STATE OF CALIFORNIA

# CONTRACT REQUESTS FORM (CRF)

CEC-94 (Revised 5/11) CALIFORNIA ENERGY COMMISSION

☒ New Contract 500-11-012 ☐ Amendment to Existing Contract:_____ Amendment Number:_____

| Division | Contract Manager: | MS- | Phone | CM Training Date |
|---|---|---|---|---|
| Energy Research and Development | Dan Gallagher | 43 | 916-327-1315 | 9/29/2009 |

| Contractor's Legal Name | Federal ID Number |
|---|---|
| The Regents of the University of California on behalf of the Los Angeles Campus | 95-6006143 |

| Title of Project |
|---|
| California Center for Sustainable Communities at UCLA |

| Term | Start Date | End Date | Amount |
|---|---|---|---|
| New/Original Contract | 2/27/2012 | 6/30/2015 | $1,900,000 |

*Line up the Amendment information as best as possible within the following table.*

| Amendment # | End Date *(mm/dd/yy)* | Amount |
|---|---|---|
| | | |

| Business Meeting Information | | | |
|---|---|---|---|
| Proposed Business Meeting Date | 2/8/2012 | ☐ Consent | ☒ Discussion |
| Business Meeting Presenter | Dan Gallagher | Time Needed: | 5 minutes |

**Agenda Item Subject and Description**

Possible approval of Contract 500-11-012 for $1,900,000.00 with The Regents of the University of California on behalf of the Los Angeles campus to develop a multi-campus Center for Sustainable Communities. The length of this agreement is 40 months. (PIER electricity funding) Contact: Dan Gallagher (5 minutes)

**Business Meeting approval is not required for the following types of contracts:** *Executive Director's signature is required in all cases.*

☐ Contracts less than $10k *(Policy Committee's signature is also required)*

☐ Amendment for a no-cost time extension. Must be first extension, less than one year and original contract less than $100k.

☐ Contracts less than $25k for Expert Witness in Energy Facility licensing cases and amendments.

**Purpose of Contract or Purpose of Amendment, if applicable**

PIER's vision for the California Center for Sustainable Communities Research (CCSCR) is that it will become a statewide interface for the synthesis, coordination, and communication of sustainable energy systems research. Using the 2011 UCLA Research Roadmap as a framework and guidance from both a Research Advisory Committee (RAC) and a Project Advisory Committee (PAC), the CCSCR will initiate and disseminate RD&D to benefit California. It will assist in producing data, models, methods, tools, and case studies to support the creation of more sustainable communities. The CCSCR will interface with state and local stakeholders and decision-makers to ensure policy-relevant research and implementation that helps meet the state's goals for sustainable communities, as stated in AB 32 and SB 375. The Center will be a multi-campus effort, housed at the UCLA Institute of the Environment and Sustainability. The Center will become both a national model and leader in research that supports sustainable community development.

## California Environmental Quality Act (CEQA) Compliance

1. Is Contract considered a "Project" under CEQA?
   ☐ Yes: skip to question 2 ☒ No: complete the following (PRC 21065 and 14 CCR 15378):
   Explain why contract is not considered a "Project":
   Contract will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because it involves no field sampling and consists of modeling using existing datasets to be conducted in a lab/office setting.
2. If contract is considered a "Project" under CEQA:
   ☐ a) Contract **IS** exempt. (Draft NOE required)
   ☐ Statutory Exemption. List PRC and/or CCR section number: _____
   ☐ Categorical Exemption. List CCR section number: _____
   ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)
   Explain reason why contract is exempt under the above section:
   _____
   ☐ b) Contract **IS NOT** exempt. The Contract Manager needs to consult with the Energy Commission attorney assigned to their division and the Siting Office regarding a possible Initial Study.

## Budgets Information

| Contract Amount Funded | | Breakdown by FY | | | Funding Sources | | | |
|---|---|---|---|---|---|---|---|---|
| Funding Source | Amount | FY | Amount | Approved? | Funding Source | FY | Budget List No. | Amount |
| ARFVTF | $ | 11-12 | $1,900,000 | Yes | PIER-E | 10-11 | 501.027I | $1,900,000 |
| ECAA | $ | | $ | | | | | $ |
| State- ERPA | $ | | $ | | | | | $ |
| Federal | $ | | $ | | | | | $ |
| PIER - E | $1,900,000 | | $ | | | | | $ |
| PIER - NG | $ | | $ | | | | | $ |
| Reimbursement | $ | | $ | | | | | $ |
| Other | $ | | $ | | | | | $ |
| TOTAL: | $1,900,000 | TOTAL: | $1,900,000 | | | | TOTAL: | $1,900,000 |
| Reimbursement Contract #: | | | | | Federal Agreement | | | |

| Contractor's Administrator/ Officer | | Contractor's Project Manager | |
|---|---|---|---|
| Name: | Martha Hansen | Name: | Zoe Elizabeth |
| Address: | PO BOX 11000<br>SUITE 102- BOX 951406 | Address: | UCLA Institute Of The Environment<br>La Kretz Hall, Suite 300, Box 951496 |
| City, State, Zip: | LOS ANGELES, CA 90011-0019 | City, State, Zip: | Los Angeles, CA 90095-1496 |
| Phone/ Fax: | (310) 794-0236 / (310) 943-1655 | Phone/ Fax: | (310) 825-2421 / |
| E-Mail: | mhansen@research.ucla.edu | E-Mail: | zelizabeth@ioes.ucla.edu |

## Contractor Is

☐ Private Company *(including non-profits)*
☒ CA State Agency *(including UC and CSU)*
☐ Government Entity *(i.e. city, county, federal government, air/water/school district, joint power authorities, university from another state)*

## Selection Process Used

☐ Solicitation Select Type Solicitation #: _____ # of Bids: _____ Low Bid? ☐ No ☐ Yes
☐ Non Competitive Bid *(Attach CEC 96)*
☒ Exempt Interagency

## Civil Service Considerations

☒ Not Applicable (Contract is with a CA State Entity or a membership/co-sponsorship)
☐ Public Resources Code 25620, et seq., authorizes the Commission to contract for the subject work. (PIER)

☐ The Services Contracted:
- ☐ are not available within civil service
- ☐ cannot be performed satisfactorily by civil service employees
- ☐ are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system.

☐ The Services are of such an:
- ☐ urgent
- ☐ temporary, or
- ☐ occasional nature

that the delay to implement under civil service would frustrate their very purpose.

**Justification**:

**Payment Method**

☒ A. Reimbursement in arrears based on:
☐ Itemized Monthly ☒ Itemized Quarterly ☐ Flat Rate ☐ One-time
☐ B. Advanced Payment
☐ C. Other, explain:

**Retention**

| | | |
|---|---|---|
| 1. Is contract subject to retention? | ☒ No | ☐ Yes |
| If Yes, Do you plan to release retention prior to contract termination? | ☐ No | ☐ Yes |

**Justification of Rates**

The rates charged in this contract by the University of California are U.C. published rates and the overhead rates are the negotiated rates with the Energy Commission.

**Disabled Veteran Business Enterprise Program (DVBE)**

1. ☒ Not Applicable
2. ☐ Meets DVBE Requirements DVBE Amount:$ _____ DVBE %: _____
   - ☐ Contractor is Certified DVBE
   - ☐ Contractor is Subcontracting with a DVBE: _____
3. ☐ Requesting DVBE Exemption (attach CEC 95)

| | | | |
|---|---|---|---|
| **Is Contractor a certified Small Business (SB), Micro Business (MB) or DVBE?** | | ☒ No | ☐ Yes |
| If yes, check appropriate box: | ☐ SB | ☐ MB | ☐ DVBE |

| | | |
|---|---|---|
| **Is Contractor subcontracting any services?** | ☒ No | ☐ Yes |
| If yes, give company name and identify if they are a Small Business (SB), Micro Business (MB) and/or DVBE: | | |

**Miscellaneous Contract Information**

| | | |
|---|---|---|
| 1. Will there be Work Authorizations? | ☒ No | ☐ Yes |
| 2. Is the Contractor providing confidential information? | ☒ No | ☐ Yes |
| 3. Is the contractor going to purchase equipment? | ☒ No | ☐ Yes |
| 4. Check frequency of progress reports | | |
| ☐ Monthly ☒ Quarterly ☐ _____ | | |
| 5. Will a final report be required? | ☐ No | ☒ Yes |
| 6. Is the contract, with amendments, longer than a year? If yes, why? | ☐ No | ☒ Yes |

The Department of General Services has agreed to give the Commission blanket authority to execute multi-year contracts to support the Commission's RD&D Programs.

| The following items should be attached to this CRF | | |
|---|---|---|
| 1. Scope of Work, Attach as Exhibit A. | ☐ N/A | ☒ Attached |
| 2. Budget Detail, Attach as Exhibit B. | ☐ N/A | ☒ Attached |
| 3. CEC 96, NCB Request | ☒ N/A | ☐ Attached |
| 4. CEC 30, Survey of Prior Work | ☒ N/A | ☐ Attached |
| 5. CEC 95, DVBE Exemption Request | ☒ N/A | ☐ Attached |
| 6. Draft CEQA Notice of Exemption (NOE) | ☒ N/A | ☐ Attached |
| 7. Resumes | ☐ N/A | ☒ Attached |
| 8. CEC 105, Questionnaire for Identifying Conflicts | | ☒ Attached |
| 9. CEC 106, IT Component Reporting Form | | ☒ Attached |

| Contract Manager | Date | Office Manager | Date | Deputy Director | Date |
|---|---|---|---|---|---|

**The following signatures are only required when contract approval is delegated to the Executive Office and not approved at a Business Meeting. See Business Meeting Information Section.**

| Presiding Policy Committee | Date | Associate Policy Committee | Date | Executive Director | Date |
|---|---|---|---|---|---|

# Exhibit A
## SCOPE OF WORK

### TECHNICAL TASK LIST

| Task # | CPR | Task Name |
|---|---|---|
| 1 | N/A | Administration |
| 2 | | Synthesize Existing Sustainable Communities Research |
| 3 | | Create Information Hub |
| 4 | X | Develop CCSC Research Plan |
| 5 | | Execute CCSC Urban Metabolism Research Activities |
| 6 | | Policy Analysis and Implementation Support for SB375 |
| 7 | | Pilot Pedestrian Rating Tool for Level of Service (LOS) |
| 8 | | Legal Research in Support of Resource Efficient Street Design |
| 9 | | Develop Electric Vehicle Charger Planning Tools |
| 10 | | Technology Transfer and Outreach |

### KEY NAME LIST

| Task # | Key Personnel | Key Subcontractor(s) | Key Partner(s) |
|---|---|---|---|
| 1 | | | |
| 2 | | | Stephanie Pincetl |
| 3 | | | Stephanie Pincetl |
| 4 | | | Stephanie Pincetl |
| 5 | | | Stephanie Pincetl |
| 6 | | | Louise Mozingo, Bill Eisenstein UC Berkeley (UCB) |
| 7 | | | Louise Mozingo, Bill Eisenstein UCB |
| 8 | | | Louise Mozingo, Bill Eisenstein UCB |
| 9 | | | Louise Mozingo, Bill Eisenstein UCB |
| 10 | | | Tom Turrentine, Michael Nicholas UC Davis (UCD) |
| 11 | | | Jeff Loux, Jonathan London UCD |

### GLOSSARY

| Acronym | Definition |
|---|---|
| ARB | California Air Resources Board |

| Acronym | Definition |
|---|---|
| Caltrans | California Department of Transportation |
| CCSC | California Center for Sustainable Communities |
| CEQA | California Environmental Quality Act |
| COG | Council of Government |
| CPR | Critical Project Review |
| CREC | Center for Resource Efficient Communities |
| Energy Commission | California Energy Commission |
| GHG | Greenhouse Gas |
| GIS | Geographical Information System |
| IEPR | Integrated Energy Policy Report |
| LOS | Level of Service |
| MPO | Metropolitan Planning Organization |
| OP | Organizational Plan |
| OPR | Governor's Office of Planning and Research |
| PAC | Project Advisory Committee |
| PECAS | Production, Exchange, and Consumption Allocation System |
| PIER | Public Interest Energy Research |
| RR | Research Roadmap |
| RTP | Regional Transportation Plan |
| SB | Senate Bill |
| SCS | Sustainable Communities Strategy |
| TOD | Transit-Oriented Development |
| UCB | University California at Berkeley |
| UCC.1 | Uniform Commercial Code (Financing Statement) |
| UCD | University of California at Davis |
| UCLA | University of California at Los Angeles |
| VMT | Vehicle Miles Traveled |

**Problem Statement**

The Transportation Sector accounts for the largest share (37%) of California's total greenhouse gas (GHG) emissions, 27% from light duty vehicles. Since 2003, the most important energy-saving factor has been the increase in new-vehicle fuel economy. The new federal fuel economy standards will lead to at least 25% lower energy use and emissions in the future. However, these fuel economy standards are not sufficient to achieve the state's 2050 GHG goals of reducing GHG emissions to 80% below 1990 levels. Even the more immediate 2020 passenger vehicle emission targets of 5 million megatons of GHG reductions cannot be achieved without better integrated land use development patterns in coordination with transportation networks.

As stated in the 2007 Integrated Energy Policy Report (IEPR), further research on land use and the impacts of development is necessary to both explain and quantify

potential energy savings from better community design and integrated land use and transportation practices. Analytical data, scenario-based tools, methods, case studies, and a statewide model are needed to assist Metropolitan Planning Organizations (MPOs) and local governments in developing regional land use strategies to further reduce both Vehicle Miles Traveled (VMT) and GHG emissions.

There is little research that accounts for the total energy used in community systems, broadly defined to include all processes and products across geographically defined California communities. Many state programs and policies to reduce GHG emissions are implemented as single programs in isolation. Interdisciplinary research is needed to monitor their effectiveness. There is a need to expand on available research data on this subject and to comprehensively investigate the relationships among location, type of development, and energy use. A more coordinated and integrated understanding of the total energy and GHG emissions associated with transportation is needed, including the embedded energy in the vehicles and infrastructure.

Local elected officials, planners, consultants, policy-makers, and developers often lack guidance on how to translate state policies and regional plans into development criteria for individual cities and projects. Land use planning, natural resource management, economic development, and physical infrastructure planning are typically fragmented between different public agencies at the city, county, regional, and state levels. Existing planning tools are often ill-suited to support land-use decision makers in local governments to engage in an integrated sustainable energy systems approach.

Research is needed to help California communities become more sustainable. The research sponsored by this agreement will produce insights, syntheses, and tools that directly support the “technology transfer and outreach” of the sustainable energy systems approach to local government planners and decision-makers. The research findings will be made available to practitioners and local governments through a variety of technology transfer activities.

Senate Bill (SB) 375 targets reduction of GHG emissions from the transportation sector by reducing VMT. SB 375 seeks to reduce VMT by curbing auto-oriented development patterns and instead focusing on alternative transportation modes such as transit bicycling and walking. Transit-Oriented Development (TOD) is a key strategy being used to encourage these alternative modes. TOD coordinates transit, biking, and walking facilities with housing and mixed use development to make these modes attractive alternatives to driving. TOD practices can reduce VMT by 5-30% compared to typical sprawl development practices.

Changes in automobile and truck transportation can reduce VMTs and contribute to a reduction in GHG emissions. Land use planning could have a major impact on VMT. The purpose of this agreement is to fund a multi-campus California Center for Sustainable Communities (CCSC) that will synthesize, coordinate, and communicate sustainable energy systems research and development to benefit California. The

University of California, Los Angeles (UCLA) Institute of the Environment will lead the CCSC and will be the point of contact for all of the research performed within the CCSC. The CCSC will: (1) provide data, tools, methods, models, and case studies that will assist communities in implementing alternative forms of transportation such as public transit, bicycling, and walking; (2) reduce the use of automobiles and trucks, GHG, VMT; and (3) increase the overall energy sustainability of cities by better land use planning and community systems design.

**Goals of the Agreement**

- Develop a UC-wide center led by UCLA to conduct and coordinate a set of research activities recommended by the Public Interest Energy Research (PIER) Transportation program's research roadmap, *Creating Sustainable Energy Systems in California's Communities, CEC#500-2012-002*, based on Urban Metabolism. Urban Metabolism is a framework that accounts for the environmental, economic, and social flows into and out of a region to assess sustainability.
- The CCSC will be organized in a hub and spoke model with UCLA as the central hub and the Center Director ensuring consistency, cohesion and synthesis in communication between researchers and external stakeholders. The campus partners will function as co-equal spokes conducting independent, but related research.
- The agreement ($1.9 million) will be awarded to the UC Regents on behalf of UCLA. The UCLA Contract Administrator and/or Accounting/Invoicing Department will be responsible for distributing the funds among the campus partners (UC Berkeley and UC Davis) on a quarterly basis. The UCLA Center Program Manager will work with the UCLA Contract Administrator and/or Accounting/Invoicing Department on coordinating the invoices/progress reports, and will send them to the Energy Commission's Contract Manager to review and approve.
- Create an information hub for sustainable communities research and best practices occurring across the State. The information hub will serve as a resource for legislators, MPOs, local governments, academics, and others seeking information on the latest findings in the field.
- Provide timely, valuable, and unbiased information for policymakers, industry professionals, consumers, and relevant stakeholders on impacts of land use on California's energy challenges.
- Support local governments and regional MPOs in the creation of resource-efficient communities that encourage alternative forms of transportation (such as public transit, bicycling, and walking), reduce the use of automobiles and trucks, and increase the overall energy sustainability of cities by better land use planning and systems design.
- Provide tools and methods to help MPOs meet the requirements of SB 375.
- Develop a rating system for pedestrian environments.
- Provide a guidebook for California city attorneys on best practices for resource-efficient street design.

- Create tools that make research accessible across three related areas: (1) the demand for electric vehicles; (2) the usage patterns of electric vehicles; and (3) the charging infrastructure necessary to serve electric vehicles.
- Support implementation of the State of California's energy efficiency and GHG laws and regulatory standards, and identify means by which community design can make specific contributions to their implementation.
- Communicate research findings to local governments, regional agencies, developers, and other key actors in the planning and development process.

**Objectives of the Agreement**

- Reduced energy use through improved community design and integrated land use and transportation practices.
- Reduced vehicle miles traveled and GHG emissions through more sustainable land use and transportation planning.
- Reduced legal and policy barriers to resource-efficient communities and streets.
- Increased prevalence of pedestrian friendly street environments through use of a rating system for pedestrian environments and thermal comfort modeling.
- Faster adoption of lower emission electric vehicles by providing tools that will help municipalities provide public infrastructure.

## TASK 1.0 ADMINISTRATION

Although not budgeted, UCLA and all Campus Partners will be responsible for Administrative Tasks including but not limited to: attending Kick-off Meetings, Critical Project Review (CPR) Meetings, and the Final Meeting; submitting Quarterly Progress Reports and a Final Report; establishing the Project Advisory Committee (PAC); and holding PAC Meetings. UCLA will be responsible for coordinating the Final Report for the CCSC with the Campus Partners.

## MEETINGS

### 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 Contractor shall:**

- Attend a "kick-off" meeting with the Commission Contract Manager, the Contracts Officer, and a representative of the Accounting Office. The Contractor shall bring their Project Manager, Contracts Administrator, Accounting Officer, and others designated by the Commission Contract Manager to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the Commission Contract Manager will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include, but not be limited to, the following:

- Terms and conditions of the Agreement
- Critical Project Reviews (CPRs) (Task 1.2)
- Match fund documentation (Task 1.7)
- Permit documentation (Task 1.8)

The technical portion of the meeting shall include, but not be limited to, the following:

- The Commission Contract Manager's expectations for accomplishing tasks described in the Scope of Work;
- An updated Schedule of Deliverables
- Progress Reports (Task 1.4)
- Technical Deliverables (Task 1.5)
- Final Report (Task 1.6)
- Establish the Project Advisory Committee (PAC) (Task 1.10)
- PAC Meetings (Task 1.11)

The Commission Contract Manager shall designate the date and location of this meeting.

**Contractor Deliverables:**

- An Updated Schedule of Deliverables
- An Updated List of Match Funds
- An Updated List of Permits
- Schedule for Recruiting PAC Members

**Commission Contract Manager Deliverables:**

- Final Report Instructions

**Task 1.2 CPR Meetings**

The goal of this task is to determine if the project should continue to receive California Energy Commission (Energy Commission) funding to complete this Agreement and if it should, are there any modifications that need to be made to the tasks, deliverables, schedule or budget.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Contractor. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Commission Contract Manager and as shown in the Technical Task List above and in the Schedule of Deliverables. However, the Commission Contract Manager may schedule additional CPRs as necessary, and, if necessary, the budget will be reallocated to cover the additional costs borne by the Contractor, but the overall contract amount will not increase.

Participants include the Commission Contract Manager and the Contractor, and may include the Commission Contracts Officer, the PIER Program Team Lead, other Energy

Commission staff and Management as well as other individuals selected by the Commission Contract Manager to provide support to the Energy Commission.

**The Commission Contract Manager shall:**

- Determine the location, date and time of each CPR meeting with the Contractor. These meetings generally take place at the Energy Commission, but they may take place at another location.

- Send the Contractor 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. One of the outcomes of this meeting will be a schedule for providing the written determination described below.

- Determine whether to continue the project, and if continuing, whether or not to modify the tasks, schedule, deliverables and budget for the remainder of the Agreement, including not proceeding with one or more tasks.

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

**The Contractor 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 deliverables identified in this Scope of Work. Submit these documents to the Commission Contract Manager 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.

**Contractor Deliverables:**
- CPR Report(s)
- CPR deliverables identified in the Scope of Work

**Commission Contract Manager Deliverables:**
- Agenda and a List of Expected Participants
- Schedule for Written Determination
- Written Determination

**Task 1.3 Final Meeting**
The goal of this task is to closeout this Agreement.

**The Contractor shall:**

- Meet with the Energy Commission 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 Contractor, the Commission Contracts Officer, and the Commission Contract Manager. 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 Commission Contract Manager.

  The technical portion of the meeting shall present findings, conclusions, and recommended next steps (if any) for the Agreement. The Commission Contract Manager will determine the appropriate meeting participants.

  The administrative portion of the meeting shall be a discussion with the Commission Contract Manager and the Contracts Officer about the following Agreement closeout items:

  - What to do with any state-owned equipment (Options)
  - Need to file Uniform Commercial Code (UCC.1) form re: Energy Commission's interest in patented technology
  - Energy Commission's request for specific "generated" data (not already provided in Agreement deliverables)
  - Need to document Contractor's disclosure of "subject inventions" developed under the Agreement
  - "Surviving" Agreement provisions, such as repayment provisions and confidential deliverables
  - Final invoicing and release of retention

- Prepare a schedule for completing the closeout activities for this Agreement.

**Deliverables:**
- Written documentation of meeting agreements and all pertinent information
- Schedule for completing closeout activities

**REPORTING**

**See Exhibit D, Reports/Deliverables/Records.**

**Task 1.4 Quarterly Progress Reports**

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

**The Contractor shall:**

- Prepare progress reports which summarize all Agreement activities conducted by the Contractor 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 Contract Manager within 10 working days after the end of the reporting period. Attachment A-2, Progress Report Format, provides the recommended specifications.

**Deliverables**:
- Quarterly Progress Reports

**Task 1.5 Test Plans, Technical Reports and Interim Deliverables**
The goal of this task is to set forth the general requirements for submitting test plans, technical reports and other interim deliverables, unless described differently in the Technical Tasks. When creating these deliverables, the Contractor shall use and follow, unless otherwise instructed in writing by the Commission Contract Manager, the latest version of the PIER Style Manual published on the Energy Commission's web site:

http://www.energy.ca.gov/contracts/pier/contractors/index.html

**The Contractor shall:**

- Unless otherwise directed in this Scope of Work, submit a draft of each deliverable listed in the Technical Tasks to the Commission Contract Manager for review and comment in accordance with the approved Schedule of Deliverables. The Commission Contract Manager will provide written comments back to the Contractor on the draft deliverable within 10 working days of receipt. Once agreement has been reached on the draft, the Contractor shall submit the final deliverable to the Commission Contract Manager. The Commission Contract Manager shall provide written approval of the final deliverable within 5 working days of receipt. Key elements from this deliverable shall be included in the Final Report for this project.

**Task 1.6 Final Report**
The goal of this task is to prepare a comprehensive written Final Report that describes the original purpose, approach, results and conclusions of the work done under this Agreement. The Commission Contract Manager will review and approve the Final Report. The Final Report must be completed on or before the termination date of the Agreement. When creating these deliverables, the Contractor shall use and follow, unless otherwise instructed in writing by the Commission Contract Manager, the latest version of the PIER Style Manual published on the Energy Commission's web site:

http://www.energy.ca.gov/contracts/pier/contractors/index.html

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

**Task 1.6.1 Final Report Outline**

**The Contractor shall:**

- Prepare a draft outline of the Final Report.

- Submit the draft outline of Final Report to the Commission Contract Manager for review and approval. The Commission Contract Manager will provide written comments back to the Contractor on the draft outline within 10 working days of receipt. Once agreement has been reached on the draft, the Contractor shall submit the final outline to the Commission Contract Manager. The Commission Contract Manager shall provide written approval of the final outline within 5 working days of receipt.

**Deliverables:**
- Draft Outline of the Final Report
- Final Outline of the Final Report

**Task 1.6.2 Final Report**

**The Contractor shall:**

- Prepare the draft Final Report for this Agreement in accordance with the approved outline.

- Submit the draft Final Report to the Commission Contract Manager for review and comment. The Commission Contract Manager will provide written comments within 10 working days of receipt.

  Once agreement on the draft Final Report has been reached, the Commission Contract Manager shall forward the electronic version of this report for Energy Commission internal approval. Once the approval is given, the Commission Contract Manager shall provide written approval to the Contractor within 5 working days.

- Submit one bound copy of the Final Report with the final invoice.

**Deliverables**:
- Draft Final Report

- Final Report

## MATCH FUNDS, PERMITS, AND ELECTRONIC FILE FORMAT

### Task 1.7 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. While the PIER budget for this task will be zero dollars, the Contractor may utilize match funds for this task. Match funds shall be spent concurrently or in advance of PIER funds during the term of this Agreement. Match funds must be identified in writing, and the associated commitments obtained before the Contractor can incur any costs for which the Contractor will request reimbursement.

**The Contractor shall:**

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Contract Manager at least 2 working days prior to the kick-off meeting:

    1. 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.

    2. 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 Contractor shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.

        - 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.

- Discuss match funds and the implications to the Agreement if they are significantly 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 Commission Contract Manager if during the course of the Agreement additional match funds are received.

- Notify the Commission Contract Manager within 10 working days if during the course of the Agreement existing match funds are reduced. Reduction in match funds may trigger an additional CPR.

**Deliverables:**
- A letter regarding Match Funds or stating that no Match Funds are provided
- Letter(s) for New Match Funds
- A copy of each Match Fund commitment letter
- Letter that Match Funds were Reduced (if applicable)

**Task 1.8 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 reimbursable under this Agreement. Permits must be identified in writing before the Contractor can incur any costs related to the use of the permit(s) for which the Contractor will request reimbursement.

**The Contractor shall:**

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Contract Manager at least 2 working days prior to the kick-off meeting:

    1. If there are no permits required at the start of this Agreement, then state such in the letter.

    2. 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
        - Schedule the Contractor will follow in applying for and obtaining these permits.

- The list of permits and the schedule for obtaining them will be discussed at the kick-off meeting, and a timetable for submitting the updated list, schedule and the copies of the permits will be developed. 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, then provide the appropriate information on each permit and an updated schedule to the Commission Contract Manager.

- As permits are obtained, send a copy of each approved permit to the Commission Contract Manager.

- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Contract Manager within 5 working days. Either of these events may trigger an additional CPR.

**Deliverables:**
- A letter documenting the Permits or stating that no Permits are required
- Updated list of Permits as they change during the Term of the Agreement
- Updated schedule for acquiring Permits as it changes during the Term of the Agreement
- A copy of each approved Permit

**Task 1.9 Electronic File Format**
The goal of this task is to unify the formats of electronic data and documents provided to the Energy Commission as contract deliverables. Another goal is to establish the computer platforms, operating systems and software that will be required to review and approve all software deliverables.

**The Contractor shall:**

- Deliver documents to the Commission Contract Manager in the following formats:
  - Data sets shall be in Microsoft (MS) Access or MS Excel file format.
  - PC-based text documents shall be in MS Word file format.
  - Documents intended for public distribution shall be in PDF file format, with the native file format provided as well.
  - Project management documents shall be in MS Project file format.

- Request exemptions to the electronic file format in writing at least 90 days before the deliverable is submitted.

**Deliverables:**
- A letter requesting exemption from the Electronic File Format (if applicable)

**PAC**

**Task 1.10 Establish the PAC**

The goal of this task is to create an advisory committee for this Agreement.

The PAC should be composed of diverse professionals. The number can vary depending on potential interest and time availability. The exact composition of the PAC may change as the need warrants. PAC members serve at the discretion of the Commission Contract Manager.

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

- Researchers knowledgeable about the project subject matter
- Members of the trades who 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 project subject matter
- U.S. Department of Energy Research Manager
- Public Interest Environmental Groups
- Utility Representatives
- Members of the relevant technical society committees

The purpose of the PAC is to:

- Provide guidance in research direction. The guidance may include scope of research; research methodologies; timing; coordination with other research. The guidance may be based on:

  -technical area expertise
  -knowledge of market applications
  -linkages between the agreement work and other past, present or future research (both public and private sectors) they are aware of in a particular area.

- Review deliverables. Provide specific suggestions and recommendations for needed adjustments, refinements, or enhancement of the deliverables.
- Evaluate tangible benefits to California of this research and provide recommendations, as needed, to enhance tangible benefits.
- Provide recommendations regarding information dissemination, market pathways or commercialization strategies relevant to the research products.

**The Contractor shall:**

- Prepare a draft list of potential PAC members that includes name, company, physical and electronic address, and phone number and submit it to the Commission Contract Manager at least 2 working days prior to the kick-off meeting. This list will be discussed at the kick-off meeting and a schedule for recruiting members and holding the first PAC meeting will be developed.
- Recruit PAC members and ensure that each individual understands the member obligations described above, as well as the meeting schedule outlined in Task 1.11.
- Prepare the final list of PAC members.
- Submit letters of acceptance or other comparable documentation of commitment for each PAC member.

**Deliverables:**

- Draft List of PAC Members
- Final List of PAC Members
- Letters of acceptance, or other comparable documentation of commitment for each PAC Member

**Task 1.11 Conduct PAC Meetings**

The goal of this task is for the PAC to provide strategic guidance to this project by participating in regular meetings or teleconferences.

**The Contractor shall:**

- Discuss the PAC meeting schedule at the kick-off meeting. The number of face-to-face meetings and teleconferences and the location of PAC meetings shall be determined in consultation with the Commission Contract Manager. This draft schedule shall be presented to the PAC members during recruiting and finalized at the first PAC meeting.
- Organize and lead PAC meetings in accordance with the schedule. Changes to the schedule must be pre-approved in writing by the Commission Contract Manager.
- Prepare PAC meeting agenda(s) with back-up materials for agenda items.
- Prepare PAC meeting summaries, including recommended resolution of major PAC issues.

**Deliverables:**

- Draft PAC Meeting Schedule
- Final PAC Meeting Schedule
- PAC Meeting Agenda(s) with Back-up Materials for Agenda Items
- Written PAC meeting summaries, including recommended resolution of major PAC issues

## TECHNICAL TASKS

The Contractor shall prepare all deliverables in accordance with the requirements in Task 1.5. Deliverables not requiring a draft version are indicated by marking "(no draft)" after the deliverable name.

### Task 2 Synthesize Existing Sustainable Communities Research

The goal of this task is to identify and synthesize research funded by California state agencies on the ten research priority areas identified in the *Creating Sustainable Energy Systems in California's Communities* Research Roadmap. They are:

- Agriculture and Food
- Distributed Energy Generation, Transmission and Distribution
- Natural Resources and Ecosystems Services
- Energy Implications of Demography and Socioeconomics
- Transportation Funding and Policy
- Water
- Housing and Building Industry Finance
- Land Use Planning and General Plans
- Energy System Management and Institutional Structure
- Material Flows, Consumption, Waste and Goods Movement

This work will inform the CCSC's future research plan.

**The Performing Institution shall:**

- Conduct an overview analysis of research being funded by state agencies on the ten priority areas identified in the research roadmap.
- Select priority areas to synthesize more deeply based on the findings of the overview analysis.
- Prepare a Gaps Analysis Report.
- Prepare a Synthesis Analysis Report that synthesizes the findings of the overview analysis.
- Prepare briefing materials for stakeholder meetings. Examples of materials include: working papers, poster presentations and synopses of research findings

**Deliverables:**

- Gaps Analysis Report
- Synthesis Analysis Report
- Briefing Materials for Stakeholder Meetings (no draft)

### Task 3 Create Information Hub

The goals of this task are to provide information to help avoid redundancies in sustainable communities research funding throughout the state and to develop an information hub from these findings. The CCSC's website will be the hub of information on sustainable communities research occurring in the state.

**The Performing Institution shall:**

- Create a website that communicates research findings in a clear and understandable way.
- Submit screen shots of each web page to the Contract Manager for approval prior to uploading any web page to the Internet.
- Document the creation of the website with: (1) updates in each quarterly progress report; and (2) a Memorandum Summarizing the Creation of the Website. The memorandum will be submitted upon completion of the website and must include screen shots of each web page.
- Create briefing materials on statewide sustainable communities research for policymakers, academics, and planners. Examples of briefing materials include: working papers, poster presentations, and synopses of research findings
- Provide briefings to policymakers, academics and planners on the most critical research needs.
- Review and assess existing best practices in sustainable communities' development.

**Deliverables:**

- Screen shots of each web page
- Quarterly updates on the creation of the website (to be submitted with the Quarterly Progress Report)
- Memorandum Summarizing the Creation of the Website (with screen shots of each web page)
- Briefing materials

**Task 4 Develop CCSC Urban Metabolism Research Plan**

The goal of this task is to develop a research plan that will identify, document, and recommend research initiatives and projects based on the *Creating Sustainable Energy Systems in California's Communities* Research Roadmap and the two reports created in Task 2 (Sustainable Communities Research Gaps Analysis Report and Synthesis Analysis Report).

**The Performing Institution shall:**

- Review the Gaps Analysis Report and Synthesis Analysis Report from Task 2.
- Gather input on the Gaps Analysis and Synthesis Analysis Reports from practitioners, technical experts, and other stakeholders.
- Identify, document, and recommend research initiatives and projects.
- Prepare a CCSC Research Plan that addresses the research needs identified in the Gaps Analysis and Synthesis Analysis Reports.
- Participate in a CPR as per Task 1.2.

**Deliverables:**

- CCSC Research Plan
- CPR Report(s)

**Task 5 Execute CCSC Urban Metabolism Research Activities**
The goal of this task is to execute research activities based on the Research Plan developed in Task 4.

**The Performing Institution shall:**

- Develop and execute research projects in consultation with the Energy Commission Contract Manager and as described by the Research Plan developed in Task 4.
- Review project plans, research goals and objectives, and budgets with the Energy Commission Contract Manager.
- Conduct research projects based on the Research Plan.
- Prepare Urban Metabolism Research Reports that discuss pressing challenges and opportunities in sustainable communities development in California.

**Deliverables:**

- Urban Metabolism Research Reports

**Task 6 Policy Analysis and Implementation Support for SB 375**
The goal of this task is to support implementation of SB 375 by MPOs through outreach and engagement with planners, advocacy groups, and agency staff members.

This work builds on work undertaken independently by the Center for Resource Efficient Communities (CREC) which resulted in a report entitled, *Leveraging a New Law: Reducing Greenhouse Gas Emissions Under Senate Bill 375*. The report examines the SB 375 planning process in depth and outlines recommendations to MPOs for ensuring that SB 375 leads to substantial, long-term GHG reductions that are consistent with California's laws and policies on climate change.

**The Performing Institution shall:**

- Prepare a memorandum summarizing SB 375-related policy and implementation of best practices by MPOs from the four major regions (Bay Area, Los Angeles, San Diego and Sacramento) and MPOs scheduled to complete their Regional Transportation Plans (RTPs)/Sustainable Communities Strategies (SCSs) in 2013-14.

**Deliverables:**

- Memorandum Summarizing SB 375-Related Policy and Implementation of Best Practices by MPOs from the Four Major Regions and MPOs Scheduled to Complete RTPs/SCSs in 2013-14 (no draft)

**Task 7 Pilot Pedestrian Rating Tool for Level of Service (LOS)**
The goal of this task is to carry out initial steps towards the development of a comprehensive rating system for pedestrian environments. The rating system tool will incorporate the full range of street design factors that influence pedestrian behavior and will be designed to function at both individual block and travel analysis zone scales. It will serve as a substitute for current pedestrian Level of Service (LOS) assessments.

This rating system will apply to the quality of the streets in providing utility, comfort, safety, and enjoyment for pedestrians. It will be designed to place the most weight upon the street design improvements that will matter the most in reducing vehicle trips within that particular development context.

Once the pilot tool is fully developed through subsequent research, the rating system tool can be used in the following ways:

- As a post-processing adjustment factor in the traditional four-step transportation models that guide MPOs' capital planning for transportation infrastructure in most of California;
- As a model input in newer economic and activity-based transportation models, such as the Sacramento Area Council of Governments' "SacSim" model, the new California Statewide Travel Demand and Integrated Interregional Models, and the Production, Exchange, and Consumption Allocation System (PECAS) model;
- As a "gap analysis" tool to identify which pedestrian infrastructure investments in a given region will leverage the greatest reductions in VMT and GHG emissions;
- As a standard in local general plans to require a certain level of pedestrian quality in specific locations within a municipality, such as areas within short distances of transit stops or other popular pedestrian destinations;
- As a substitute for the misleading pedestrian LOS assessments that are often used in project impact assessments under the California Environmental Quality Act (CEQA); and
- As a standard to be used in negotiations between local municipalities and project developers about investments in the public realm associated with a given project.

**The Performing Institution shall:**

- Review previous efforts, including those of Caltrans, to establish partial or topic-specific rating systems for pedestrian environments.
- Select from among available methods of categorizing development context within an urban area.
- Assess potential differences in travel behavior between each category within the classification system and identify a key set of typical origins and destinations within each category.
- Given the prevailing pattern of origins and destinations, identify street design factors of importance for travelers' decisions to walk. Design a grading or scoring scale that summarizes the overall quality of these pedestrian environments. This scale will be designed to serve as a substitute for existing pedestrian LOS grading.
- Prepare presentation materials and present the results of this study to at least one appropriate professional forum.
- Prepare a report on the pilot pedestrian rating system tool, including a description of the methods of its development and next steps for its refinement and improvement, in the same format as the Final Report detailed in Task 1.6.

**Deliverables:**

- Presentation Materials Used in Public Presentations (no draft)
- Pilot Pedestrian Rating System Tool Report

**Task 8 Legal Research in Support of Resource Efficient Street Design**

The goal of this task is to prepare legal research-based guidance and tools in support of resource-efficient street design to city attorneys throughout the state of California. This will include preparing a guidebook for city attorneys on the potential barriers to resource-efficient streets posed by development codes and institutional fragmentation in local government.

This work will complement work performed under Basic Ordering Agreement 500-99-013 Work Authorization 246 between the Energy Commission and the Regents of the University of California, in which the researchers prepared a report examining the legal origins and evolution of local development codes pertaining to streets, and assessing the feasibility of creating codes that allow more resource efficient street design.

**The Performing Institution shall:**

- Prepare a guidebook for California city attorneys that: summarizes best practices in resource-efficient street design; identifies how such practices can conform to existing laws, regulations, and codes; identifies remaining legal, regulatory, and code barriers to such practices; and discusses case law where relevant.
- Hold a one-day workshop of city attorneys, legal, planning, and development professionals to present preliminary findings and obtain expert feedback/guidance on the guidebook.
- Prepare summary of workshop proceedings.

**Deliverables:**

- Guidebook for California City Attorneys on Best Practices in Resource-Efficient Street Design
- Summary of Proceedings of One-Day Workshop with City Attorneys and Planners (no draft)

**Task 9 Develop Electric Vehicle Charger Planning Tools**

The goal of this task is to define, design, and create Geographic Information System (GIS) electric vehicle charger planning tools for MPOs and Councils of Government (COGs). Electric vehicles promise less energy use per mile compared to gasoline vehicles, fewer GHG emissions, and fewer criteria pollutants. The infrastructure required to support a large rollout may be poorly understood by the regions and cities, which are faced with the prospect of charging infrastructure being installed in their jurisdictions. This project will work with MPOs to create tools and processes that will help make more informed decisions about the infrastructure necessary to support electric vehicles in their region and further their sustainability goals. These tools will utilize a variety of source material including spreadsheet and geographic data and will focus on but is not limited to conveying outputs in a geographic format.

**The Performing Institution shall:**

- Define priorities for urban MPOs regarding electric vehicles and electric vehicle charging.
- Identify research relevant to these priorities.
- Construct, through a collaborative process with MPOs and COGs, GIS electric vehicle charger planning tools connecting the research to the planning needs. The tools will estimate the effect of charger placement in terms of vehicle sales, gasoline vehicle miles displaced, aggregate effect on emissions, and energy savings. Various sources of geographic data can be used including home locations, work locations, traffic flows, demographic data, and vehicle purchase data.
- Engage a large MPO or a COG within it to develop an initial version of the GIS planning tool.
- Prepare a Report on Electric Vehicle Charger Planning Tools for Large MPOs.
- Engage major MPOs in California (including the Metropolitan Transportation Commission, Sacramento Area Council of Governments, Southern California Association of Governments, and San Diego Association of Governments), present tools, and invite participation in order to improve GIS electric vehicle charger planning tools.
- Finalize the GIS electric vehicle charger planning tools.
- Prepare a Manual for GIS Electric Vehicle Charger Planning Tools.
- Prepare a Report on Electric Vehicle Charger Planning Tools for MPOs in the same format as the Final Report detailed in Task 1.6.
- Prepare a compact disk that includes the electric vehicle charger planning tools.

**Deliverables:**

- Report on Electric Vehicle Charger Planning Tools for Large MPOs (no draft)
- Compact Disk with Electric Vehicle Charger Planning Tools (no draft)
- Manual for GIS Electric Vehicle Charger Planning Tool (no draft)
- Report on Electric Vehicle Charger Planning Tools for MPOs

**Task 10 Technology Transfer and Outreach**

Local governments, MPOs, and other agencies and organizations need additional knowledge, planning processes, tools, and techniques in order to implement the requirements of SB 375 and related climate action legislation. The goal of this task is to directly provide users in the field with the tools in a manner that will allow them to take immediate advantage of them. The task includes developing a Technology Transfer and Outreach Plan to understand who the potential users are and what they need, and to determine strategies for delivery of the information and tools to those users.

**The Performing Institution shall:**

- Prepare a Technology Transfer and Outreach Plan that will identify key user groups and their needs, and explain how the knowledge gained in this project will be made available to specific user groups such as cities, counties, MPOs, and related agencies and organizations. The Plan will be developed in collaboration with all CCSC colleagues and Energy Commission staff. The Plan will include

- Gather information from potential users through interviews, surveys, and focus groups in order to understand their needs and test which types of tools and techniques might be of value. The idea will be to match the tools generated by the CCSC to specific “on the ground” needs of the user groups. The Plan will result in a series of strategies for transferring the technology to the user groups and various avenues for dissemination. Any one of the CCSC partner institutions may be involved in implementing the various outreach activities.
- Conduct technology transfer activities in accordance with the Technology Transfer and Outreach Plan. Tasks and products shall include but not be limited to:
  - Develop and conduct webinars, seminars, online or traditional classes, training materials and events, and workshops to communicate analytical methods, research findings, basic information, and use of tools produced through the research for specific user audiences.
  - Format and package working papers, research results, and reports developed by the CCSC partners to communicate needed information to MPOs, local governments and others in ways that connect to key staff and managers and can influence “on the ground” work. This shall occur through fact sheets, briefing papers, website dissemination, a blog, written/published material, or other means.
  - Develop presentation materials for briefings with key MPOs, municipalities, and others. These materials could take the form of PowerPoint slide shows, posters, displays for conferences and workshops, and other formats.
- Develop other tools, methods, and activities as appropriate to reach particular audiences (including but not limited to Energy Commission Public Workshops, web-based surveys, and brainstorming sessions).
- Prepare a summary of educational events for the final report. The final report will include evaluations from educational events, if applicable.
- Prepare the “Implementation of CCSC Technology Transfer and Outreach Plan”, a report that includes a list of outreach products and activities to be included in the Final Report detailed in Task 1.6.

**Deliverables:**

- Technology Transfer and Outreach Plan
- Presentation materials for briefings with Key Leaders (no draft)
- Report and Evaluations from Educational Events (no draft)
- “Implementation of CCSC Technology Transfer and Outreach Plan” Report (no draft)