2018 State Water Efficiency and Enhancement Program (SWEEP)

2018 State Water Efficiency and Enhancement Program is funded by the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018

Draft Request for Grant Applications

Anticipated Released:
November 2018

Grant Applications Due:
By 5:00 p.m. PST on January/February 2019
No late submissions accepted.

California Department of Food and Agriculture

Please send written comments on this draft to cdfa.oefi@cdfa.ca.gov

Table of Contents

Background and Purpose

The California Department of Food and Agriculture (CDFA) is pleased to announce a competitive grant application process for the 2018 State Water Efficiency and Enhancement Program (SWEEP) Round 1.

The 2018 SWEEP funding arises from the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Sec 3. Division 45, Chapter 11.6. Section 80147 (b) of the Public Resources Code), which allocated $20 million to CDFA to provide grant funding directly to California agricultural operations to incentivize activities that reduce on-farm water use and reduce greenhouse gas (GHG) emissions from irrigation and water pumping systems on California agriculture operations. The program's objective is to provide financial incentives for California agricultural operations to invest in irrigation systems that save water and reduce GHG emissions.

Funding and Duration

- The 2018 SWEEP will disperse up to approximately $9.5 million to California agricultural operations investing in irrigation systems that reduce GHG emissions and save water.
- The maximum grant award per project is $100,000
- The maximum grant duration is 18 months.
- Costs incurred before June 1, 2019 will not be reimbursed and project must be complete and operational no later than December 31, 2020.
- CDFA reserves the right to offer an award different than the amount requested.

Eligibility and Exclusions

- The irrigation project must be on a California agricultural operation.
    - For the purposes of this program, an agricultural operation is defined as row, vineyard, field and tree crops, commercial nurseries, nursery stock production, and greenhouse operations producing food crops or flowers as defined in Food and Agricultural Code section 77911.
    - Academic institutions and governmental organizations are not eligible for funding.
- An agricultural operation entity cannot receive a total cumulative SWEEP funding amount of more than $600,000.
- Applications cannot build upon any previously funded SWEEP projects directly affecting the same Assessor's Parcel Numbers (APNs). However, applicants are encouraged to apply for a new project with different APNs.
- An applicant must be at least 18 years old.
- Projects must reduce on-farm water use and reduce GHG emissions. Applicants must provide supporting documentation directly related to actual, on-farm water consumption and GHG emissions during the prior growing season to be eligible for funding.
- SWEEP funding cannot be combined with United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Environmental Quality Incentive Program financial assistance, meaning that applicants may not accept funding from both entities for the same project and Accessor's Parcel Number (APN).

SWEEP grant funds **cannot** be used to:

- Expand existing agricultural operations (i.e., additional new acreage cannot be converted to farmland)
- Install new groundwater wells or increase well depth
- Test new technology or perform research
- Pay for engineering costs associated with the project development and planning
- Lease weather, soil and irrigation water based sensors for irrigation scheduling
- Purchase tools and equipment with a useful life of less than two years

See page 7 for information on allowable and unallowable costs.

Timeline

CDFA will conduct informational application workshops for the 2018 SWEEP Round 1 grant solicitation process and program requirements. For CDFA grant application workshop schedule and locations, visit the SWEEP website at www.cdfa.ca.gov/oefi/SWEEP.

Release Request for Grant Applications (RGA)	November 2018
CDFA grant application workshops and webinar	TBD
Grant applications due (8-week application period)	**January/February 2019**
Announce and award funding	Spring 2019

Project Types

CDFA has identified the following project types that address water conservation ***and*** GHG emission reductions. Applicants should consider incorporating several projects types listed below to achieve both water conservation and GHG emission reductions.

Water Savings

Weather, Soil, or Plant Based Sensors for Irrigation Scheduling

Examples include soil moisture or plant sensors (NRCS Conservation Practice Standard 449 may apply) with electronic data output, the use of electronic weather station(s) linked to irrigation controller to ensure efficient irrigation scheduling or the use of evapotranspiration (ET) based irrigation scheduling, such as the California Irrigation Management Information System (CIMIS) to optimize water use efficiency for crops. Telemetry components that allow the electronic communication between technology devices are eligible for funding through SWEEP.

Micro-Irrigation or Drip Systems

The conversion to micro-irrigation or drip systems, including sub-surface drip systems from flood irrigation. Project designs should follow NRCS Conservation Practice Standard 441 specifications. The applicants currently utilizing surface water (e.g. canal or river water) to flood irrigate crops are encouraged to maintain flood irrigation infrastructure along with the proposed efficient micro/ drip irrigation system(s) to facilitate ground water recharge when surface water is available for recharge.

Greenhouse Gas Emission Reductions

Fuel Conversion

Pump fuel conversion resulting in reduction of GHG emissions (for example replacing a diesel pump with an electric pump. Renewable energy, including solar, installations that power irrigation systems are eligible for SWEEP funding and can further reduce GHG emissions.

Improved Energy Efficiency of Pumps

Examples include retrofitting or replacing pumps. NRCS Conservation Practice Standard 372 or 533 may apply.

Low Pressure Systems

Use of low-pressure irrigation systems to reduce pumping and energy use. For example, the conversion of a high-pressure sprinkler system to a low pressure micro-irrigation system or lower pressure sprinkler system. Project designs should follow NRCS Conservation Practice Standards 441 or 442 specifications.

Variable Frequency Drives

Use of Variable Frequency Drives to reduce energy use and match pump flow to load requirements. Project designs should follow NRCS Conservation Practice Standard 533.

Reduced Pumping

For example, improved irrigation scheduling may lead to reduced pump operation times.

Other Management Practices

CDFA supports innovative projects and recognizes there is variability in irrigation systems throughout California. For this reason, applicants may propose projects that do not fit into the above project types as long as water savings can be calculated and GHG reductions can be quantified using the GHG Quantification Methodology.

Program Requirements

An agricultural operation can only submit one grant application using a unique tax identification number. If an agricultural operation does not have a unique tax identification number, that operation should only use the ***last four digits*** of their social security number (e.g., 000-00-1234) as their unique business identification number in their grant application. An agricultural operation must use the operation's legal business name and associated tax identification number in the application. The business name provided in the application is the entity to which CDFA will extend a Grant Agreement if the project is selected for an award. Sole proprietors must be 18 years of age or older. See page 11 for details regarding the Award Process.

Applicants must include flow meters in their proposed project or demonstrate actual water use will be measured with existing flow meters. See page 4 for more specifics on project design requirements.

The California Air Resources Board (ARB) has developed a GHG quantification methodology for use in estimating proposed projects' GHG reductions. This methodology includes a GHG Calculator Tool intended to assist applicants in determining GHG reductions from estimated on-farm energy savings as a result of project implementation.

Applicants are required to use and submit the ARB GHG Calculator Tool referred to in Section B of the California Air Resources Quantification Methodology for SWEEP, which is available at: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cdfa_sweep_finalqm_16-17.pdf. In order to

complete the required calculator, applicants will need to attach a pump efficiency test for all existing irrigation pumps impacted by the proposed project.

If selected for an award, execution of the Grant Agreement is conditional upon applicants agreeing to the following program requirements:

- Pre-Project consultation conducted by a CDFA Environmental Scientist to confirm project information and discuss implementation plans. During the pre-project consultation the awardee will provide an assessor's map and/or aerial map of impacted acreage to verify the location and acreage of the project;
- Installation of a sign on the nearest road informing the public that project received funds through the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Division 45, Chapter 1. Section 80001 (b)(3) of the Public Resources Code) for the duration of the grant agreement;
- Post-project verification site visit conducted by a CDFA Environmental Scientist, or in partnership with a local RCD, to evaluate the completed project;
- Post-project quantification conducted by a CDFA Environmental Scientist or a third-party representative to evaluate project outcomes;
- Expectation to use and maintain the installed system for a minimum of 10 years.

See page 12 for more details regarding project implementation requirements.

Grant Application Process

How to Apply

CDFA uses an online application platform to receive SWEEP applications. The application can be accessed at the SWEEP webpage: www.cdfa.ca.gov/oefi/sweep. Applicants must create a user account to submit a grant application.

Prior to completing the online application questionnaire, applicants are encouraged to gather all required information using Appendix A: Grant Application Checklist and Appendix B: Grant Application Questions to facilitate effective and timely submission of the grant application. Applicants are required to submit the following attachments:

- Project design;
- Completed Budget Worksheet;
    - Solar system quote if the applicant is proposing a solar installation (see page 9 for more details);
- Completed SWEEP Irrigation Water Savings Assessment Tool;
- Completed ARB GHG Calculator Tool;
- Twelve consecutive months of baseline GHG emission documentation for any pumps that are impacted by the project (e.g., fuel receipts or utility bills);
- Pump efficiency tests and pump specification documents as required by the ARB Quantification Methodology.

Project Design

Applicants are required to submit a project design for the proposed irrigation system. All project design costs will be at the expense of the agriculture operation.

Project designs must include the following, as applicable:

- Labeled Asessors Parcel Numbers;

- Detailed schematic of the locations of proposed or improved infrastructure and technology including irrigation piping, reservoirs, pumps, and sensors;
- Pertinent agronomic information, such as the crop and water distribution uniformity value of the irrigation system;
- For use of ET based irrigation scheduling, show water deliveries can be made on a consistent basis to accommodate that scheduling;
- Location, engineering and energy output specifications of any proposed renewable energy installations;
- Holistic project overview using aerial imagery software (e.g., online or electronic mapping tools).

Water and Energy Use Documentation

Applicants are required to submit water and energy use supporting documentation to substantiate water savings and GHG reductions calculations in the application. Grant applications that do not include the required types of water and energy use documentation will be disqualified during the administrative review process.

Specific requirements pertaining to water and GHG documentation are specified below.

Water Use Documentation

SWEEP Irrigation Water Savings Assessment Tool (Microsoft Excel Workbook)

The SWEEP Irrigation Water Savings Assessment Tool allows applicants to select specific on-farm variables directly related to current irrigation systems and the proposed irrigation systems and change in practices. Therefore, it is sufficient documentation to demonstrate baseline water use and projected water savings estimates.

Applicants must complete and attach the SWEEP Irrigation Water Savings Assessment Tool. Applicants must complete the "before" tab of the calculator to estimate baseline water use on the field with the current crop and irrigation practice. The applicant must also complete the "after" tab to estimate the projected water savings after project installation. The estimated water savings will be shown on the "Estimated Water Savings" tab of the calculator. Note that the estimated water savings from the SWEEP Water Savings Assessment Tool is a required input to the ARB GHG Calculator Tool.

Greenhouse Gas Emission Documentation

To determine the impact of the proposed project on GHG emissions, applicants ***must*** follow the ARB-approved GHG Quantification Methodology. This methodology utilizes a GHG Calculator Tool developed by ARB to estimate GHG emission reductions from changes in fuel use.

The Quantification Methodology can also be found at:
https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cdfa_sweep_finalqm_16-17.pdf.

ARB GHG Calculator Tool (Microsoft Excel workbook)

Applicants are required to complete and attach the ARB GHG Calculator Tool. Applicants must use energy records from 2017 and other on-farm specifications (e.g., pump tests) to complete the calculator.

Supporting Documentation for GHG Calculations

Supporting documentation submitted along with the calculator must be sufficient to allow for reviewers to replicate the calculations**.** Applicants must provide an explanation of inputs used in the calculator in their application.

Applicants are required to attach the following supporting documentation:

- Utility bills, actual fuel receipts, and/or field operational logs covering the previous growing year (12 months; January to December);
    - In situations where the project involves crop rotation, up to three years of supporting documents may be provided to substantiate a representative baseline of energy use from pumping.
    - Documents must capture actual, not estimated or modelled, energy use data (e.g., gallons, kWh, etc.).
    - Documents must indicate a specific time period (e.g., months/dates) for the on-farm energy use. For months with no on-farm energy use, indicate no usage for those months during the growing season.
    - Field operational logs are defined as on-farm data complied during a growing season and maintained as a common business practice by the agricultural operation to capture an actual time period (e.g., months and dates) of on-farm energy use values (e.g., gallons, kWh, etc.). Documents that provide estimates are ***not*** considered field operational logs.
- Pump and motor specifications for proposed pumps;
- Pump tests for existing pump(s) related to the project.

Applicants will be required to describe how the baseline GHG calculation value is supported by the on-farm energy documentation attached to their application. A response must be provided in the grant application explaining how the GHG documentation directly relates to the irrigation system.

Budget Worksheet *(Microsoft Excel workbook)*

Download the Budget Worksheet template from the CDFA SWEEP website. Applicants are required to download and complete a Budget Worksheet by entering the amount of grant funds budgeted for each category and itemizing all costs included in the grant request for the proposed project. The Budget Worksheet must be attached in Microsoft Excel format and be consistent with the project design. Failure to submit the required Budget Worksheet or submission of an alternate template/file type may result in disqualification.

Applicants should use the USDA, NRCS payment schedules as a guide, to the extent feasible, to determine reasonable project costs. See Appendix C for the USDA, NRCS Payment Schedule.

If the project involves the installation of a solar energy system, the applicant must submit quote to verify the solar system capacity (kW). The quote must also itemize any tax incentives or rebates that the applicant will receive from the installation.

Budget Cost Categories:

A. Supplies
   Itemize the estimated cost of materials and supplies by providing a description and quantity to be purchased. Materials and supplies include all consumable materials and are items with an acquisition cost less than $5,000 per unit that are used exclusively for the project (e.g., pipes, tubing).

B. Equipment
   Itemize the estimated cost for any equipment necessary to carry out the project by providing a description and quantity to be purchased. Equipment is an article of nonexpendable, tangible personal property with a useful life of more than two years and an acquisition cost which equals or exceeds $5,000 per unit (e.g., solar panels, irrigation pumps). Equipment must have a useful life of two years or more.

C. Labor

Labor costs cannot exceed 25% of the total SWEEP grant request. Labor costs in excess of 25% of the total SWEEP grant request must be covered by cost share. Estimate the cost for any work on the project that will be performed by individuals associated with a contractor. Provide a brief description of services and the cost/hour necessary for installation (e.g., labor for electrician, concrete work).

D. Other
Itemize the estimated cost of any other allowable expenses not covered in the previous budget categories necessary for project implementation. Project cost typically listed under this category include, but are not limited to, permits and equipment rental.

Allowable Costs

Project costs must be itemized and clearly support installation of irrigation systems, including supplies, equipment, labor, and any other allowable cost necessary for project implementation. Project cost must be reasonable and consistent with cost paid for equivalent work on non-grant funded activities or for comparable work in the labor market.

Examples of allowable costs include:

- Installation of photovoltaic panels to power irrigation systems
- All components of micro-irrigation irrigation systems
- Sensor hardware and telemetry
- Software associated with sensors and weather stations
- Flow meters
- Award funding source signage
- Permits

Unallowable Costs

Unallowable costs, include, but are not limited to:

- Project design costs (e.g., engineering)
- Costs associated with technical assistance including drive time and fuel cost
- Post-project service charges and maintenance costs associated with the irrigation system
- Non-labor costs (e.g., management) and fees associated with project oversight
- Labor costs in excess of 25 percent of the total SWEEP grant request
- Any labor provided by the applicant (such costs could be categorized as “in-kind”)
- Supplies and equipment costs not related to irrigation or water distribution systems
- Tools and equipment with useful life of less than two years
- Costs associated with drilling of new or expanding groundwater wells
- Irrigation training courses
- Pump efficiency test
- Leasing of weather, soil and irrigation water based sensors for irrigation scheduling

Technical Assistance Resources

In addition to CDFA’s informational grant application workshops technical assistance will be provided by California academic research institutions, Resource Conservation Districts, or non-profit organizations. These technical assistance resources provide an opportunity for SWEEP applicants to obtain assistance with the development and/or submission of a SWEEP grant application. Applicants will have access to a computer and internet, and an irrigation specialist will be available to provide guidance on completing the required GHG reductions and water savings calculations and answer technical questions. Technical assistance will be provided free of cost to all potential applicants. These providers are contracted with

CDFA and may not charge any additional fees or subsequent commitments (financial or otherwise) to help submit applications. A list of CDFA-contracted technical assistance resources will be available on the SWEEP webpage during the application period.

Review and Evaluation Process

CDFA will conduct multiple levels of review during the grant application review process. The first level is an administrative review to determine whether application requirements were met and, if applicable, assess an applicant's past CDFA grant performance. The second level is a technical review to evaluate the merits of the application and overall expected success of the project, including the potential for the project to save water and reduce GHG emissions. The technical reviewers are comprised of agricultural irrigation water system specialists and experts affiliated with the University of California and California State University systems. Applications will be ranked and selected for funding based on the score, number of additional considerations met, estimated water savings and GHG reductions.

Scoring Criteria

The technical reviewer(s) will do an in-depth evaluation of each application and will validate water and GHG calculations based upon the supporting documentation and project design provided by the applicant. Reviewers will use a five-point scale (five considered the strongest) to evaluate the feasibility and merit of proposed project and design, reasonableness of budget, estimated water savings and GHG calculations reductions.

Additional Considerations

- Irrigation Training
- Reduced Pumping within a Critically Over-drafted Groundwater Basin
- Soil Management Practices that Increase Water-holding Capacity
- Cost Share
- New SWEEP Recipients
- Benefits to Severely Disadvantaged Communities
- Use of Recyled Water or Stormwater Capture

Irrigation Training

Irrigation training is a critical component to irrigation management and agricultural water conservation. CDFA strongly encourages applicants to participate in an irrigation training course to maximize the benefits of a well-designed and maintained irrigation system. During the review process, grant applications will receive additional consideration if the applicant has attended an irrigation training relevant to the SWEEP project within the last two years or commits to attend an irrigation training course during the course of the project term.

Applicants may consider training resources provided on the program website at www.cdfa.ca.gov/oefi/SWEEP. However, applicants may also select an alternative training course that best meets the needs of their operation. Training courses should be focused on efficient and effective irrigation types, water management strategies, and tools.

If awarded, the irrigation training course will become part of the Grant Agreement between the agricultural operation and CDFA. Therefore, project completion will be conditional upon completing the required training course during the grant term. Recipients must provide evidence (i.e., certificate of completion) confirming attendance. CDFA encourages agriculture operations to consider having both the agriculture operation's manager and irrigator attend a training course; however, only one agriculture operation representative is required to attend.

Applicants that previously completed irrigation training must attach evidence (e.g., certificate of completion) to the grant application confirming attendance to receive the extra consideration during the review process. Irrigation training certificate must be submitted to CDFA within 30 days from the date of project verification.

Reduced Groundwater Pumping in a Critically Over-Drafted Groundwater Basin

Projects that demonstrate reduced groundwater pumping within critically over-drafted groundwater basins will receive extra consideration during the review process. Applicants must use the online map linked below to determine if their project falls within a critically over-drafted groundwater basin as identified by the Department of Water Resources. A list of the basins, including the basin numbers, is identified in Table 1. If a proposed project reduces groundwater pumping within a critically over-drafted ground water basin, applicants must identify the name and number of the basin within the application.

State-wide map of critically over-drafted groundwater basins

Table 1

List of Critically Over-drafted Groundwater Basins (January 2016)	
Basin Number	**Basin/Sub-basin Name**
3-01	Soquel Valley
3-02	Pajaro Valley
3-04.01	180/400 Foot Aquifer
3-04.06	Paso Robles
3-08	Los Osos Valley
3-13	Cuyama Valley
4-04.02	Oxnard
4-06	Pleasant Valley
5-22.01	Eastern San Joaquin
5-22.04	Merced
5-22.05	Chowchilla
5-22.06	Madera
5-22.07	Delta-Mendota
5-22.08	Kings
5-22.09	Westside
5-22.11	Kaweah
5-22.12	Tulare Lake
5-22.13	Tule
5-22.14	Kern County
6-54	Indian Wells Valley
7-24	Borrego Valley

Soil Management Practices that Increase Water-Holding Capacity

Increasing soil organic matter has multiple benefits including increased water-holding capacity of the soil and carbon sequestration. Projects that integrate one or more of the following soil management practices

identified below will receive additional consideration providing the management practice(s) will not result in an increase in on-farm water demand or energy use.

- Cover cropping (USDA NRCS Conservation Practice Standard 340)
- Mulching (USDA NRCS Conservation Practice Standard 484)
- Compost application
- Resource conserving crop rotation

Any of the management practices that are indicated in the project application will become part of the grant agreement terms and incorporated into the scope of work. Awardees should follow applicable USDA NRCS Conservation Practice Standards when implementing these management practices.

Cost Share

Matching funds and in-kind contributions are not required, but are strongly encouraged. Applications that include Cost Share will receive additional consideration

Cost Share is defined as a portion of project costs not borne by the SWEEP grant award and can include cash and/or in-kind contributions. Matching funds refers to a dollar amount (cash) committed to the project from a source other than SWEEP. In-kind contributions include costs associated with labor involved with the installation of the project. Applicants providing cost share funds are encouraged to submit written documentation describing the source, type and amount with the grant application.

New SWEEP Recipients

To reach new SWEEP applicants, CDFA will give additional consideration to applications that have been submitted by agricultural operations who have never received a SWEEP award in any previous funding rounds (2014-2017).

Benefits to Severely Disadvantaged Communities (DACs)

CDFA will provide addition consideration to projects that are located within and serve a severely disadvantaged community. A "severely disadvantaged community" is defined as a community with a median household income less than 80 percent of the statewide average. To qualify as serving severely disadvantaged communities, projects must be:

1. Located within a severely disadvantaged community as identified using the Disadvantaged Communities Mapping Tool developed by the Department of Water Resources available at: https://gis.water.ca.gov/app/dacs/.
2. The project must also provide benefits to the community such as:
    - Air quality benefits through the reduction of diesel fuel combustion and/or energy efficiency improvements that result in a reduction of criteria air pollutants. This benefit will be determined by the results of the ARB GHG Calculator Tool
    - Water conservation in a critically over-drafted groundwater basin as determined by the project design and the results of the SWEEP Irrigation Water Savings Assessment Tool.

Use of Recycled Water or Storm Water Capture

Projects that incorporate the use of recycled water or the capture of storm water to reduce runoff, reduce water pollution, or recharge groundwater supplies will receive additional consideration providing that the management practice(s) will not result in an increase in on-farm water demand or energy use.

Assistance and Questions

CDFA cannot assist in the preparation of grant applications; however, general questions may be submitted to grants@cdfa.ca.gov. CDFA will conduct X rounds of Questions and Answers (Q&A) to address general questions about the application submission process and program requirements. Responses to all questions received during the workshops and webinar or by email will be posted to CDFA's SWEEP website according to the following schedule:

Questions Received by:	Responses Posted by:
TBD at 8:00 am PST	TBD at 5:00 pm PST
TBD at 8:00 am PST	TBD at 5:00 pm PST

To maintain the integrity of the competitive grant process, CDFA is unable to advise and/or provide applicants with any information regarding specific grant applications during the solicitation process.

Notification and Feedback

All applicants will be notified by email regarding the status of their grant application. Applicants not selected for funding will receive feedback on their grant application within 60 days after receiving notification.

Disqualifications

The following will result in the disqualification of a grant application:

- Incomplete grant applications: applications with one or more unanswered questions necessary for administrative or technical review
- Incomplete grant applications: applications with missing, blank, unreadable, corrupt, or otherwise unusable attachments.
- Applications requesting funding for more than the maximum award amount
- Applications that include activities outside the grant duration
- Applications with unallowable costs or activities necessary to complete the project objectives

APPEAL RIGHTS: Any discretionary action taken by the Office of Grants Administration (OGA) may be appealed to CDFA's Office of Hearings and Appeals Office within ten (10) days of receiving a notice of disqualification from CDFA. The appeal must be in writing and signed by the responsible party named on the grant application or his/her authorized agent. It must state the grounds for the appeal and include any supporting documents and a copy of the OGA decision being challenged. The submissions must be sent to the California Department of Food and Agriculture Office of Hearings and Appeals, 1220 N Street Suite 315, Sacramento CA 95814 or emailed to CDFA.LegalOffice@cdfa.ca.gov. If submissions are not received within the time frame provided above, the appeal will be denied.

Award Process

Grant Agreement

CDFA will initiate the Grant Agreement process with applicants selected to receive a 2018 SWEEP grant award. A CDFA Environmental Scientist will contact each Recipient to schedule a project consultation to confirm project site information and discuss implementation plans. Applicants who are selected for awards should then provide APN map(s) of the impacted acreage and aerial map(s) to confirm the

location of the project. Applicants with projects selected for award of funds will then receive a Grant Agreement package with specific instructions regarding award requirements including information on project implementation, verification, and payment process.

Project Implementation

Once a Grant Agreement is executed, the grant recipient can begin implementation of the project if it is after or on the official program start date.

Recipients are responsible for the overall management of their awarded project to ensure all project activities, including labor associated with installation, are completed no later than December 31, 2020. For projects involving utility interconnection, recipients must take the necessary steps to begin the interconnection process after execution of the Grant Agreement to ensure utility interconnection work is complete by this date. Awardees must complete all proposed activities including activities related to cost share by this deadline. No project extensions will be granted. All communications (oral or written) related to grant activities including reimbursements must originate from grant awardee or CDFA staff.

Project implementation must occur on the APNs identified in the Grant Agreement scope of work (SOW). Failure to install a project on the APNs identified in the scope of work may result in all or any portion of the grant funding withheld or termination of the Grant Agreement.

CDFA may conduct a Critical Project Review upon reasonable notice at any time during the project term. The purpose is to determine whether deliverables are being met and evaluate project progress to ensure installation is complete within the grant term. Recipients may be required to submit financial records and project documentation to ensure SWEEP funds are used in compliance with the Grant Agreement terms and conditions.

Payment Process

CDFA will provide the grant recipient with the necessary grant award and invoicing documents for reimbursement process. Grant recipients whose projects are located within and severe a disadvantaged community may be eligible to receive an advance payment up to 25 percent of the total grant award for project installation. The remaining funds will be allocated on a reimbursement basis through quarterly or monthly invoicing.

CDFA will withhold 10 percent from the total grant award until the verification requirement is complete and meets the expectations agreed upon in the Scope of Work.

Project Verification

Following project implementation, the grant awardee must inform the assigned grant specialist that the project is complete and operational as proposed. A CDFA Environmental Scientist, or a local RCD in partnership with CDFA, will then initiate the verification process. The verifier will visit the project site, and inspect the completed project to ensure design specifications were met and the system is working effectively. In addition, the verifier will take photographs to document project completion. The grant awardee or a documented authorized representative of the agricultural operation must be present during the time of verification. The verification component must be completed by March 15, 2021.

Post-Project Completion Requirements

Execution of the Grant Agreement is conditional upon agreement to post-project completion requirements. Recipients are expected to maintain documentation related to the SWEEP funded project, including energy and water use documentation, to report actual benefits achieved for a period of three

years after project completion. The purpose of this reporting is to demonstrate the long-term success of SWEEP awarded projects by documenting water savings and GHG emission reductions data.

After the project is operational, a CDFA Environmental Scientist will work with recipients to collect the necessary data and quantify water savings and GHG emission reductions. This may entail enrollment with a third-party contactor to monitor energy use from the project site. In the situation that a third-party contractor enrollment is required, the awardee shall take all required steps for timely enrollment. Besides the enrollment, the awardee may still have to provide data which could not be collected utilizing third-party services.

Failure to work with CDFA or its designees to provide the necessary project-related documentation will be considered non-performance. In the event of non-performance, CDFA may take any action deemed necessary to recover all or any portion of the grant funding, including denying eligibility for future funding.

Appendix A: Grant Application Checklist

Application Components

- ☐ **Completed Online Application**
  - ☐ Section I: **Applicant Information**
  - ☐ Section II: **Previously Funded Project**
  - ☐ Section III: **Proposed Project Overview**
  - ☐ Section IV: **Project Location Information**
  - ☐ Section V: **Current Irrigation System & Practice**
  - ☐ Section VI: **Project Types**
  - ☐ Section VII: **Project Duration**
  - ☐ Section VIII: **Proposed Irrigation System & Practice**
  - ☐ Section IX: **Water Calculations**
  - ☐ Section X: **GHG Calculations**
  - ☐ Section XI: **Additional Considerations**

Application Attachments

- ☐ **Project Design** ***(map of components locations including field based sensors, pumping station, solar, and other project components)***
- ☐ **Budget Worksheet**
  https://www.cdfa.ca.gov/oefi/sweep/docs/2018-SWEEP-BudgetWorksheet.xlsx
- ☐ **SWEEP Irrigation Water Savings Assessment Tool**
  https://www.cdfa.ca.gov/oefi/sweep/docs/IrrigationWaterSavingsAssessmentTool.xls
- ☐ **ARB GHG Calculator Tool**
  https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cdfa_sweep_finalcalc_16-17.xlsx
- ☐ **GHG Baseline Use Documentation** *(e.g. utility bills, fuel receipts, field operational logs, etc. covering 12 months of peak irrigation season)*
- ☐ **Pump Efficiency Test** *(pump efficiency test for current pumps, pump and motor specifications for any proposed pumps)*

Optional Application Attachments *(only if applicable to project)*

- ☐ **Cost Share** *(optional)*
- ☐ **Quotes for solar projects**
- ☐ **All Other Supplemental Documents** *(e.g., irrigation training certificates) (optional)*

Appendix B: Preview of Grant Application Questionnaire

SECTION I: APPLICANT INFORMATION

Provide details about the applicant including the name of the agricultural operation and the personal contact information for the individual affiliated with the agricultural operation. This must be the organization or person who would receive the grant and sign a grant agreement with CDFA.

1. Name of agricultural operation applying for a SWEEP grant
2. Applicant's federal tax identification number or the last four digits of social security number if applying as a sole proprietor (example: xxx-xx-0000)
3. Total size of the agricultural operation (acres)
4. Mailing street address or P.O. Box
5. City
6. State
7. Zip Code
8. Full name of the primary contact person. This is the person who would sign a grant agreement if the project is selected for an award
9. Primary contact's phone number
10. Primary contact's email address
11. Full name of alternate contact person
12. Alternate contact's phone number
13. Alternate contact's email address

SECTION II: PREVIOUSLY FUNDED SWEEP PROJECT

14. Has the agriculture operation received a SWEEP award in any past funding round? (yes/no)
15. If yes, provide the SWEEP Agreement Number(s) and corresponding Assessor's Parcel Number(s) where each project was implemented.

SECTION III: PROPOSED PROJECT OVERVIEW

Provide a short project title and concise project description. The project description should summarize, at a minimum, the main project components, the crop and acreage impacted by the project.

16. Project Title
17. Project Description
18. Grant Request

19. Cost Share
20. Total Project Budget

SECTION IV: PROJECT LOCATION INFORMATION

Provide details about the property location(s) where the proposed project will be implemented. Provide property information for each Assessor's Parcel Number (APN) that will be impacted by the SWEEP project.

21. County
22. Assessor's Parcel Numbers
23. Representative GPS Coordinate (link: https://www.google.com/maps/)
24. Address or Nearest Cross Streets
25. City, Zip Code
26. Census Tract (link: https://gis.water.ca.gov/app/dacs/)
27. List of current crops and corresponding acreage that would be impacted by the proposed SWEEP project (Example: Alfalfa: 80 acres).
28. Indicate if the property location(s) water source is surface water (i.e., water delivered to the property) or groundwater pumped from on-farm wells. If the property utilizes both surface water and groundwater, provide an estimate of the percentage from both sources (example: surface water 50%, groundwater 50%).

SECTION V: CURRENT IRRIGATION SYSTEM AND PRACTICE

The questions in Section V apply to the current irrigation and/or distribution system. The purpose of this section is to understand the applicant's current water use system. At a minimum the applicant should address the current crop, irrigation type, irrigation management practices and energy sources.

29. Description of current water use system
30. Is the current water use from all sources measured either on farm or by the water supplier (e.g., flow meter, water statement)?

SECTION VI: PROPOSED PROJECT TYPES

The questions in Section VI apply to the project types for which the applicant is applying for SWEEP. Address all applicable project types and provide an explanation for all types selected. Only indicate project types that are being incorporated as part of the project. Do not indicate a project type if it is already the current practice at the site.

Water Conservation

Weather, Soil, or Plant-based sensors for irrigation scheduling

Examples include soil moisture or plant sensors (NRCS Conservation Practice Standard 449 may apply) with electronic data output, the use of electronic weather station(s) linked to irrigation controller to ensure efficient irrigation scheduling or the use of evapotranspiration (ET) based irrigation scheduling, such as the California Irrigation Management Information System (CIMIS) to optimize water use efficiency for crops. Telemetry components that allow the electronic communication between technology devices are eligible for funding through SWEEP.

31. Yes/No
32. Describe

Micro-irrigation or Drip Systems

The conversion to micro-irrigation or drip systems, including sub-surface drip systems from flood irrigation. Project designs should follow NRCS Conservation Practice Standard 441 specifications. The applicants currently utilizing surface water (e.g. canal or river water) to flood irrigate crops are encouraged to maintain flood irrigation infrastructure along with the proposed efficient micro/ drip irrigation system(s) to facilitate ground water recharge when surface water is available for recharge.

33. Yes/No
34. Describe

Greenhouse Gas Emission Reduction

Fuel Conversion

Pump fuel conversion resulting in reduction of GHG emissions (for example replacing a diesel pump with an electric pump. Renewable energy, including solar, installations that power irrigation systems are eligible for SWEEP funding and can further reduce GHG emissions.

35. Yes/No
36. Describe

Improved Energy Efficiency of Pumps

Examples include retrofitting or replacing pumps. NRCS Conservation Practice Standard 372 or 533 may apply.

37. Yes/No
38. Describe

Low Pressure Systems

Use of low-pressure irrigation systems to reduce pumping and energy use. For example, the conversion of a high-pressure sprinkler system to a low pressure micro-irrigation system or lower pressure sprinkler system. Project designs should follow NRCS Conservation Practice Standards 441 or 442 specifications.

39. Yes/No
40. Describe

Variable Frequency Drives

Use of Variable Frequency Drives to reduce energy use and match pump flow to load requirements. Project designs should follow NRCS Conservation Practice Standard 533.

41. Yes/No

42. Describe

Reduced Pumping
For example, improved irrigation scheduling may lead to reduced pump operation times.

43. Yes/No
44. Describe

Other Management Practices

For projects implementing any other management practices that result in water savings and GHG reductions. Reminder: Estimated benefits must be calculated using the SWEEP Water Savings Assessment Tool and the ARB GHG Calculator Tool.

45. Yes/No
46. Describe

SECTION VII: PROJECT DURATION

The maximum grant duration for a proposed project is 18 months. Grant funds cannot be expended before TBD, 2019 or after TBD, 2020. No grant extensions will be offered.

47. Estimate the start date for the proposed project
48. Estimate the end date for the proposed project

SECTION VIII: PROPOSED IRRIGATION SYSTEM AND PRACTICE

The questions in Section VIII apply to the proposed water use system on the property. Explain in detail the proposed water use system and associated energy sources. At a minimum, applicants should address the proposed crop, irrigation type, irrigation management (e.g., irrigation scheduling and/or sensors), fuel sources and water sources.

49. Description of the proposed water use system
50. Provide an explanation of how the proposed project will measure water applied from all sources after the project is installed.

SECTION IX: WATER CALCULATIONS

Applicants must use the SWEEP Irrigation Water Savings Assessment Tool to provide an estimate of current baseline water use and the estimated water savings due to the proposed project. Use the units of acre-inches per year per acre. Instructions are provided on the “Instructions” tab of the SWEEP Irrigation Water Savings Assessment Tool.

51. What is the baseline water use (acre-inches/acre) from the SWEEP Irrigation Water Savings Assessment Tool, located in cell F3 of the “Water Savings Estimate” tab?

52. What is the estimated water savings (acre-inches/acre) from the project, located in cell F5 of the "Water Savings Estimate" tab?
53. Are there any further comments or clarifications regarding the supporting water documentation or calculations? Indicate yes or no.
54. If yes, provide an explanation

SECTION X: GHG CALCULATIONS

Applicants are required to use the ARB GHG Calculator Tool, which can be found HERE, to quantify GHG reductions from their proposed project. Attach the entire completed Excel workbook, and attach all supporting documents that provide inputs to the calculator, including pump efficiency tests, pump and motor specifications, actual fuel invoices, electric bills, and field operational logs. After completing all required tabs and saving and attaching the tool, provide a response to the following questions:

55. What is the total baseline fuel or electricity use for all the fields involved in the proposed SWEEP project? This information is located in cell B14 of the "Input" tab(s) of the workbook. Complete all that apply.

Electricity (kwh/yr)

Diesel (gallons/yr)

Motor gasoline (gallons/yr)

Biodiesel/renewable diesel (gallons/yr)

Natural gas (scf/yr)

Solar (kwh/yr)

Wind (kwh/yr)

Other renewable (kwh/yr)

56. Explain how the supporting baseline GHG documents (such as fuel invoices, electricity bills, pump efficiency tests, etc.) were used to provide inputs to the ARB GHG Calculator Tool. In other words, provide a sufficient explanation to identify the inputs of the GHG Calculator to allow the calculations to be replicated.
57. Are field operation logs attached?
58. Indicate the estimated greenhouse gas emission reductions from the project (Tonnes of CO2 equivalent/acre), located in cell B16 of the "Summary" tab of the ARB GHG Calculator Tool.

SECTION XI: ADDITIONAL CONSIDERATIONS

Irrigation Training

59. Has the applicant attended an irrigation training course within that past two years? Proof of completion must be provided.

60. If “no” to the above question, will the applicant commit to attend an irrigation training during the term of the grant agreement? If the answer is indicated as yes, the irrigation training will be become a term of the Grant Agreement if the project is awarded funding. This training will be at the cost of the agricultural operation.

Critically Over-drafted Groundwater Basin

61. Does the project location fall within a critically over-drafted groundwater basin as identified by the Department of Water Resources?
62. If yes, provide the basin name and number

Soil Management Practices for Increasing Water-holding Capacity

63. Indicate which, if any, of these management practices will be implemented with the goal of increasing soil organic matter and water-holding capacity of the soil. If these practices are indicated, the selected practices will become a term of the Grant Agreement and are at the cost of the agricultural operation (these soil management practices are not eligible for funding through SWEEP).

Cover cropping

Mulching

Compost application

Resource conserving crop rotation

Water Recycling and Storm Water Capture

64. Does the proposed project utilize recycled water or storm water capture?
65. If yes, provide an explanation of how the project makes use of these water sources.

Cost Share

66. Have matching funds (cash and/or in-kind contributions) been secured? Select "YES" or "NO." If "YES," attach documentation. Documentation should confirm the contribution source, type, and amount of contributions in support of the project.

Appendix C: USDA NRCS Payment Schedule

Adapted from FY18 Environmental Quality Incentives Program Payment Rate Summary List Regular Rates.

This table provides the USDA NRCS EQIP rates for some project components that are relevant to SWEEP. This list is intended to provide guidance for expected costs and is not a complete list of all items that may be funded through SWEEP.

Practice Code	Practice Name	Component	Unit Type	Unit Cost
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, < 12 HP	Ea	$1,031.80
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, >= 500 HP	Ea	$48,872.87
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 125-174 HP	Ea	$11,263.95
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 12-69 HP	Ea	$4,520.05
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 175-224 HP	Ea	$17,052.89
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 225-274 HP	Ea	$20,173.18
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 275-399 HP	Ea	$27,012.26
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 400-499 HP	Ea	$38,038.78
372	Combustion System Improvement	Electric Motor in-lieu of IC Engine, 70-124 HP	Ea	$5,671.14
372	Combustion System Improvement	IC Engine Repower, <= 25 bhp	BHP	$233.85
372	Combustion System Improvement	IC Engine Repower, >25 bhp	BHP	$168.92
441	Irrigation System, Microirrigation	Filter replace	ac	$300.81

Practice Code	Practice Name	Component	Unit Type	Unit Cost
441	Irrigation System, Microirrigation	Orchard-vineyard, >10ac	ac	$751.06
441	Irrigation System, Microirrigation	Orchard-vineyard, >10ac with automation	ac	$901.90
441	Irrigation System, Microirrigation	Orchard-vineyard, 10ac or less	ac	$1,329.29
441	Irrigation System, Microirrigation	Orchard-vineyard, durable tubing replace	ac	$379.61
441	Irrigation System, Microirrigation	Retrofit, Irrigation Automation	Ea	$7,607.72
441	Irrigation System, Microirrigation	Row Crop, Above Ground PE Manifold	ac	$913.70
441	Irrigation System, Microirrigation	Row Crop, Buried Manifold	ac	$1,025.90
441	Irrigation System, Microirrigation	SDI (Subsurface Drip Irrigation)	ac	$1,037.61
441	Irrigation System, Microirrigation	Small Acreage	ac	$1,838.57
441	Irrigation System, Microirrigation	Vegetation Establishment	ac	$456.25
442	Sprinkler System	Big Gun, Stationary	Ea	$3,073.21
442	Sprinkler System	Center Pivot, < 600 Ft	ft	$47.20
442	Sprinkler System	Center Pivot, > 600 Ft	ft	$40.42
442	Sprinkler System	Handline system	ft	$3.62
442	Sprinkler System	Linear Move System	ft	$52.31
442	Sprinkler System	Pod System	Ea	$291.92
442	Sprinkler System	Renovation of Existing Overhead or Wheel line Sprinkler System	ft	$5.44
442	Sprinkler System	Retrofit, Irrigation Automation	ac	$503.54

Practice Code	Practice Name	Component	Unit Type	Unit Cost
442	Sprinkler System	Solid Set System	ac	$1,326.36
442	Sprinkler System	Solid Set System Renovation	ac	$202.44
442	Sprinkler System	Solid Set System with automation	ac	$1,782.04
442	Sprinkler System	Solid Set, Above Ground Laterals	ac	$1,193.70
442	Sprinkler System	Traveling Gun System, > 3 inch Hose	Ea	$25,653.14
442	Sprinkler System	Traveling Gun System, >2 to 3 inch Hose	Ea	$13,892.20
442	Sprinkler System	Traveling Gun System, 2 inch or less diameter Hose	Ea	$10,739.58
442	Sprinkler System	Wheel Line System	ft	$10.24
449	Irrigation Water Management	IWM with Soil Moisture Sensors	Ea	$695.22
449	Irrigation Water Management	IWM with Soil Moisture Sensors with Data Recorder	Ea	$1,518.34
533	Pumping Plant	Electric-Powered Pump <= 3 Hp	HP	$966.17
533	Pumping Plant	Electric-Powered Pump <= 3 HP with Pressure Tank	HP	$1,275.41
533	Pumping Plant	Electric-Powered Pump >10 to 40 HP	HP	$294.99
533	Pumping Plant	Electric-Powered Pump >3 to 10 HP	HP	$321.09
533	Pumping Plant	Electric-Powered Pump >40 HP, Centrifugal	HP	$189.29
533	Pumping Plant	Solar <1 Hp	Ea	$5,012.00
533	Pumping Plant	Solar >3 Hp	Ea	$15,410.30
533	Pumping Plant	Solar 1-3 Hp	Ea	$9,488.13
533	Pumping Plant	Turbine, Pump Only	HP	$133.97

Practice Code	Practice Name	Component	Unit Type	Unit Cost
533	Pumping Plant	Variable Frequency Drive only (no pump) <=15Hp	Ea	$2,956.09
533	Pumping Plant	Variable Frequency Drive only (no pump) >15 Hp	HP	$171.83
533	Pumping Plant	Vertical Turbine Pump >100 Hp	HP	$299.03
533	Pumping Plant	Vertical Turbine Pump, <100 Hp	HP	$381.68
533	Pumping Plant	Water Ram Pump	In	$716.52
533	Pumping Plant	Windmill-Powered Pump	ft	$709.00