLC</u> ; <u>WBCT</u>

GLOSSARY

Specific terms and acronyms used throughout this scope of work are defined as follows:

Term/ Acronym	Definition
AID	Zero Emission Freight Vehicle Advanced Infrastructure Demonstration (AID)
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
<u>BESS</u>	<u>Battery Energy Storage System</u>

Term/ Acronym	Definition
BOM	Bill of Materials
CAM	Commission Agreement Manager
<u>CAO</u>	<u>Contract Agreement Officer</u>
CO ₂	Carbon Dioxide
CPR	Critical Project Review
CHE	Cargo handling equipment
DAC	Disadvantaged Communities
EV	Electric Vehicle
FTD	Fuels and Transportation Division
<u>GHG</u>	<u>Greenhouse Gas</u>
MHD	Medium and Heavy Duty
NOx	Oxides of Nitrogen
POLA	Port of Los Angeles
Recipient	POLA <u>City of Los Angeles Harbor Department (Port of Los Angeles)</u>
<u>WAVE</u>	<u>Wireless Advanced Vehicle Electrification, LLC</u>
WBCT	West Basin Container Terminal

BACKGROUND

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The statute authorizes the California Energy Commission (Energy Commission) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorizes the ARFVTP through January 1, 2024, and specifies that the Energy Commission allocate up to \$20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational. The ARFVTP has an annual budget of approximately \$100 million and provides financial support for projects that:

- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.

- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

The Energy Commission issued GFO-17-603 entitled "Advanced Freight Vehicle Infrastructure Deployment" under the ARFVT Program on December 19, 2017. This competitive grant solicitation was an offer to fund projects that will support infrastructure deployment for Advanced Freight Vehicles. To be eligible for funding under GFO-17-603, the projects must also be consistent with the Energy Commission's ARFVTP Investment Plan updated annually. In response to GFO-17-603, the Recipient submitted application #3 which was proposed for funding in the Energy Commission's Notice of Proposed Awards on April 5, 2018. GFO-17-603 is hereby incorporated by reference into this Agreement in its entirety.

In the event of any conflict or inconsistency between the terms of the Solicitation and the terms of the Recipient's Application, the Solicitation shall control. In the event of any conflict or inconsistency between the Recipient's Application and the terms of Energy Commission's Award, the Energy Commission's Award shall control. Similarly, in the event of any conflict or inconsistency between the terms of this Agreement and the Recipient's Application, the terms of this Agreement shall control.

Problem Statement:

The principal problem addressed by the proposed project is the significant emission of greenhouse gas (GHG) and criteria air pollutants associated with cargo handling equipment (CHE) at the Port of Los Angeles (POLA). POLA is committed to ambitious goals that were adopted together with the Port of Long Beach under the 2017 Clean Air Action Plan, including the replacement of diesel-powered CHE with zero-emission alternatives no later than 2030. The adoption of these technologies will require major infrastructure installations to support their operations, and terminal operators will be weighing all potential options to find the most efficient and cost-effective system to power their equipment. This project is a critical and informative step towards transitioning the ports to zero emission equipment, and importantly, reducing criteria pollutants and greenhouse gases in our shared air basin, while accommodating an increasing volume of goods moving through the Port. Local communities are negatively affected by air quality impacts of conventional propulsion systems. The Port equipment operates adjacent to disadvantaged communities (DACs) that experience a majority of the adverse environmental impacts from port operations. A secondary problem

addressed by this project is the large amount of petroleum fuel consumption required to operate port equipment.

Goals of the Agreement:

The goals of this agreement are to enhance market acceptance of advanced vehicle yard tractor applications that will reduce greenhouse gas emissions, reduce petroleum use, improve energy cost savings, improve air quality, and benefit DACs.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Design and install Wireless Advanced Vehicle Electrification (WAVE) inductive charging infrastructure, including ten base chargers and two opportunity chargers, to support the demonstration of 10 battery electric yard tractors at the Port of Los Angeles.
- Design and install a peak shaving Battery Energy Storage System (BESS).
- Displace petroleum fuel, reduce GHG emissions, and support jobs in the port area and in disadvantaged communities.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The Commission Agreement Manager (CAM) shall designate the date and location of this meeting and provide an agenda to the Recipient prior to the meeting.

The Recipient shall:

- Attend a “Kick-Off” meeting with the CAM, the Commission Agreement Officer (CAO), and a representative of the Energy Commission Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.
- Discuss the following administrative and technical aspects of this Agreement:
 - Agreement Terms and Conditions
 - Critical Project Review (Task 1.2)
 - Match fund documentation (Task 1.6) No reimbursable work may be done until this documentation is in place.
 - Permit documentation (Task 1.7)
 - Subcontracts needed to carry out project (Task 1.8)
 - The CAM’s expectations for accomplishing tasks described in the Scope of Work

- An updated Schedule of Products and Due Dates
- Monthly Progress Reports (Task 1.4)
- Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Final Report (Task 1.5)

Recipient Products:

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits

Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

The CAM may schedule CPR meetings as necessary, and meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the CAO, the Fuels and Transportation Division (FTD) program lead, other Energy Commission staff and Management as well as other individuals selected by the CAM to provide support to the Energy Commission.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. Prepare a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see section 8 of the Terms and Conditions). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Transportation for his or her concurrence.

- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

CAM Products:

- Agenda and a list of expected participants
- Schedule for written determination
- Written determination

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient, the CAO, and the CAM. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the CAM.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The CAM will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the CAM and the CAO about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options)

- Energy Commission's request for specific "generated" data (not already provided in Agreement products)
- Need to document Recipient's disclosure of "subject inventions" developed under the Agreement
- "Surviving" Agreement provisions
- Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.

Products:

- Written documentation of meeting agreements
- Schedule for completing closeout activities

Task 1.4 Monthly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

The Recipient shall:

- Prepare a Monthly Progress Report which summarizes all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the Commission Agreement Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.
- In the first Monthly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

Product:

- Monthly Progress Reports

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving the Agreement's goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the FTD project management processes.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

The Recipient shall:

- Prepare an Outline of the Final Report, if requested by the CAM.
- Prepare a Final Report following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.

Products:

- Outline of the Final Report, if requested
- Draft Final Report
- Final Report

Task 1.6 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of Energy Commission funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to

the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the Energy Commission awarding this Agreement, then provide in the letter a list of the match funds that identifies the:

- Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
- Amount of each in-kind contribution, a description, documented market or book value, and its 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 shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.7 Identify and Obtain Required Permits

The goal of this task 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. Although the Energy Commission budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement 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 the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the CAM.
- As permits are obtained, send a copy of each approved permit to the CAM.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
- Updated list of permits as they change during the term of the Agreement (if applicable)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)

- A copy of each final approved permit (if applicable)

Task 1.8 Obtain and Execute Subcontracts

The goal of this task is to ensure quality products and to procure subcontractors required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures. It will also provide the Energy Commission an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, and that the budgeted expenditures are reasonable and consistent with applicable cost principles.

The Recipient shall:

- Manage and coordinate subcontractor activities.
- Submit a draft of each subcontract required to conduct the work under this Agreement to the CAM for review.
- Submit a final copy of the executed subcontract.
- If Recipient decides to add new subcontractors, then the Recipient shall notify the CAM.

Products:

- Letter describing the subcontracts needed, or stating that no subcontracts are required
- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2 DESIGN AND DEVELOPMENT

The goal of this task is to conduct preliminary design work that will prepare for the installation of WAVE advanced inductive charging infrastructure and battery storage for demonstration at the Port of Los Angeles' West Basin Container Terminal (WBCT).

The Recipient shall:

- Review available power specifications and functional requirements.
- Finalize engineering ~~bill of materials (BOM)~~ **equipment list** and order components for the WAVE prototype and systems.
- Execute a ~~Battery Energy Storage System~~ **BESS** Technical Agreement that outlines specifications for the battery storage system
- Design, fabricate, and build components, systems, and subsystems.
- ~~Prepare and provide an Invitation for Bid for an installation contractor, which includes design calculations, drawings, plans and specifications to advertise the project for procurement of materials, equipment and required labor for construction to support installation of the charging systems.~~

Prepare and provide design calculations, drawings, plans and specifications for procurement of materials, equipment, and required labor for construction to support installation of the charging systems.

- ~~Select construction contractor and finalize scope of work.~~
- Conduct tests, certifications, quality checks, and validations for WAVE and BYD-components, prototype, systems, subsystems, and safety elements, as applicable, and summarize results in a System Test Report

Products:

- **Final Equipment List**
- ~~Invitation for Bid~~
- Executed ~~Battery Energy Storage System~~ **BESS** Technical Agreement
- **WAVE** System Test Report
- **Copy of Approved Infrastructure Designs**

[CPR WILL BE HELD IN TASK 23. See Task 1.2 for details]

TASK 3 BUILD, INSTALL AND COMMISSION

The goal of this task is to install infrastructure for twelve charging stations, including ten base chargers and two opportunity chargers, to power ten battery-electric yard tractors for demonstration at the ~~Port of Los Angeles' West Basin Container Terminal~~ **WBCT**.

The Recipient shall:

- Complete construction and install the charging equipment and ~~battery energy storage system~~ **BESS**.
- Conduct safety and operational testing of the charging equipment and ~~battery energy storage system~~ **peak shaving BESS** for final commissioning.
- Accept delivery of ten battery-electric yard tractors to be placed into demonstration service.
- Prepare a Task 3 Summary Report containing photos of installed charging equipment, ~~battery energy storage system~~ **BESS**, and deployed yard tractors, and include results of safety and operational testing for system commissioning.

Products:

- Task 3 Summary Report **with Photographs**

[CPR WILL BE HELD IN TASK 3. See Task 1.2 for details]

Task 4 DEMONSTRATION, DATA COLLECTION, AND ANALYSIS

The goal of this task is to collect operational data from the project, to analyze that data for economic and environmental impacts, and to include the data and analysis in the Final Report.

The Recipient shall:

- Develop Data Collection Test Plan.
- Troubleshoot any issues identified.
- Collect 12 months of usage and operations data from the project including, but not limited to:
 - Maximum capacity of each of the new charging systems
 - Gallons of diesel fuel displaced (with associated hours of operation)
 - Expected air emissions reductions including but not limited to:
 - Oxides of nitrogen
 - Particulate Matter
 - Duty cycle of the current fleet and the expected duty cycle of future vehicle acquisitions
 - Specific jobs and economic development resulting from this project
- Identify any current and planned use of renewable energy at the facility.
- Identify the source of the alternative renewable energy.
- Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code Regulations.
- Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
- Provide a quantified estimate of the project's carbon intensity values for life-cycle greenhouse gas emissions.
- Compare project performance and expectations provided in the proposal to Energy Commission with actual project performance and accomplishments.
- Collect data, information, and analysis described above and include in the Final Report.

Products:

- Data Collection Test Plan
- Data collection information and analysis will be included in the Final Report

Exhibit A-1

Schedule of Products and Due Dates**Agreement Term: 6/15/2018 - 03/31/2024**

Task Number	Task Name	Product(s)	Due Date
1.1	Attend Kick-off Meeting	Updated Schedule of Products	9/19/2019
		Updated List of Match Funds	9/19/2019
		Updated List of Permits	9/19/2019
		Kick-Off Meeting Agenda (CEC)	9/19/2019
1.2	Critical Project Review Meetings	1st CPR CPR Report	3/31/2021
		Meeting Written determination (CEC)	4/7/2021
		2nd CPR CPR Report	8/19/2022
		Meeting Written determination (CEC)	9/2/2022
1.3	Final Meeting	Written documentation of meeting agreements	3/15/2024
		Schedule for completing closeout activities	3/15/2024
1.4	Monthly Progress Reports	Monthly Progress Reports	The 10th calendar day of each month during the approved term of this Agreement
1.5	Final Report	Final Outline of the Final Report	9/15/2023
		Draft Final Report (no less than 60 days before the end term of the agreement)	12/15/2023
		Final Report	2/16/2024
1.6	Identify and Obtain Match Funds	A letter regarding match funds or stating that no match funds are provided	1/31/2019
		Copy(ies) of each match fund commitment letter(s) (if applicable)	1/31/2019
		Letter(s) for new match funds (if applicable)	Within 10 days of identifying new match funds
		Letter that match funds were reduced (if applicable)	Within 10 days of identifying reduced funds
1.7	Identify and Obtain Required Permits	Letter documenting the permits or stating that no permits are required	1/31/2019
		A copy of each approved permit (if applicable)	Within 10 days of receiving each permit
		Updated list of permits as they change during the term of the Agreement (if applicable)	Within 10 days of change in list of permits
		Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)	Within 10 days of change in schedule for obtaining permits

Exhibit A-1

Schedule of Products and Due Dates**Agreement Term: 6/15/2018 - 03/31/2024**

Task Number	Task Name	Product(s)	Due Date
1.8	Obtain and Execute Subcontracts	Letter describing the subcontracts needed, or stating that no subcontracts are required	12/31/2019
		Draft subcontracts	15 days prior to the scheduled execution date
		Final subcontracts	Within 10 days of execution
2	DESIGN AND DEVELOPMENT	<u>Final equipment list</u>	<u>6/30/2022</u>
		Executed BESS technical agreement	<u>6/30/2022</u>
		WAVE System Test Report	<u>4/1/2022</u>
		<u>Copy of approved infrastructure designs</u>	<u>6/30/2022</u>
3	BUILD, INSTALL AND COMMISSION	Task 3 Summary Report with Photographs	<u>10/31/2022</u>
4	DEMONSTRATION, DATA COLLECTION AND ANALYSIS	Data Collection Test Plan	<u>4/1/2022</u>
		Data collection information and analysis will be provided in the final report (Task 1.5)	<u>2/16/2024</u>

Category Budget**Name of Organization**

City of Los Angeles Harbor Department

 Contractor/Recipient Subcontractor Small Business Micro Business Disabled Veteran Business Enterprise (DVBE)

Cost Category	Energy Commission Reimbursable Share	Match Share	Total
Direct Labor	\$ <u>157,413</u>	\$ -	\$ <u>157,413</u>
Fringe Benefits	\$ -	\$ -	\$ -
Total Labor	\$ <u>157,413</u>	\$ -	\$ <u>157,413</u>
Travel	\$ -	\$ -	\$ -
Equipment	\$ <u>3,214,520</u>	\$ 312,500	\$ <u>3,527,020</u>
Materials/Miscellaneous	\$ <u>1,419,862</u>	\$ <u>3,555</u>	\$ <u>1,423,417</u>
Subcontractors	\$ <u>3,050,475</u>	\$ <u>3,089,729</u>	\$ <u>6,140,204</u>
Total Other Direct Costs	\$ <u>7,684,857</u>	\$ <u>3,405,784</u>	\$ <u>11,090,641</u>
Indirect Costs	\$ -	\$ -	\$ -
Profit (not allowed for grant recipients)	\$ -	\$ -	\$ -
Total Indirect and Profit	\$ -	\$ -	\$ -
Grand Totals	\$ 7,842,270	\$ 3,405,784	\$ 11,248,054

Direct Labor (Unloaded)

City of Los Angeles Harbor Department

Hourly Rates

Employee Name	Job Classification / Title	Maximum Labor Rate (\$ per hour)	# of Hours	Energy Commission Funds	Match Share	Total
TBD	Construction and Maintenance (C&M) Senior Electrician	\$ 72.00	73	\$ 5,256		\$ 5,256
TBD	C&M Senior Carpenter	\$ 74.00	79	\$ 5,846	\$ -	\$ 5,846
TBD	C&M Senior Plumber	\$ 73.00	15	\$ 1,095	\$ -	\$ 1,095
TBD	Hiring Hall (HH) Electrician Foreman	\$ 61.00	141	\$ 8,601	\$ -	\$ 8,601
TBD	HH Electrician Journeyman	\$ 55.00	389	\$ 21,395	\$ -	\$ 21,395
TBD	HH City Craft Assistant	\$ 35.00	1,000	\$ 34,986	\$ -	\$ 34,986
TBD	HH Carpenter Foreman	\$ 66.00	273	\$ 18,018	\$ -	\$ 18,018
TBD	HH Carpenter Journeyman	\$ 60.00	518	\$ 31,080	\$ -	\$ 31,080
TBD	HH Plumbing Foreman	\$ 67.00	16	\$ 1,072	\$ -	\$ 1,072
TBD	HH Plumbing Journeyman	\$ 61.00	43	\$ 2,623	\$ -	\$ 2,623
TBD	HH Painter Foreman	\$ 43.00	43	\$ 1,849	\$ -	\$ 1,849
TBD	HH Painter Journeyman	\$ 41.00	84	\$ 3,444	\$ -	\$ 3,444
TBD	HH Finisher Journeyman	\$ 53.00	157	\$ 8,321	\$ -	\$ 8,321
TBD	HH Operator - Backhoe	\$ 60.00	80	\$ 4,800	\$ -	\$ 4,800
TBD	HH Operator - Dumptruck	\$ 59.00	153	\$ 9,027	\$ -	\$ 9,027
Hourly Direct Labor Totals				\$ 157,413	\$ -	\$ 157,413

Monthly Salary Rates

Employee Name	Job Classification / Title	Maximum Labor Rate (\$ per month)	# of Months	Energy Commission Funds	Match Share	Total
		\$ -		\$ -	\$ -	\$ -
Monthly Direct Labor Totals				\$ -	\$ -	\$ -
				Energy Commission Funds	Match Share	Total
Direct Labor Grand Totals				\$ 157,413	\$ -	\$ 157,413

Fringe Benefits

City of Los Angeles Harbor Department

Fringe Benefit Base Description (Employee or Job Classification/Title)	Max. Fringe Benefit Rate (%)	Direct Labor Costs (\$)	Energy Commission Funds	Match Share	Total
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	
Fringe Benefit Totals		\$ -	\$ -	\$ -	\$ -

Travel

City of Los Angeles Harbor Department

Task No.	Traveler's Name and/or Classification	Departure and Destination	Trip Purpose	Energy Commission Funds	Match Share	Total
				\$ -	\$ -	\$ -
				\$ -		\$ -
Total:				\$ -	\$ -	\$ -

Equipment

City of Los Angeles Harbor Department

Task No.	Description	Purpose	# Units	Unit Cost	Energy Commission Funds	Match Share	Total
3	High Voltage Breaker	High voltage circuit protection	2	\$ 80,000	\$ 160,000	\$ -	\$ 160,000
3	Low Voltage Breaker	Low voltage circuit protection	3	\$ 20,000	\$ 60,000	\$ -	\$ 60,000
3	3,000 KVA Transformer	Transformer box for ten inductive chargers	1	\$ 620,000	\$ 620,000	\$ -	\$ 620,000
3	1,500 KVA Transformer	Transformer box for two inductive chargers	1	\$ 440,000	\$ 440,000	\$ -	\$ 440,000
3	High Voltage Manhole	Underground cabling	2	\$ 35,000	\$ 70,000	\$ -	\$ 70,000
3	Low Voltage Pull Boxes	Enable access to wire conduits	10	\$ 5,000	\$ 50,000	\$ -	\$ 50,000
3	Power Electronic Filter for WAVE	Signal filtering for charging pad	6	\$ 35,000	\$ 210,000	\$ -	\$ 210,000
3	WAVE Charger Structure Pads	Inductive charging pads for trucks	6	\$ 15,000	\$ 90,000	\$ -	\$ 90,000
3	<u>Substation (Area #1)</u>	<u>To supply electricity for ten yard tractors</u>	<u>1</u>	<u>\$ 80,000</u>	<u>\$ 80,000</u>	\$ -	<u>\$ 80,000</u>
3	<u>Substation (Area #2)</u>	<u>To supply electricity for two yard tractors</u>	<u>1</u>	<u>\$ 75,000</u>	<u>\$ 75,000</u>	\$ -	<u>\$ 75,000</u>
3	<u>0.5 MW Battery Energy Storage System</u>	<u>Energy Storage</u>	<u>1</u>	<u>\$ 1,239,520</u>	<u>\$ 1,239,520</u>	\$ -	<u>\$ 1,239,520</u>
3	<u>500kw Battery Chargers</u>	<u>To charge the battery energy storage system</u>	<u>3</u>	<u>\$ 40,000</u>	<u>\$ 120,000</u>	\$ -	<u>\$ 120,000</u>
3	10 Yard Tractors	Demonstrate zero emissions (cash match)	10	\$ 31,250	\$ -	\$ 312,500	\$ 312,500
Total:					\$ 3,214,520	\$ 312,500	\$ 3,527,020

Materials & Miscellaneous

City of Los Angeles Harbor Department

Description	Purpose	# Units	Unit Cost	Energy Commission Funds	Match Share	Total
<u>Trench Backfill and Reconstruction Materials</u>	<u>To fill in and reconstruct trenches for in-ground infrastructure installation</u>	<u>850</u>	<u>\$ 100</u>	<u>\$ 85,000</u>	\$ -	<u>\$ 85,000</u>
<u>Trench Slurry (in yards)</u>	<u>To prevent water from seeping into trenches</u>	<u>500</u>	<u>\$ 112</u>	<u>\$ 56,000</u>	\$ -	<u>\$ 56,000</u>
<u>High-Voltage Cable Installation (in feet)</u>	<u>To supply power to inductive chargers</u>	<u>2,450</u>	<u>\$ 50</u>	<u>\$ 122,500</u>	\$ -	<u>\$ 122,500</u>
<u>Low-Voltage Communication Wiring Installation (in feet)</u>	<u>To allow communication between infrastructure equipment</u>	<u>1,500</u>	<u>\$ 5</u>	<u>\$ 7,500</u>	\$ -	<u>\$ 7,500</u>
<u>Low-Voltage 250 MCM Cable Installation (in feet)</u>	<u>To supply low-voltage power to inductive chargers</u>	<u>12,000</u>	<u>\$ 13</u>	<u>\$ 156,000</u>	\$ -	<u>\$ 156,000</u>
<u>Low-voltage 500 MCM Cable Installation (in feet)</u>	<u>To supply low-voltage power to inductive chargers</u>	<u>4,000</u>	<u>\$ 17</u>	<u>\$ 68,000</u>	\$ -	<u>\$ 68,000</u>
<u>Grounding Wire (in feet)</u>	<u>To ground inductive chargers</u>	<u>35,000</u>	<u>\$ 5</u>	<u>\$ 175,000</u>	\$ -	<u>\$ 175,000</u>
<u>Manufacturer Equipment Certification</u>	<u>Independent Safety Certification</u>	<u>2</u>	<u>\$ 20,000</u>	<u>\$ 40,000</u>	\$ -	<u>\$ 40,000</u>
<u>Electrical Conduit (in feet)</u>	<u>To safely guide electrical wiring</u>	<u>11,400</u>	<u>\$ 6</u>	<u>\$ 68,400</u>	\$ -	<u>\$ 68,400</u>
<u>Bollards</u>	<u>For vehicle safety</u>	<u>200</u>	<u>\$ 965</u>	<u>\$ 193,000</u>	\$ -	<u>\$ 193,000</u>
<u>Concrete</u>	<u>Pads for inductive chargers</u>	<u>700</u>	<u>\$ 130</u>	<u>\$ 91,000</u>	\$ -	<u>\$ 91,000</u>
<u>Merli Concrete Pump Rental (per month)</u>	<u>For pads and bollards</u>	<u>12</u>	<u>\$ 2,500</u>	<u>\$ 30,000</u>	\$ -	<u>\$ 30,000</u>
<u>Rebar (in feet)</u>	<u>For pads and bollards</u>	<u>7,000</u>	<u>\$ 10</u>	<u>\$ 70,000</u>	\$ -	<u>\$ 70,000</u>
<u>Precast Boxes</u>	<u>To access underground infrastructure, such as plumbing and electrical wiring</u>	<u>200</u>	<u>\$ 80</u>	<u>\$ 16,000</u>	\$ -	<u>\$ 16,000</u>
<u>Chain Link Fence</u>	<u>For security and safety</u>	<u>1,600</u>	<u>\$ 10</u>	<u>\$ 16,000</u>	\$ -	<u>\$ 16,000</u>

Revised 02/14/2022

Materials & Miscellaneous

City of Los Angeles Harbor Department

Description	Purpose	# Units	Unit Cost	Energy Commission Funds	Match Share	Total
<u>PEX Material</u>	<u>Plumbing</u>	<u>7,500</u>	<u>\$ 2</u>	<u>\$ 15,000</u>	<u>\$ -</u>	<u>\$ 15,000</u>
<u>Building Material</u>	<u>Miscellaneous items such as lumber, hardware, bolts, screws, etc.</u>	<u>Varies</u>	<u>\$ 20,900</u>	<u>\$ 20,900</u>	<u>\$ -</u>	<u>\$ 20,900</u>
<u>HERC Backhoe Rental (3 months)</u>	<u>General Construction Equipment</u>	<u>3</u>	<u>\$ 3,500</u>	<u>\$ 10,500</u>	<u>\$ -</u>	<u>\$ 10,500</u>
<u>HERC Breaker Rental (3 months)</u>	<u>General Construction Equipment</u>	<u>3</u>	<u>\$ 1,650</u>	<u>\$ 4,950</u>	<u>\$ -</u>	<u>\$ 4,950</u>
<u>HERC Dumptruck Rental (2 trucks for 2 months)</u>	<u>General Construction Equipment</u>	<u>2</u>	<u>\$ 13,900</u>	<u>\$ 27,800</u>	<u>\$ -</u>	<u>\$ 27,800</u>
<u>Pickup Truck Rental (5 trucks for 7 months)</u>	<u>Employee Transport</u>	<u>7</u>	<u>\$ 8,500</u>	<u>\$ 59,500</u>	<u>\$ -</u>	<u>\$ 59,500</u>
<u>Forklift Rental (3 months)</u>	<u>General Construction Equipment</u>	<u>3</u>	<u>\$ 3,500</u>	<u>\$ 10,500</u>	<u>\$ -</u>	<u>\$ 10,500</u>
<u>Trench Plate Rental (3 months)</u>	<u>General Construction Equipment</u>	<u>3</u>	<u>\$ 7,130</u>	<u>\$ 21,390</u>	<u>\$ -</u>	<u>\$ 21,390</u>
<u>Trench Shoring Rental (7 months)</u>	<u>General Construction Equipment</u>	<u>7</u>	<u>\$ 1,150</u>	<u>\$ 8,050</u>	<u>\$ -</u>	<u>\$ 8,050</u>
<u>Trench Box Rental (2 boxes for 1 month)</u>	<u>General Construction Equipment</u>	<u>2</u>	<u>\$ 800</u>	<u>\$ 1,600</u>	<u>\$ -</u>	<u>\$ 1,600</u>
<u>Portable Toilet Rental (3 units for 12 months)</u>	<u>Hygiene</u>	<u>12</u>	<u>\$ 750</u>	<u>\$ 9,000</u>	<u>\$ -</u>	<u>\$ 9,000</u>
<u>Storage Container Rental (2 containers for 12 months)</u>	<u>Storage</u>	<u>12</u>	<u>\$ 980</u>	<u>\$ 11,760</u>	<u>\$ -</u>	<u>\$ 11,760</u>
<u>Fencing Rental</u>	<u>Safety and Security</u>	<u>12</u>	<u>\$ 376</u>	<u>\$ 4,512</u>	<u>\$ -</u>	<u>\$ 4,512</u>
<u>HERC Orange K-Rail Rental</u>	<u>Safety containment</u>	<u>100</u>	<u>\$ 200</u>	<u>\$ 20,000</u>	<u>\$ -</u>	<u>\$ 20,000</u>
<u>Permits: Structural</u>	<u>Building and Safety</u>	<u>6</u>	<u>\$ 410</u>	<u>\$ -</u>	<u>\$ 2,460</u>	<u>\$ 2,460</u>
<u>Permits: Electrical</u>	<u>Building and Safety</u>	<u>1</u>	<u>\$ 1,095</u>	<u>\$ -</u>	<u>\$ 1,095</u>	<u>\$ 1,095</u>
Total				\$ 1,419,862	\$ 3,555	\$ 1,423,417

Subcontracts

City of Los Angeles Harbor Department

Task No.	Subcontractor Name	Purpose	CA Business Certifications DVBE/ SB/MB/None	Energy Commission Funds	Match Share	Total
1,2,3	Wireless Advanced Vehicle Electrification, LLC	<u>To install 10 inductive charging EVSE units for main charging and 2 inductive EVSE units for opportunity charging</u>		\$ 2,843,420	\$ 126,885	\$ 2,970,305
3	West Basin Container Terminal, LLC	10 zero emission yard tractors			\$ 2,887,500	\$ 2,887,500
3	<u>TBD</u>	<u>Asphalt</u>		\$ 5,155	\$ 54,844	\$ 59,999
3	<u>TBD</u>	<u>Concrete coring</u>		\$ -	\$ 16,000	\$ 16,000
3	<u>TBD</u>	<u>Ground scanning for existing utilities</u>		\$ -	\$ 3,500	\$ 3,500
3	<u>TBD</u>	<u>Saw cut to remove pot holes</u>		\$ -	\$ 1,000	\$ 1,000
4	<u>TBD</u>	<u>Demonstration Data Collection and Analysis</u>		\$ 201,900	\$ -	\$ 201,900
				\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -
Total:				\$ 3,050,475	\$ 3,089,729	\$ 6,140,204

Indirect Costs and Profit

City of Los Angeles Harbor Department

Indirect Cost(s)

Name of Indirect Cost	Maximum Rate	Indirect Cost Base Description	Indirect Cost Base Amount	Energy Commission Funds	Match Share	Total
				\$ -		\$ -
				\$ -	\$ -	\$ -
Total:				\$ -	\$ -	\$ -

Profit

(Profit is not allowed for Grant Recipients)

Profit Rate	Profit Base Description	Profit Base Amount	Energy Commission Funds	Match Share	Total
			\$ -	\$ -	\$ -
Total:			\$ -	\$ -	\$ -

Category Budget

Name of Organization

Wireless Advanced Vehicle Electrification, LLC

Contractor/Recipient

Subcontractor

Small Business

Micro Business

Disabled Veteran Business Enterprise (DVBE)

Cost Category	Energy Commission Reimbursable Share	Match Share	Total
Direct Labor	\$ 331,096	\$ 115,402	\$ 446,498
Fringe Benefits	\$ 32,944	\$ 11,483	\$ 44,427
Total Labor	\$ 364,040	\$ 126,885	\$ 490,925
Travel	\$ 21,580	\$ -	\$ 21,580
Equipment	<u>\$ 2,457,800</u>	\$ -	<u>\$ 2,457,800</u>
Materials/Miscellaneous	\$ -	\$ -	\$ -
Subcontractors	\$ -	\$ -	\$ -
Total Other Direct Costs	\$ 2,479,380	\$ -	\$ 2,479,380
Indirect Costs	\$ -	\$ -	\$ -
Profit (not allowed for grant recipients)	\$ -	\$ -	\$ -
Total Indirect and Profit	\$ -	\$ -	\$ -
Grand Totals	<u>\$ 2,843,420</u>	\$ 126,885	<u>\$ 2,970,305</u>

Direct Labor (Unloaded)**Wireless Advanced Vehicle Electrification, LLC****Hourly Rates**

Employee Name	Job Classification / Title	Maximum Labor Rate (\$ per hour)	# of Hours	Energy Commission Funds	Match Share	Total
TBD	Chief Executive Officer	\$ 88.00	50	\$ 3,263	\$ 1,137	\$ 4,400
TBD	System Architect/Engineer	\$ 72.15	120	\$ 6,420	\$ 2,238	\$ 8,658
TBD	Electrical Engineer	\$ 50.00	1,789	\$ 66,332	\$ 23,119	\$ 89,451
TBD	Sr. Mechanical Engineer	\$ 60.00	74	\$ 3,292	\$ 1,148	\$ 4,440
TBD	Mechanical Engineer	\$ 50.00	3,125	\$ 115,865	\$ 40,384	\$ 156,249
TBD	Integration and Validation Engineer	\$ 46.00	42	\$ 1,433	\$ 499	\$ 1,932
TBD	Sr. Software Engineer	\$ 75.00	225	\$ 12,513	\$ 4,362	\$ 16,875
TBD	Software Engineer	\$ 45.00	198	\$ 6,607	\$ 2,303	\$ 8,910
TBD	Sr. Power Electronics Engineer	\$ 65.00	686	\$ 33,065	\$ 11,525	\$ 44,590
TBD	Sr. Electrical Engineer	\$ 75.00	476	\$ 26,473	\$ 9,227	\$ 35,700
TBD	Supply Chain Manager	\$ 40.00	334	\$ 9,907	\$ 3,453	\$ 13,360
TBD	Accounting and Operations Manager	\$ 60.00	149	\$ 6,629	\$ 2,311	\$ 8,940
TBD	Sr. Technician	\$ 38.00	1,059	\$ 29,841	\$ 10,401	\$ 40,242
TBD	Technician	\$ 26.00	150	\$ 2,892	\$ 1,008	\$ 3,900
TBD	Administrative	\$ 30.00	295	\$ 6,564	\$ 2,287	\$ 8,851
Hourly Direct Labor Totals				\$ 331,096	\$ 115,402	\$ 446,498

Monthly Salary Rates

Employee Name	Job Classification / Title	Maximum Labor Rate (\$ per month)	# of Months	Energy Commission Funds	Match Share	Total
		\$ -		\$ -	\$ -	\$ -
Monthly Direct Labor Totals				\$ -	\$ -	\$ -

	Energy Commission Funds	Match Share	Total
Direct Labor Grand Totals	\$ 331,096	\$ 115,402	\$ 446,498

Fringe Benefits

Wireless Advanced Vehicle Electrification, LLC

Fringe Benefit Base Description (Employee or Job Classification/Title)	Max. Fringe Benefit Rate (%)	Direct Labor Costs (\$)	Energy Commission Funds	Match Share	Total
All employees/job classifications	9.95%	\$ 446,498	\$ 32,944	\$ 11,483	\$ 44,427
		\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -
Fringe Benefit Totals		\$ 446,498	\$ 32,944	\$ 11,483	\$ 44,427

Travel

Wireless Advanced Vehicle Electrification, LLC

Task No.	Traveler's Name and/or Classification	Departure and Destination	Trip Purpose	Energy Commission Funds	Match Share	Total
1	CEO and System Architect	Salt Lake City, UT to Sacramento, CA	Kick-off, CPR, and Close out meetings. 3 trips @ \$1,660 per trip	\$ 4,980	\$ -	\$ 4,980
2,3	Two Integration and Validation Engineers	Salt Lake City, UT to San Pedro and Lancaster, CA	On-site reviews at POLA and BYD. 10 trips @ \$1,660 per trip	\$ 16,600	\$ -	\$ 16,600
				\$ -	\$ -	\$ -
Total:				\$ 21,580	\$ -	\$ 21,580

Equipment

Wireless Advanced Vehicle Electrification, LLC

Task No.	Description	Purpose	# Units	Unit Cost	Energy Commission Funds	Match Share	Total
3	250 kW Substation	<u>Primary in-ground charging unit for 10 125kW charging pads</u>	<u>5</u>	\$ 338,300	\$ <u>1,691,500</u>	\$ -	\$ <u>1,691,500</u>
3	125 kW On-Vehicle Receiver Pads	Vehicle-mounted receiver pads	<u>10</u>	\$ 31,500	\$ <u>315,000</u>	\$ -	\$ <u>315,000</u>
3	250 kW Substation	<u>Primary in-ground charging unit for 2 125kW charging pads; including conversion from validation/testing platform</u>	<u>1</u>	\$ <u>368,300</u>	\$ <u>368,300</u>	\$ -	\$ <u>368,300</u>
3	125 kW On-Vehicle Receiver Pads	<u>Vehicle-mounted receiver pads; including conversion from validation/testing platform</u>	<u>2</u>	\$ <u>41,500</u>	\$ <u>83,000</u>	\$ -	\$ <u>83,000</u>
				\$ -	\$ -	\$ -	\$ -
Total:					\$ <u>2,457,800</u>	\$ -	\$ <u>2,457,800</u>

Materials & Miscellaneous

Wireless Advanced Vehicle Electrification, LLC

Task No.	Description	Purpose	# Units	Unit Cost	Energy Commission Funds	Match Share	Total
				\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -
				Total:	\$ -	\$ -	\$ -

Subcontracts

Wireless Advanced Vehicle Electrification, LLC

Task No.	Subcontractor Name	Purpose	CA Business Certifications DVBE/ SB/MB/None	Energy Commission Funds	Match Share	Total
				\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -
Total:				\$ -	\$ -	\$ -

Indirect Costs and Profit

Wireless Advanced Vehicle Electrification, LLC

Indirect Cost(s)

Name of Indirect Cost	Maximum Rate	Indirect Cost Base Description	Indirect Cost Base Amount	Energy Commission Funds	Match Share	Total
				\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -
Total:				\$ -	\$ -	\$ -

Profit

(Profit is not allowed for Grant Recipients)

Profit Rate	Profit Base Description	Profit Base Amount	Energy Commission Funds	Match Share	Total
			\$ -	\$ -	\$ -
Total:			\$ -	\$ -	\$ -

**Exhibit C-1
Special Terms and Conditions
ARV-17-049**

1. These Special Terms and Conditions shall be in addition to, and not in lieu of, the other terms and conditions to Agreement ARV-17-049, including those relating to the California Energy Commission's (CEC) right and remedies thereunder.
2. The CEC has legal restrictions on how long the funds encumbered in this Agreement are available to spend under this Agreement. Recipient acknowledges that the funding under Agreement ARV-17-049 liquidates (i.e., is no longer available for disbursement from the CEC) as follows:
 - \$6,362,799 liquidates on June 30, 2023
 - \$1,479,471 liquidates on June 30, 2024
3. Due to the Recipient's delays in performing certain tasks described in Exhibit A, Scope of Work, the Recipient has asked the CEC to extend the Agreement end date beyond the June 30, 2023 liquidation date when the majority of funds available under this Agreement liquidate.
4. Therefore, reimbursable expenditures shall be incurred, and invoices documenting expenditures, as well as request(s) to release retention, shall be submitted according to the following schedule and in accordance with the terms and conditions of this Agreement in order to be eligible for payment:
 - By March 31, 2023: Recipient incurs and requests reimbursement of at least \$6,362,799 in allowable and allocable expenditures under ARV-17-049.
 - By February 15, 2024: Recipient incurs and requests reimbursement for up to \$1,479,471 in allowable and allocable expenditures including release of retention under ARV-17-049.

The Recipient agrees that all CEC-reimbursable expenditures must be incurred according to the above schedule. Expenditures outside of the amounts and times indicated may not be reimbursed by the CEC, but may count towards the Recipient's match fund commitment if incurred prior to the end date of this Agreement.

The Recipient agrees that all invoices (including request(s) to release retention) will be properly documented and submitted to the CEC according to the schedule above. Failure by the Recipient to submit invoices documented in accordance with the terms and conditions of this Agreement according to the above schedule

may result in the CEC not being able to process payment requests prior to the funding liquidation deadlines and payment not being issued for those invoices.

5. The Recipient acknowledges that damages are likely to result if the CEC pays all of its Agreement funds including retention to the Recipient and the Recipient does not then complete its work under the Agreement, including but not limited to 12 months of data collection, and that those damages may be difficult to prove. Therefore, the Recipient and the CEC intend that the payment of Liquidated Damages equal to ten (10) percent of the CEC funding disbursed under this Agreement would reasonably compensate the CEC for its actual damages sustained, and not be a penalty. Without eliminating any of the CEC's other rights and remedies, the Recipient agrees to pay the CEC this amount if the CEC pays all of its Agreement funds to the Recipient and the Recipient does not complete the Agreement.
6. The Recipient agrees to complete all tasks described in Exhibit A, Scope of Work, by March 31, 2024, including but not limited to:
 - a. Begin demonstration of all of the inductive electric vehicle supply equipment in Task 3 of this Agreement by October 31, 2022.
 - b. Begin demonstration of the battery energy storage system in Task 3 of this Agreement by October 31, 2022.
 - c. Operate and collect data on the inductive electric vehicle supply equipment and battery energy storage system in Task 3 for at least a 12 month period.
 - d. Provide monthly progress reports throughout the Agreement term.
 - e. Submit all project deliverables per the Exhibit A-1 Schedule of Products and Due Dates.
 - f. Submit the Draft Final Report by December 15, 2023 and the Final Report by February 16, 2024.
 - g. Fulfill the match share requirements of this agreement.
7. The CEC retains all rights and remedies should the Recipient fail to complete all tasks described in Exhibit A, Scope of Work, or otherwise fail to satisfy all terms and conditions of this Agreement.

CEC Agreement ARV-17-049
Second Amendment

GRANT/LOAN AMENDMENT

CEC-140 (Revised 9/11)

CALIFORNIA ENERGY COMMISSION



Check here if additional pages are attached. 4 Pages

AGREEMENT NUMBER: ARV-17-049	AMENDMENT NUMBER: 02
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- This Agreement is entered into between the State Agency and the Recipient named below:
STATE AGENCY'S NAME
State Energy Resources Conservation and Development Commission
RECIPIENT'S NAME
City of Los Angeles Harbor Department
- The term of this Agreement: From: 06/15/2018 To: 06/30/2025
- The maximum amount of this Agreement after this amendment is: \$ 7,842,270 (\$0 Amendment)
- The parties mutually agree to this amendment as follows. All actions noted below are by this reference made a part of the Agreement and incorporated herein:

The purpose of this amendment is a 15-month term extension and to update the Special Terms and Conditions. Agreement ARV-17-049, approved by the Energy Commission on August 21, 2019 and amended March 30, 2022 is amended as follows:

Exhibit A-1 – Schedule of Products and Due Dates (2 pages) is attached hereto and replaces the previously approved Exhibit A-1 – Schedule of Products and Due Dates (2 pages) in its entirety.

Exhibit D-1 – Special Terms and Conditions (2 pages) is attached hereto and replaces the previously approved Exhibit D-1 – Special Terms and Conditions (2 pages) in its entirety.

RECIPIENT

RECIPIENT'S NAME (If other than an individual, state whether a corporation, partnership, etc)

BY (Authorized Signature) DATE SIGNED (Do not type)

 NAME AND TITLE OF PERSON SIGNING 

ADDRESS
425 S. Palos Verdes Street
San Pedro, CA 90731

STATE OF CALIFORNIA

AGENCY NAME
State Energy Resources Conservation and Development Commission

BY (Authorized Signature) DATE SIGNED (Do not type)

 NAME AND TITLE OF PERSON SIGNING 
Adrienne Winuk, Contracts, Grants, and Loans Office Manager

ADDRESS
1516 Ninth Street, MS-18
Sacramento, CA 95814-5512

Exhibit A-1

Schedule of Products and Due Dates**Agreement Term: 6/15/2018 - 06/30/2025**

Task Number	Task Name	Product(s)	Due Date
1.1	Attend Kick-off Meeting	Updated Schedule of Products	9/19/2019
		Updated List of Match Funds	9/19/2019
		Updated List of Permits	9/19/2019
		Kick-Off Meeting Agenda (CEC)	9/19/2019
1.2	Critical Project Review Meetings	1st CPR Meeting CPR Report	3/31/2021
		Written determination (CEC)	4/7/2021
		2nd CPR Meeting CPR Report	<u>2/1/2024</u>
		Written determination (CEC)	<u>2/23/2024</u>
1.3	Final Meeting	Written documentation of meeting agreements	<u>6/13/2025</u> <u>4/25/2025</u>
		Schedule for completing closeout activities	<u>4/25/2025</u>
		Monthly Progress Reports	The 10th calendar day of each month during the approved term of this Agreement
1.5	Final Report	Final Outline of the Final Report	<u>10/30/2024</u>
		Draft Final Report (no less than 60 days before the end term of the agreement)	<u>2/14/2025</u>
		Final Report	<u>4/30/2025</u>
1.6	Identify and Obtain Match Funds	A letter regarding match funds or stating that no match funds are provided	1/31/2019
		Copy(ies) of each match fund commitment letter(s) (if applicable)	1/31/2019
		Letter(s) for new match funds (if applicable)	Within 10 days of identifying new match funds
		Letter that match funds were reduced (if applicable)	Within 10 days of identifying reduced funds

Exhibit A-1

Schedule of Products and Due Dates**Agreement Term: 6/15/2018 - 06/30/2025**

Task Number	Task Name	Product(s)	Due Date
1.7	Identify and Obtain Required Permits	Letter documenting the permits or stating that no permits are required	1/31/2019
		A copy of each approved permit (if applicable)	Within 10 days of receiving each permit
		Updated list of permits as they change during the term of the Agreement (if applicable)	Within 10 days of change in list of permits
		Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)	Within 10 days of change in schedule for obtaining permits
1.8	Obtain and Execute Subcontracts	Letter describing the subcontracts needed, or stating that no subcontracts are required	12/31/2019
		Draft subcontracts	15 days prior to the scheduled execution date
		Final subcontracts	Within 10 days of execution
2	DESIGN AND DEVELOPMENT	Final equipment list	<u>12/9/2022</u>
		Executed BESS technical agreement	<u>1/31/2023</u>
		WAVE System Test Report	4/1/2022
		Copy of approved infrastructure designs	<u>1/31/2023</u>
3	BUILD, INSTALL AND COMMISSION	Task 3 Summary Report with Photographs	<u>3/29/2024</u>
4	DEMONSTRATION, DATA COLLECTION AND ANALYSIS	Data Collection Test Plan	<u>10/21/2022</u>
		Data collection information and analysis will be provided in the final report (Task 1.5)	<u>4/30/2025</u>

**Exhibit D-1
Special Terms and Conditions
ARV-17-049**

1. These Special Terms and Conditions shall be in addition to, and not in lieu of, the other terms and conditions to Agreement ARV-17-049, including those relating to the California Energy Commission's (CEC) right and remedies thereunder.
2. The CEC has legal restrictions on how long the funds encumbered in this Agreement are available to spend under this Agreement. Recipient acknowledges that the funding under Agreement ARV-17-049 liquidates (i.e., is no longer available for disbursement from the CEC) as follows:
 - \$6,362,799 liquidates on June 30, 2023
 - \$1,479,471 liquidates on June 30, 2024
3. Due to the Recipient's delays in performing certain tasks described in Exhibit A, Scope of Work, the Recipient has asked the CEC to extend the Agreement end date beyond the June 30, 2023 liquidation date when the majority of funds available under this Agreement liquidate.
4. Therefore, reimbursable expenditures shall be incurred, and invoices documenting expenditures, as well as request(s) to release retention, shall be submitted according to the following schedule and in accordance with the terms and conditions of this Agreement in order to be eligible for payment:
 - By March 31, 2023: Recipient incurs and requests reimbursement of at least \$6,362,799 in allowable and allocable expenditures under ARV-17-049.
 - By February 15, 2024: Recipient incurs and requests reimbursement for up to \$1,479,471 in allowable and allocable expenditures including release of retention under ARV-17-049.

The Recipient agrees that all CEC-reimbursable expenditures must be incurred according to the above schedule. Expenditures outside of the amounts and times indicated may not be reimbursed by the CEC, but may count towards the Recipient's match fund commitment if incurred prior to the end date of this Agreement.

The Recipient agrees that all invoices (including request(s) to release retention) will be properly documented and submitted to the CEC according to the schedule above. Failure by the Recipient to submit invoices documented in accordance with the terms and conditions of this Agreement according to the above schedule

may result in the CEC not being able to process payment requests prior to the funding liquidation deadlines and payment not being issued for those invoices.

5. The Recipient acknowledges that damages are likely to result if the CEC pays all of its Agreement funds, including retention, to the Recipient and the Recipient does not then complete its work under the Agreement, including but not limited to 12 months of data collection, and that those damages may be difficult to prove. Therefore, the Recipient and the CEC intend that the payment of Liquidated Damages equal to ten (10) percent of the CEC funding disbursed under this Agreement would reasonably compensate the CEC for its actual damages sustained, and not be a penalty. Without eliminating any of the CEC's other rights and remedies, the Recipient agrees to pay the CEC this amount if the CEC pays all of its Agreement funds to the Recipient and the Recipient does not complete the Agreement.
6. The Recipient agrees to complete all tasks described in Exhibit A, Scope of Work, by ~~March 31, 2024~~ **June 30, 2025**, including but not limited to:
 - a. Begin demonstration of all of the inductive electric vehicle supply equipment in Task 3 of this Agreement by ~~October 30, 2022~~, **January 31, 2024**.
 - b. Begin demonstration of the battery energy storage system in Task 3 of this Agreement by ~~October 30, 2022~~, **January 31, 2024**.
 - c. Operate and collect data on the inductive electric vehicle supply equipment and battery energy storage system in Task 3 for at least a 12-month period.
 - d. Provide monthly progress reports throughout the Agreement term.
 - e. Submit all project deliverables per the Exhibit A-1 Schedule of Products and Due Dates.
 - f. Submit the Draft Final Report by ~~November 17, 2023~~, **February 14, 2025**, and the Final Report by ~~January 5, 2024~~. **April 30, 2025**
 - g. Fulfill the match share requirements of this agreement.
7. The CEC retains all rights and remedies should the Recipient fail to complete all tasks described in Exhibit A, Scope of Work, or otherwise fail to satisfy all terms and conditions of this Agreement.