SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

ITEM
3.18
(ID # 9723)

MEETING DATE:
Tuesday, May 7, 2019

FROM : FIRE DEPARTMENT:

SUBJECT: FIRE DEPARTMENT: Acceptance of FY 2019 CAL FIRE California Climate Investments Forest Health Program Grant No. 8GG18659 for the Riverside County Forest Health Program; [District 3] [$928,740 total grant] 82% State Grant Funds, 18% General Funds (4/5 Vote Required)

RECOMMENDED MOTION: That the Board of Supervisors:

1. Accept the FY 2019 CAL FIRE California Climate Investments (CCI) Forest Health Program Grant (FHPG) Grant No. 8GG18659 in the amount of $766,500 for Riverside County Forest Health Program from the California Department of Forestry and Fire Protection awarded to the Riverside County Fire Department with an in-kind match of $162,240; and,
2. Chairman sign in blue ink four (4) sets of the grant agreement signature page; and,
3. Authorize the Fire Chief or his designee to sign and administer all actions necessary and to sign any related grant documents; and,
4. Approve and Direct the Auditor-Controller to make the budget adjustment for FY18/19 as outlined in Schedule A.

ACTION:4/5 Vote Required

Shawn Newman
Shawn Newman, Chief Cal Fire Riverside County 4/23/2019

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Jeffries, seconded by Supervisor Perez and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Jeffries, Spiegel, Washington, Perez and Hewitt
Nays:	None
Absent:	None
Date:	May 7, 2019
xc:	Fire, Auditor

Kecia Harper
Clerk of the Board
By: _____ Deputy

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$ 67,083	$ 316,167	$ 928,740	$ 0
NET COUNTY COST	$ 27,040	$ 54,080	$ 162,240	$ 0

SOURCE OF FUNDS: 83% State Grant Funds, 17% General Funds	**Budget Adjustment:** Yes
	For Fiscal Year: 18/19, 19/20, 20/21, 21/22

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

The Greenhouse Gas Reduction Fund (GGRF) for the California Climate Investments (CCI) allocates grant funding that is administered by the California Department of Forestry and Fire Protection (CAL FIRE). The Forest Health Program Grant (FHPG) funding is available for projects that proactively restore forest health to reduce greenhouse gases (GHGs), protect upper watersheds where the state's water supply originates, promote the long-term storage of carbon in forest trees and soils, minimize the loss of forest carbon from large, intense wildfires, and to further the goals of the California Global Warming Solutions Act of 2006 (Assembly Bill 32, Health and Safety Code Section 38500 et seq.) (AB 32). The 2017-2018 State Budget allocated a total of $155 million CCI funding towards CAL FIRE Forest Health and Fire Prevention activities.

The department was awarded FHPG funding in the amount of $766,500 for the Riverside County Forest Health Program to address the Goldspotted Oak Borer (GSOB) outbreak in Riverside County for the primary area known as the Idyllwild Infestation Area and a secondary northern boundary recently discovered in the Beaumont/Banning area of the San Bernardino National Forest. The program will utilize a Registered Professional Forester (RPF) as the project manager and subject matter expert to survey 100% of oak tree population for health and infestation status, create a treatment prescription for pest management or tree removal for each oak tree, prepare compliance documents and reports, and manage all other project contractors to ensure scope, deliverables, and compliance are met. The project will also contract with a Qualified/Certified Pesticide Applicator (PA) to provide pest management services to up to 2,350 living trees to prevent or slow GSOB infestation. A Licensed Timber Operator (LTO) will be contracted to provide dead, dying and diseased (DDD) tree removal. A GIS Mapping contractor will create an oak tree health status mapping product with the survey data compiled by the RPF. The program also has a research component that will be led by the University of California, Riverside to create an analysis and quantification tool for GSOB infestation issues, GHG reduction, and carbon sequestration. The department will provide in-kind support through grant management and administrative functions and public outreach to the affected communities

The GSOB was imported into San Diego County and has spread north by natural dispersal and human transport to infest 270,000 acres of oak woodlands within a 60-mile radius of this proposed project area, with an estimated 3,300 oak trees on private lands (and an additional 2,900 on federal land). The pest was discovered in Riverside County in 2014 and a new strategy is being developed to prophylactically monitor and manage the outbreak on the northeastern boundary of the infestation area by treating healthy oak trees as well as removing DDD trees. The goals of the new strategy are to slow the outbreak and natural spread of the GSOB on the San Jacinto Mountain portion and to keep infested wood from moving out of the Idyllwild area and into adjacent communities (such as Poppet Flats, Cherry Valley, Beaumont/Banning, and to adjacent counties).

Impact on Residents and Businesses

These funds are dedicated to protecting the health and safety of the public and firefighting personnel against fire and fire related hazards in the unincorporated area.

Additional Fiscal Information

The department was authorized to apply for this grant on December 11, 2018 (3-22). The project period of performance is from the date of final approval from the grantor through March 30, 2022, and the department is requesting a budget adjustment for nine percent of the grant allocation for the current fiscal year. The FHGP does not require cost share match however the department will provide in-kind match through grant administration services totaling $162,240 through currently approved budgeted departmental functions.

Contract History and Price Reasonableness

The CCI/CAL FIRE FHPG and Fire Prevention grants replace the State Responsibility Area Fire Prevention Fund (SRAFPF) and Tree Mortality (TM) Grant Program previously funded by CAL FIRE. On August 3, 2018, the department was awarded two Fire Prevention Grants for the Elsinore Front Country Fuel Break project (for $2,062,547) and the Riverside County - Dead, Dying, Diseased Tree Removal (for $1,140,383). The Board of Supervisors actions on November 6, 2018 (3-20 and 3-21, respectively) authorized the acceptance of each grant. These grant projects are currently being administered and all terms of the agreements are expected to be fulfilled by the department.

On April 2, 2015, the department was awarded $296,000 in SRAFPF funding to reduce hazardous fuels in the Idyllwild/Pine Coves areas. The Board of Supervisors action on May 12, 2015 (3-57) authorized the acceptance of the grant and the terms of the grant were satisfied.

ATTACHMENT: Grant-Agreement-8GG18659.pdf

SCHEDULE A. **BUDGET ADJUSTMENT**

Increase Appropriations

10000-2700200000-527780 Special Program Expense	$67,083

Total:	$67,083

Increase Estimated Revenue:

10000-2700200000-767220 Fed-Other Operating Grants	$67,083
Total:	$67,083

Misley Wang, Supervising Accountant 4/26/2019

Ryan Carter, Principal Management Analyst 4/30/2019

Gregory P. Priamos, Director County Counsel 4/26/2019

State of California
Dept. of Forestry and Fire Protection (CAL FIRE)
Resource Management
GRANT AGREEMENT

WHEN DOCUMENT IS FULLY EXECUTED RETURN
CLERK'S COPY
to Riverside County Clerk of the Board, Stop 1010
Post Office Box 1147, Riverside, Ca 92502-1147
Thank you.

APPLICANT: **County of Riverside**

PROJECT TITLE: **Riverside County Forest Health Program**

GRANT AGREEMENT: **8GG18659**

ATTEST: KECIA R. HARPER, Clerk
By [signature] DEPUTY

PROJECT PERFORMANCE PERIOD IS from Upon Approval through March 30, 2022.
Under the terms and conditions of this Grant Agreement, the applicant agrees to complete the project as described in the project description, and the State of California, acting through the Dept. of Forestry & Fire Protection, agrees to fund the project up the total state grant amount indicated.

PROJECT DESCRIPTION: This Program will address the GSOB problem on private land in the Riverside County portion of the San Bernardino National Forest by surveying and mapping 100% of the oak trees in the project area, treat at least 2,350 living oak trees with pesticide application, remove up to 180 dead, dying and diseased trees that display heavy infestation, and create a sanitized biomass utilization plan. The project also proposes a research component to work with local academia to develop a quantification tool to measure and track the carbon related issues in this unique geographic region.

Total State Grant not to exceed $ **766,500.00** (or project costs, whichever is less)

The Special and General Provisions attached are made a part of and incorporated into this Grant Agreement.

FORM APPROVED COUNTY COUNSEL
BY: [signature] SYNTHIA M. GUNZEL DATE 4-24-19

County of Riverside	**STATE OF CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION**
Applicant	
By [signature] Signature of Authorized Representative	By
Title CHAIRMAN, BOARD OF SUPERVISORS	Title: **Helge Eng** **Deputy Director, Resource Management**
Date MAY 07 2019	Date

CERTIFICATION OF FUNDING

AMOUNT OF ESTIMATE FUNDING **$ 766,500.00**	GRANT AGREEMENT NUMBER **8GG18659**		PO ID	
ADJ. INCREASING ENCUMBRANCE **$ 766,500.00**	SUPPLIER ID **08354**			
ADJ. DECREASING ENCUMBRANCE **$**	PROJECT ID **N/A**		ACTIVITY ID **N/A**	
UNENCUMBERED BALANCE **$ 766,500.00**	GL UNIT **3540**	BUD REF **001**	FUND **3228**	ENY **2018**
REPORTING STRUCTURE **35409503**	SERVICE LOC **91017**	ACCOUNT **5340580**	ALT ACC **5340580000**	

I hereby certify upon my personal knowledge that budgeted funds are available for this encumbrance.

SIGNATURE OF CAL FIRE ACCOUNTING OFFICER — DATE

MAY 07 2019 2.12

TERMS AND CONDITIONS OF GRANT AGREEMENT

I. RECITALS

1. This Agreement, is entered into between the State of California, by and through the California Department of Forestry and Fire Protection (CAL FIRE), hereinafter referred to as "STATE" and County of Riverside, hereinafter referred to as "GRANTEE".

2. The STATE hereby grants to GRANTEE a sum (hereinafter referred to as "GRANT FUNDS") not to exceed seven hundred sixty six thousand five hundred dollars ($766,500.00).

3. In addition to the terms and conditions of this Agreement, the STATE and GRANTEE agree that the terms and conditions contained in the documents set forth below are hereby incorporated and made part of this agreement.

   a. California Climate Investments Department of Forestry and Fire Protection Forest Health Program Grant Guidelines 2018-2019

   b. California Air Resources Board Quantification Methodology for the Department of Forestry & Fire Protection (CAL FIRE) Forest Health Program Greenhouse Gas Reduction Fund Fiscal Year 2018-2019

   c. The submitted Application, Scope of Work, Budget Detail, GHG Emissions Reduction Methodology and Exhibits

   d. Addendum for Greenhouse Gas Reduction Fund (GGRF) Grant Projects

II. SPECIAL PROVISIONS

1. Recipients of GRANT FUNDS pursuant to California Public Resources Code Section 4799.05 shall abide by the provisions in this Agreement. This includes the requirement that work shall not commence prior to the execution of this Agreement by both parties. Any work started prior to the execution of this Agreement will not be eligible for funding under the terms of this Agreement.

2. As precedent to the State's obligation to provide funding, GRANTEE shall provide to the STATE for review and approval a detailed budget, specifications, and project description. Approval by the STATE of such plans and specifications, or any other approvals provided for in this Agreement, shall be for scope and quality of work, and shall not relieve GRANTEE of the obligation to carry out any other obligations required by this Agreement, in accordance with applicable law or any other standards ordinarily applied to such work or activity.

3. All informational products (e.g., data, studies, findings, management plans, manuals, photos, etc.) relating to California's natural environment produced with the use of GRANT FUNDS shall be available for public use.

III. GENERAL PROVISIONS

1. Definitions

   a. The term "Agreement" means grant agreement number 8GG18659.

   b. The term "GRANT FUNDS" means the money provided by the STATE to the GRANTEE in this Agreement.

   c. The term "GRANTEE" means an applicant who has a signed Agreement for the award for GRANT FUNDS.

   d. The term "Other Sources of Funds" means all matching fund sources that are required or used to complete the Project beyond the GRANT FUNDS provided by this Agreement.

   e. The term "STATE" means the State of California, Department of Forestry and Fire Protection (CAL FIRE).

   f. The term "Project" means the development or other activity described in the "Project Scope of Work".

   g. The term "Project Budget Detail" as used herein defines the approved budget plan.

   h. The term "Project Scope of Work" as used herein means the individual scope of work describing in detail the approved tasks.

2. Project Representatives

The project representatives during the term of the agreement will be:

STATE: CAL FIRE	GRANTEE: County of Riverside
Section/Unit: HQ Resource Management	Section/Unit: Fire Department
Attention: Kristen Merrill	Attention: Jeremy Murphy
Mailing Address: P.O. Box 944246 Sacramento, CA 94244-2460	Mailing Address: 210 W. San Jacinto Ave. Perris, CA 92570
Phone Number: (916) 651-2022	Phone Number: (951) 940-6361
Email Address: Kristen.Merrill@fire.ca.gov	Email Address: jeremy.murphy@fire.ca.gov

Changes to the project representatives during the term of the agreement shall be made in writing. Notice shall be sent to the above representative for all notice provisions of this Agreement.

3. Project Execution

a. Subject to the availability of grant monies, the STATE hereby grants to the GRANTEE a sum of money (GRANT FUNDS) not to exceed the amount stated on Section I. RECITALS, Paragraph 2 in consideration of and on condition that the sum be expended in carrying out the purposes as set forth in the description of the Project in this Agreement and its attachments and under the terms and conditions set forth in this Agreement.

b. GRANTEE shall assume any obligation to furnish any additional funds that may be necessary to complete the Project. Any amendment to the Project as set forth in the Application on file with the STATE must be submitted to the STATE for approval in writing. No amendment is allowed until written approval is given by the STATE.

c. GRANTEE shall complete the Project in accordance with the time of Project performance set forth in this Agreement, unless an amendment has been approved and signed by the STATE under the terms and

conditions of this Agreement. Amendments must be requested in advance and will be considered in the event of circumstances beyond the control of the GRANTEE, but in no event less than 90 days from the Agreement expiration date and in no event less than 60 days before the effective date of the amendment. Approval of amendment is at the STATE's discretion.

d. GRANTEE certifies that the Project Scope of Work complies with all local, State, and federal laws and regulations.

e. GRANTEE shall comply with the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000, et. seq. Title 14, California Code of Regulations, Section 15000 et. seq.) and all other local, State, and federal environmental laws. A copy of the certified CEQA document must be provided to STATE before any GRANT FUNDS are made available for any Project activity that could directly impact the environment (e.g. cutting, piling or burning bush, masticating, dozer work, etc.). CEQA compliance shall be completed within one (1) year from start date of the Agreement. The start date is considered the date the last party signs the Agreement. GRANT FUNDS will be made available in advance of CEQA compliance for project activities that do not have the potential to cause a direct environmental impact (e.g. project planning, locating and marking property or project boundaries, contacting and signing up landowners, etc.).

f. GRANTEE shall permit periodic site visits by representative(s) of the STATE to ensure program compliance and that work is in accordance with the approved Project Scope of Work, including a final inspection upon Project completion.

g. GRANTEE, and the agents and employees of GRANTEE, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees, or agents, of the STATE.

4. Project Costs and Payment Documentation

a. Payment by the STATE shall be made after receipt of an acceptable invoice and approval by a duly authorized representative of the STATE. GRANTEE shall submit an invoice for payment to the CAL FIRE Project Representative of the STATE. A final invoice shall be submitted no later than 30 days after completion, expiration, or termination of this Agreement.

b. For services satisfactorily rendered, and upon receipt and approval of invoices for payment, the STATE agrees to compensate GRANTEE for actual expenditures incurred in accordance with the rates specified herein,

which is attached hereto, as Final Project Budget, and made a part of this Agreement.

c. Equipment purchased using GRANT FUNDS, wholly or in part, must be used by the GRANTEE for the project which it was acquired. STATE retains a vested interest in the equipment for the useful life of the equipment, even after completion of the grant. GRANTEE shall provide written disposition of the equipment upon completion of the grant and upon any changes to the disposition of the equipment. Such disposition must be approved in advance by STATE. Equipment purchased using GRANT FUNDS cannot be used as collateral, financed, or sold without prior written approval from the STATE.

d. GRANTEE shall submit, in arrears, not more frequently than once a month, and no less than quarterly, an invoice to the STATE for costs paid by GRANTEE pursuant to this Agreement. Each invoice shall contain the following information: the Agreement number, the dates or time period during which the invoiced costs were incurred, expenditures for the current invoice and cumulative expenditures to date by major budget category (e.g., salaries, benefits, supplies, etc.), appropriate supporting documentation, project progress reports, and the signature of an authorized representative of GRANTEE as detailed in the Invoice Guidelines of the California Climate Investments Department of Forestry and Fire Protection Forest Health Program Grant Guidelines 2018-2019.

e. GRANT FUNDS in this Agreement have a limited period in which they must be expended. All GRANTEE expenditures must occur prior to the end of the Project performance period of this Agreement.

f. Except as otherwise provided herein, GRANTEE shall expend GRANT FUNDS in the manner described in the Project Budget Detail approved by the STATE. The dollar amount of an item in the Project Budget Detail may be increased or decreased by up to ten percent (10%) of the budget item through reallocation of funds from another item or items, without approval by the STATE; however, GRANTEE shall notify the STATE in writing in project progress reports when any such reallocation is made, and shall identify both the item(s) being increased and those being decreased. Any increase or decrease of an item of more than ten percent (10%) of the budget item must be approved in writing by the STATE before any such increase or decrease is made. A formal approved amendment is required to increase the total amount of GRANT FUNDS.

g. GRANTEE shall promptly submit any and all records at the time and in the form as the STATE may request.

h. GRANTEE shall submit each invoice for payment to the CAL FIRE Representative identified in Item 2. The invoice may be submitted as hard copy or electronically:

i. Notwithstanding any of the provisions stated within this Agreement, the STATE may at its discretion make advance payment from the grant awarded to the GRANTEE if GRANTEE is a nonprofit organization, a local agency, a special district, a private forest landowner or a Native American tribe. Advance payment made by the STATE shall be subject to the following provisions.

- GRANTEE shall submit a written request identifying how funds will be used over a six-month period. The written request must be accompanied by an invoice that contains the same level of detail as a regular invoice.
- GRANTEE shall file an accountability report with STATE four months from the date of receiving the funds and every four months thereafter.
- Multiple advance payments may be made to a GRANTEE over the life of a project.
- No single advance payment shall exceed 25% of the total grant amount and must be spent on eligible costs within six months of the advance payment request. GRANTEE may request additional time to spend advance funds but must be approved in writing by the STATE. The balance of unspent advance payment funds not liquidated within the six-month spending period will be billed for the return of advanced funds to the STATE.
- All work under a previous advance payment must be fully liquidated via an invoice and supporting documentation and completed to the STATE's satisfaction before another advance payment will be made.
- Any advance payment received by a GRANTEE and not used for project eligible costs shall be returned to CAL FIRE. The amount will be returned to the grant balance.
- Advance payments must be deposited into an interest-bearing account. Any interest earned on advance payment funds must be accounted for and used toward offsetting the project cost or returned to the STATE.

5. Budget Contingency Clause

a. If STATE funding for any fiscal year is reduced or deleted for purposes of the Forest Health Program California Climate Investments Grant Program, the STATE shall have the option to either cancel this Agreement with no

liability occurring to the STATE, or if possible and desirable, offer an Agreement amendment to GRANTEE to reflect the reduced amount available for the Project.

6. Project Administration

   a. GRANTEE shall provide the STATE a written report showing total final Project expenditures and matching funds upon Project completion or grant expiration, whichever occurs first. GRANTEE must report to the STATE all sources of other funds for the Project. If this provision is deemed to be violated, the STATE will request an audit of GRANTEE and can delay the disbursement of funds until the matter is resolved.

   b. GRANTEE shall promptly submit written Project reports as the STATE may request throughout the term of this Agreement.

   c. GRANTEE shall submit a final accomplishment report, final invoice with associated supporting documentation, and copies of materials developed using GRANT FUNDS, including but not limited to plans, educational materials, etc. within 30 days of Project completion.

7. Financial Records

   a. GRANTEE shall retain all records described in Section 7(c) below for three (3) years after final payment by the STATE. In the case an audit occurs, all such records shall be retained for one (1) year from the date is audit is completed or the three (3) years, whichever date is later.

   b. GRANTEE shall maintain satisfactory financial accounts, documents, and records for the Project and make them available to the STATE for review during reasonable times. This includes the right to inspect and make copies of any books, records, or reports of GRANTEE pertaining to this Agreement or matters related thereto.

   c. GRANTEE shall keep such records as the STATE shall prescribe, including, but not limited to, records which fully disclose (a) the disposition of the proceeds of state funding assistance, (b) the total cost of the Project in connection with such assistance that is given or used, (c) the amount and nature of that portion of the Project cost supplied by other sources, and (d) any other such records as will facilitate an effective audit. All records shall be made available to the STATE, other State of California agency, or other entity as determined by the State of California for auditing purposes at reasonable times.

   d. GRANTEE shall use any generally accepted accounting system.

8. Research

a. GRANTEE that receives funding, in whole or in part, in the form of a research grant shall provide for free public access to any publication of a peer-reviewed manuscript describing STATE funded knowledge, STATE funded invention, or STATE funded technology shall be subject to the following conditions:

i. GRANTEE is responsible for ensuring that any publishing or copyright agreements concerning peer-reviewed manuscripts fully comply with this section
ii. GRANTEE shall report to STATE the final disposition of the peer-reviewed manuscript, including, but not limited to, if it was published, date of publication, where it was published, and, when the 12-month time period from official date of publication expires, where the peer-reviewed manuscript will be available for open access.

b. For a peer-reviewed manuscript that is accepted for publication pursuant to the terms and conditions of this Agreement, the GRANTEE shall ensure that an electronic version of the peer-reviewed manuscript is available to STATE and on an appropriate publicly accessible repository approved by the state agency, including, but not limited to, the University of California's eScholarship Repository at the California Digital Library, the California State University's ScholarWorks at the Systemwide Digital Library, or PubMed Central, to be made publicly available not later than 12 months after the official date of publication. GRANTEE shall make reasonable efforts to comply with this requirement by ensuring that the peer-reviewed manuscript is accessible on an approved publicly accessible repository, including notifying the state agency that the manuscript is available on a state-agency-approved repository. If the grantee is unable to ensure that his or her manuscript is accessible on an approved, publicly accessible repository, the grantee may comply by providing the manuscript to the state agency not later than 12 months after the official date of publication.

c. For publications other than those described in (b), including scientific meeting abstracts, GRANTEE shall comply by providing the manuscript to the STATE not later than 12 months after the official date of publication.

d. The grant shall not be construed to authorize use of a peer-reviewed manuscript that would constitute an infringement of copyright under the federal copyright law described in Section 101 of Title 17 of the United States Code and following.

e. Use of GRANT FUNDS for publication costs, including fees charged by a publisher for color and page charges, or fees for digital distribution are allowable costs but must be within the GRANT FUNDS and item 4 of the agreement.

f. GRANTEE may request a waiver to the publication requirement if GRANTEE has an existing publication requirement that meets or exceeds the requirements of the research provision. Waiver shall include information on GRANTEE's existing requirements. Approval of the waiver is at STATE's discretion.

8. Project Termination

a. This Agreement may be terminated by the STATE or GRANTEE upon 30-days written notice to the other party.

b. If either party terminates the Agreement prior to the completion of the Project, GRANTEE shall take all reasonable measures to prevent further costs to the STATE under the Agreement and the STATE shall be responsible for any reasonable and non-cancelable obligations incurred by GRANTEE in the performance of this Agreement prior to the date of the notice to terminate, but only up to the undisbursed balance of funding authorized in this Agreement.

c. Failure by GRANTEE to comply with the terms of this Agreement may be cause for suspension of all obligations of the STATE hereunder at the discretion of the STATE.

d. Failure of GRANTEE to comply with the terms of this Agreement shall not be cause for the suspension of all obligations of the STATE hereunder if in the judgment of the STATE such failure was due to no fault of GRANTEE. At the discretion of the STATE, any amount required to settle at minimum cost any irrevocable obligations properly incurred shall be eligible for reimbursement under this Agreement.

e. Final payment to GRANTEE may not be made until the STATE determines the Project conforms substantially to this Agreement.

9. Hold Harmless

a. GRANTEE shall defend, indemnify and hold the STATE, its officers, employees, and agents harmless from and against any and all liability, loss, expense (including reasonable attorney's fees), or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorney's fees, or claims for injury or damages are caused by or result from the negligent

or intentional acts or omissions of GRANTEE, its officers, agents, or employees. The duty of GRANTEE to indemnify and hold harmless includes the duty to defend as set forth in Civil Code Section 2778. This Agreement supersedes GRANTEE's right as a public entity to indemnity (see Government Code Section 895.2) and contribution (see Government Code Section 895.6) as set forth in Government Code Section 895.4.

b. GRANTEE waives any and all rights to any type of express or implied indemnity or right of contribution from the STATE, its officers, agents, or employees for any liability resulting from, growing out of, or in any way connected with or incident to this Agreement.

c. Nothing in this Agreement is intended to create in the public or in any member of it rights as a third-party beneficiary under this Agreement.

10. Tort Claims

FEDERAL:

The United States shall be liable, to the extent allowed by the Federal Tort Claims Act 28 United States Code 2671-2680, for claims of personal injuries or property damage resulting from the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his or her employment, arising out of this Agreement.

STATE:

The State of California shall be liable, to the extent allowed by law and subject to California Government Code, Title 1, Division 3.6, providing for the filing of tort claims against the State of California, for personal injuries or property damage resulting from the negligent or wrongful act or omission of State of California employees while acting within the scope of his or her employment, arising out of this Agreement.

11. Nondiscrimination

The State of California prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, sex, marital status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. GRANTEE shall not discriminate against any person on any of these bases.

12. Incorporation

The grant guidelines and the Project Scope of Work, Project Budget Detail and any subsequent amendments or modifications to the Project Scope of Work and

Project Budget Detail approved in writing by the STATE are hereby incorporated by reference into this Agreement as though set forth in full in this Agreement.

13. Severability

If any provision of this Agreement or the Project Scope of Work thereof is held invalid, that invalidity shall not affect other provisions or applications of this Agreement which can be given effect without the invalid provision or application, and to this end the provisions of this Agreement are severable.

14. Waiver

No term or provision hereof will be considered waived by either party, and no breach excused by either party, unless such waiver or consent is in writing and signed on behalf of the party against whom the waiver is asserted. No consent by either party to, or waiver of, a breach by either party, whether expressed or implied, will constitute consent to, waiver of, or excuse of any other, different, or subsequent breach by either party.

15. Assignment

This Agreement is not assignable by GRANTEE either in whole or in part.

ADDENDUM – CALIFORNIA CLIMATE INVESTMENTS (CCI) GRANT PROJECTS

I. SPECIAL PROVISIONS

1. Grant funds shall be used on projects with the primary goal of reducing greenhouse gases (GHGs) and furthering the purposes of California's Global Warming Solutions Act of 2006, Division 25.5 (commencing with Section 38500) of the Health and Safety Code, and related statutes.

2. Grant funds shall be used on projects limited to specific activities as described in CCI Grants Procedural Guides.

3. Greenhouse gas emissions must be calculated using the CARB Greenhouse Gas Quantification Methodology applicable to the grant program (https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials).

4. Grantee shall report project and benefits information when requested by the State. This may include, but is not limited to, funding expended, acres treated, GHG emissions, trees planted, disadvantaged community benefits, energy/water savings, job creation, and other co-benefits.

5. Grantee shall maintain accurate and detailed records documenting project description, project location, and schedule, CCI dollars allocated, and leveraged funds throughout the duration of the project.

6. Failure of Grantee to meet the agreed upon terms of achieving required GHG reduction may result in project termination and recovery of funds.

II. MONITORING AND REPORTING REQUIREMENTS

All funds expended through CCI are subject to emissions reporting and requirements. Grantee is expected to provide the appropriate materials for completing program quantification methodology. Grantee shall use the current reporting template provided by the STATE. The reporting shall be submitted to the STATE no less frequently than quarterly. In addition, STATE may request additional information in order to meet current CARB reporting requirements. The requirements are available on the CARB CCI Quantification, Benefits and Reporting Materials webpage: https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials.

III. PROGRAM ACKNOWLEDGEMENT/RECOGNITION

1. All projects funded both fully and partially by the GGRF must clearly display, identify and label themselves as being part of the "California Climate Investments" program. The acknowledgement must contain the California Climate Investments and CAL FIRE logos as well as the following statement:

   "Funding for this project provided by the California Department of Forestry and Fire Protection as part of the California Climate Investments Program."

   A draft of the acknowledgement must be approved by the STATE prior to publication. For stationary projects, acknowledgement may include, but is not limited to, a sign on the project site. For other project types, such as vehicles, equipment, and consumer-based incentives, acknowledgement is encouraged by using a decal, sticker or other signage.

   Guidance on California Climate Investments logo usage, signage guidelines, and high-resolution files are contained in a style guide available at: www.caclimateinvestments.ca.gov/logo-graphics-request.

2. In addition, all projects funded both fully and partially by GGRF must contain the following statement in public announcements or press releases on said projects:

   "The Riverside County Forest Health Program, is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing GHG emissions, strengthening the economy, and improving public health and the environment– particularly in disadvantaged communities. The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling, and much more. At least 35 percent of these investments are located within and benefiting residents of disadvantaged communities, low-income communities, and low-income households across California. For more information, visit the California Climate Investments website at: www.caclimateinvestments.ca.gov."

2018/2019 California Department of Forestry and Fire Protection
California Climate Investments - Forest Health Grant Program Project Application

CAL FIRE Project ID (See Step 1 of Application Process in Grant Guidelines) 18-CCI-FH-0049-RRU

Please fill out this application completely, limiting your submission to the space provided if not otherwise stated. Applications that are not fully filled out or forms that are altered will not be scored. Be sure to save a copy for your records. Submit one electronic copy in the fillable PDF format with all supporting materials to CALFIRE.Grants@fire.ca.gov (see Step 2 of Application Process in Grant Guidelines). Please use "Forest Health Project Application" in the E-mail subject line and include the CAL FIRE Project ID. Carbon copy (CC) yourself as your CC will be proof of your submittal. In addition, submit one hard copy with signatures and all required supporting materials to: California Department of Forestry and Fire Protection, Attention: Grants Management Unit/CCI-Forest Health, P.O. Box 944246, Sacramento, CA 94244-2460. Both hard copy and electronic copy must be postmarked ***no later than January 29, 2019 at 3:00 pm****.*

1. Project Information:

Project Title: Riverside County Forest Health Program

County: Riverside

Grant Request $ **Matching $** **Total Project $**

Brief Project Description (limit to box): This Program will address the GSOB problem on private land in the Riverside County portion of the San Bernardino National Forest by surveying and mapping 100% of the oak trees in the project area, treat at least 2,350 living oak trees with pesticide application, remove up to 180 DDD trees that display heavy infestation, and create a sanitized biomass utilization plan. The project also proposes a research component to work with local academia to develop a quantification tool to measure and track the carbon related issues in this unique geographic region.

2. Applicant Information: *The Project Manager listed must be the person with day-to-day responsibility for the project.*

Applying Organization: Riverside County Fire Department

Organization type: County ☒ Check if applicant is a local fire protection entity.

Project Manager Title: Administrative Services Analyst II

First Name: Jeremy Last Name: Murphy

Email: jeremy.murphy@fire.ca.gov Phone Number: (951) 940-6361

Address 1: 210 W. San Jacinto Ave.

Address 2:

City: Perris State: California Zip Code: 92570

3. Grant Period: *Provide the estimated start date and completion date for your project (last possible end date is March 30, 2022). Note that final billing is due 30 days after project completion.*

Project Start Date: ASAP Project Completion Date: 03/30/2022

4. Forest Health Treatment Types and Treatment Acreage: *Check the boxes for each activity type to be undertaken.*

☒ Fuels Reduction	☐ Prescribed Fire	☒ Pest Management	☒ Biomass Utilization
acres: 90	acres:	acres: 4700	acres: 90 tons: 650

☐ Acquisition/Conservation Easement	☐ Reforestation	☒ Research as a component
Note: Requires a Forest Legacy application	acres: trees:	☐ Stand-Alone Research
easement acres: fee title acres:		*Note: See Grant Guidelines, Appendix B*

Describe overlapping treatments	There are no overlapping treatments.

Federal Acres | **SRA Acres** 4,700 | **Other Acres*** | **Total Acres** 4,700

*Describe Other Acres	

5. Scope of Work: *Clearly articulate the scope of the specific tasks, the proposed timeline for completion of each task, and expected project deliverables. If more space is needed, you may attach an additional three pages in no smaller than 11 point font. Note: Forest Legacy Applicants need not respond.*

Complete narrative for this section is in the accompanying document entitled "Narrative for Scope of Work and Budget" (the file attached to the e-mail entitled "B. 18-CCI-FH-0049-RRU-Narrative-SOW-Budget.docx").

6. Budget: *Attach a detailed budget for the project using the MS Excel spreadsheet provided on the* **Forest Health Grants website**. *Include any anticipated income from the sale of forest products. Justify the budget in the box below. If more space is needed, you may attach an additional page in no smaller than 11 point font. Note: Forest Legacy Applicants need not respond.*

Complete narrative for this section is in the accompanying document entitled "Narrative for Scope of Work and Budget" (the file attached to the e-mail entitled "B. 18-CCI-FH-0049-RRU-Narrative-SOW-Budget.docx").

Matching Sources (optional): *List other funding sources or grants that will serve as matching funds for this project. Include any active California Climate Investments projects of any kind. Listed sources must be funded at time of application submission.*

Project or Program Name	Source	Amount
Administrative and grant management of this project	Riverside County Fire Department	$162,240.00
Research Component of this project	University of California, Riverside	$6,000.00

7. Greenhouse Gas Reduction: *Provide a description of how the project will provide significant greenhouse gas reductions and specify if there are existing environmental credit projects on the acres that will be treated. The description must be supported by calculations. Attach your GHG reduction calculations following the 2018/2019 Quantification Methodology at:* **https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials.**

According to the grants Quantification Methodology, the Program will have a GHG Benefit from Pest management activity of treating 2,350 oak trees will have an approximately 82,000 MT CO2e benefit. The calculator tool also indicates that removing 180 DDD oak trees will have a GHG Benefit of 9,131 MT CO2e. The net effect totals a GHG Benefit of 91,236 MT CO2e for Net GHG Benefit Per CCI-Forest Health Funds Requested (MTCO2e/$) of 0.12.

Pests and pathogens have adversely impact oak tree growth and mortality within the project area, reducing annual (baseline) rates of carbon sequestration. This creates a business as usual model with declining rates of carbon sequestration, a reduction in absolute amount of carbon held within the project in the future, and the opportunity for catastrophic release of CO2 into the atmosphere during wildfire. Given the rates of climate change and problems set in motion by past management actions, it is unrealistic to propose that this trend can be reversed in the short term, so our project is designed to stabilize and slow this loss. An aggressive plan with an integrated pest/pathogen combined with the removal of DDD trees has proven effect in stabilizing tree morbidity and mortality, particularly along the interface between forests and human communities. Furthermore, improvements in tree growth rates and survivorship provide quantifiable measures of the carbon-sequestration value of these activities. We plan to calculate BAU and carbon credit using a combination of new and existing (FAU) plots (mortality rates) with additional measurements of improvement in tree basal area (morbidity) using tree cross-sections and diameter change during the project.

This project will provide significant GHG reductions through Pest Management and Biomass Utilization. The project area in the Forest is over 35,000 acres in land area and has an estimated 2,000 oak trees (tree mortality estimated rate of 15%). The greatest impact to GHG will come through Pest Management activities that include thinning the Forest of dead and significantly unhealthy trees and treating living trees that are affected by invasive insects that are causing the tree mortality. The Biomass Utilization component will enhance forest ecosystems by converting harvested trees into wood products with continued carbon-storage benefits. This two-fold effort will enhance the overall forest health to allow the trees to reduce atmospheric carbon dioxide by sequestering and carbon more efficiently and effectively and will minimize the loss for forest from large wildfires. Promoting a healthier forest in this area will increase the carbon sequestration capacity of the trees and will encourage stewardship of private forest lands, reduce unnecessary deforestation in the area, reduce the population of invasive insects, and increase the use of sustainable forest management.

Net GHG Benefit Per CCI-Forest Health Funds Requested (MTCO2e/$) -0.12

8a. Project Area/Impact Boundary: *Indicate the larger landscape area affected by the treatment acreage of the project. Include the Township, Range, Section(s), Base Meridian and County(s). Address how the project is consistent with local fire plan or other state plans (see page 8, Item 8 of Grant Guidelines). Note: Forest Legacy Applicants need not respond.*

The project area will encompass the portion of the San Bernardino National Forest mountain range that is in County of Riverside. This This area includes unincorporated areas of Beaumont, Banning and the mountainous communities of Cherry Valley, Poppet Flats, Idyllwild, Mountain Center. The specific Township, Range, etc. are: T3S R1E- Sections 25,35,36; T4S R1E- Sections 2,10,15; T4S R2E- Sections 7,8,21,35,36; T5S R2E- Sections 1,2,11,12,13,23,25,35,36; T4S R3E- Sections 14,15,16,17,18,19,20,21,22,23,26,27,28,29,30,31; T5S R3E- Sections 5,6,7,8,17,18,21,23,26,27,28,34,35; T6S R3E- Sections 4,7,8,9,10,36; T6S R4E- Sections 15,17,20,31,32; T7S R4E- Sections 5,6,7,8,9,17,19,20,21,28,29,30.

Note: In addition to the legal description(s) provided above, applicants must provide GIS shape files of locations where each treatment type will occur.

8b. Priority Landscapes: *Describe how the project will benefit priority landscapes as specified on Page 7, Item 5 of the Grant Guidelines. Note: Forest Legacy Applicants need not respond.*

The Program will reduce risk to forest assets and mapped high priority areas by reducing wildfire risks to the local ecosystem and communities, mitigating pest damage, and removing DDD that pose the great risk during wildfires. The Forest area has had a Zone of Infestation Designation for the GSOB since 2014 and the governor's proclamation remains active. The Forest will receive significant benefits from this Pest Management project as the elevated levels of tree mortality and wildfire threats result in great carbon storage potential as well as opportunity for biomass use within the project area and will increase carbon sequestration and storage potential. The Forest area currently estimates the number of infested oak trees in the thousands and has an active wildfire history.

The three most recent wildfires amid this proposed project area occurred in from 2013 through 2018 and displayed explosive fire behavior enormous releases of carbon due to recent drought and DDD trees, with crowning fires in DDD trees being a significant risk factor for firefighters and the community. The most recent wildfire in the area was the Cranston in July 2018, which charred 13,139 acres and destroyed 12 structures in 16 days of active fire behavior with an estimated cost over $22 million. In 2013, the Mountain Fire burned over 47,000 acres combined and destroyed 71 structures and had intense fire activity due to the number of DDD trees in the area. The forest fire burned for 16 days, charred 27,531 acres, destroyed 23 buildings, caused the evacuation of nearly 6,000 residents, and cost over $25 million to extinguish. The Silver Fire burned over 20,000 acres in five days, destroyed 48 structures, caused the evacuation of nearly 2,000 residents, and cost nearly $10 million to extinguish.

9. Co-Benefits: *Quantify and/or describe the co-benefits of the project and how they will be maintained over time. See Page 7 of the Grant Guidelines for examples of co-benefits. Note: Forest Legacy Applicants need not respond.*

The primary co-benefits of the Program include benefits to public health, air quality, water quality, fish and wildlife habitats, native plants and other environmental co-benefits. This project will directly impact live oak trees which create natural habitats for many species of birds, mammals, and beneficial insects. Reducing the risks of explosive wildfires will not only reduce carbon emissions but will also reduce the human health hazard caused by the unhealthy air quality caused by weeks of burning of forest and man-made fuels and will positively impact local watersheds and natural plant species as well.

10. Disadvantaged and/or Low Income Community Benefit: Use the Land Restoration and Forest Health Table provided by CARB: **https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/ccidoc/criteriatable/criteria-table-lrfh.pdf**, to determine if the project is providing benefits to "priority populations." Explain how the project fulfills Steps 1-3 of CARB's evaluation approach.

Per the mapping product provided in the grant applications instructions, tracts 6065044404, 6065043813. 6065044606, 6065044403, 606

11. Community Support: *Describe community support for the project. Include what outreach has been done to date or is planned and when. Was the community involved in planning, funding and implementation of the project? How will they be involved in project implementation?*

The project has been endorsed by partners with USFS, the Mountain Communities Fire Safe Council, as well as cities that are adjacent to the Program's project area and the University of California, Riverside all of which have expressed their willingness to contribute to the Program as needed (letters of support can be provided upon request). Additionally, local property owners have expressed their need and desire to save their oak trees and remove DDD trees that pose high hazards to their homes and have reached out to the RCFD for assistance that we are currently unable to provide due to budgetary constraints. Furthermore, the Program has the support of the Third District Board of Supervisor Chuck Washington, the Riverside County Executive Office, as well as all county departments which may be needed to contribute to the Program.

12. Administrative Capacity and Past Forest Management History: *Describe how your organization and/or partner organizations have the capacity to carry out a project of this magnitude and complexity including the administrative ability necessary for invoicing and reporting. Provide examples of similar work done in the past.*

The RCFD is an integrated, cooperative, regional fire protection system comprised of County, State, and city partners. RCFD will utilize government procurement methods to obtain the most responsive vendors to conduct most of the grant activities including licensed timber operators, certified arborists, and research experts. Furthermore, we have a strong relationship with the Mountain Communities Fire Safe Council who will act as a liaison of the project and will work with area property owners and contractors to complete grant activities. Though the County of Riverside does not have the ability to fund this project without this grant award, the RCFD has the capacity to budget and pay contractors for related project work in advance and receive grant reimbursements later.

Examples of how this type of project will work is the RCFD received State Fire Assistance funding from the federal government from 2004 until 2016 to conduct fuels reduction activity in forested areas of Riverside County. This project worked very successfully as we partnered with the Mountain Communities Fire Safe Council in a similar capacity as this project proposal, and it proved to be an effective and efficient process to complete project work. Other related grant projects we have had include:

2003 - Award Amount: $634,759 FEMA - Grant No. FIPS # 065-0000: HMGP
2004 - Award Amount: $200,000 EAP - Grant No. 03-DG11051200-024
2004 - Award Amount: $4,975,0000 SFA - Grant No. 04-DG11051200-029
2004 - Award Amount: $2,000,000 EWP - Grant No. 69-91044-236
2008 - Award Amount: $2,500,000 SFA - Grant No. 8-DG11051200-030
2009 - Award Amount: $650,000 ARRA - Grant No. 09-DG11059702-011
2015 – Award Amount: $296,000 SRA – Grant No. 5GS14153

All grant awards were successfully completed except for the 2008 award of $2,500,000 which is currently active (approximately $500,000 remaining) and will be completed during the coming year. These overlapping grant funds, more than $10.3 million dollars utilized to date, have been used to remove more than 18,733 trees, treat more than 6176 acres, and assist owner's of 2564 parcels on private and non-federal land in the Riverside County mountain communities through hazardous fuel abatement projects. Large Parcel projects were a major part of each grant budget except for the ARRA grant. Additionally, through the Forest Health Enhancement Program grants and the Hazardous Fuels Treatment grants, 46 projects were completed including 182 acres of mastication, 465 acres of tree planting, and 545 acres of fuel reduction/forest health improvement projects.

13. Environmental Compliance: *Check the box that indicates the status of the environmental compliance (CEQA, NEPA, ESA, etc.) for the project. Provide a brief description to justify the box checked. Attach electronic copies of environmental analysis documents as needed. In addition, provide this information for each Treatment Area on Worksheet #2 (Program Info) of Project Budget. Note: Forest Legacy Applicants need not respond.*

☐ Environmental compliance is complete. ☒ Environmental compliance will be completed within 1 yr. of grant agreement execution.

☐ Environmental compliance has not yet been started.

There are two CEQA documents for compliance on 75% of the area identified. Fully encompassing compliance documents will be written for the 25% not yet completed prior to the project work beginning.

14. Cooperator information: *List project cooperating organizations with contact name. Only list those organizations that have agreed to partner at this time. Attach signed letters of participation from each organization detailing their role in project.*

RCFD will administer and manage the grant Program. If this program is awarded, the RCFD will contract to complete the survey and mapping component as well as manage other grant contractors. RCFD plans to reach out to the local Fire Safe Council to assist with working with local property owners for participation sign-up and to assist county staff with contract inspection and administration; the University of California, Riverside has agreed to conduct research to assess and quantify how grant activities influence the effect that forest health has on carbon storage and greenhouse gases; and, Riverside County Waste Resources will convert woody biomass into usable wood products. All have verbally expressed agreed to partner on this grant application.

15. Permanence: *Describe how the project will achieve the future long-term forest management goals specific to practicing uneven-age forest management, and how the project will expand the variety of tree age classes and species persisting for a period of at least 50 years. Note: Forest Legacy Applicants need not respond.*

Given the rates of climate change and problems set in motion by past management actions, it is unrealistic to propose that our project reverse the loss of carbon from the Forests in the in the short term. Our specific goal is improving conditions on private lands that are unlikely to receive any other form of forest management. In these situations, short term or even single management actions can improve the long-term trajectory of tree health and mortality. Thinning and removal of the worst infested and DDD trees can stabilize and increase the average annual growth rates for extended periods of time, and treatment of individual trees for pest management strategies can stabilize forest stands until insect outbreaks abate. In the case of exotic pests/pathogens, this short-term stability is the difference between the persistence or loss of black oak woodlands.

16. Long Term Forest Management: *Check the appropriate boxes for the project. Describe how the project will provide multiple benefits such as: carbon sequestration, forest resilience, and improved ecological outcomes that restore watershed health and function and support biodiversity and wildlife adaptation to climate change. You may attach an additional 1 page in no smaller than 11 point font.*

☒ The project will practice uneven-aged management with diverse ages, sizes, and species.

☐ The project will be done under an approved timber harvest plan, non-industrial timber mgmt. plan, or a working forest mgmt. plan. List below.

Given the rates of climate change and problems set in motion by past management actions, it is unrealistic to propose that our project reverse the loss of carbon from the Forests in the in the short term. Our specific goal is improving conditions on private lands that are unlikely to receive any other form of forest management. In these situations, short term or even single management actions can improve the long-term trajectory of tree health and mortality. Thinning and removal of the worst infested and DDD trees can stabilize and increase the average annual growth rates for extended periods of time, and treatment of individual trees for pest management strategies can stabilize forest stands until insect outbreaks abate. In the case of exotic pests/pathogens, this short-term stability is the difference between the persistence or loss of black oak woodlands.

17. Checklist of Necessary Attachments: *Some may not be applicable to your project.*

- ☒ Map(s) & GIS Shape Files of Project Area/Impact Boundary
- ☒ Forest Health Project Budget (in provided Excel format)
- ☒ GHG calculator tool, data and documentation following prescribed methodology
- ☐ Signed letters of participation from listed cooperators
- ☒ Governing body resolution (Grant Guidelines Appendix F)
- ☒ Articles of Incorporation (non-profits)
- ☒ State of California Non-Discrimination Compliance (Std. 19)
- ☒ State of California Drug-Free Workplace Certification (Std. 21)
- ☒ State of California Payee Data Record (Std. 204)
- ☐ Environmental compliance documents (NEPA/CEQA, etc.)
- ☒ Forest Legacy Application -- acquisitions & easements only
- ☒ Research Grants - additional information (Appendix B)

18. Authorized Signature: The Applicant's Representative as listed in the governing body resolution must sign below. The signature certifies that all of the information provided in this application and all attached required forms and documents is accurate and correct. The signer additionally acknowledges that they have read and understand the CCI-Forest Health Program Grant Guidelines.

Signature	[signature]	**Date**	1/29/19
Printed Name	Diane Sinclair	Title	Deputy Director of Administration
Email	Diane.Sinclair@fire.ca.gov	Phone Number	(951) 940-6900
Address 1	210 W. San Jacinto Ave.		
Address 2			
City	Perris,	State	California
Zip Code	92570		

CAL FIRE CCI Forest Health Grant Program

Riverside County Fire Department
2018/2019 California Department of Forestry and Fire Protection
California Climate Investments - Forest Health Grant Program Project Application
Riverside County Forest Health Program - # 18-CCI-FH-0049-RRU

Narrative for Scope of Work and Budget

5. Scope of Work (3 pages max):

Problem Statement: During the 1990's the Goldspotted Oak Borer (GSOB) was imported into San Diego County and has been migrating north. Since that time, it has spread north by natural dispersal, and more importantly by human transport, to infest 270,000 acres of oak woodlands within 60 miles of this proposed project area with an estimated 3,300 oak trees on private lands (and an additional 2,900 on federal land). The pest was discovered in Riverside County in 2014 which has become the northeastern boundary of the outbreak and infestation area. Removing dead, dying, and diseased (DDD) trees as the primary eradication method has not proven sufficient to slow the outbreak primarily because there have been too many points of introduction that went undetected during a two to three-year period. A new strategy is needed to prophylactically monitor and manage the outbreak on the northeastern boundary of the infestation area by treating healthy oak trees as well as removing DDD trees. This project will address the primary area known as the Idyllwild Infestation Area and a secondary northern boundary recently discovered in the San Bernardino Mountains near the of Riverside and San Bernardino county line. The goals of the new strategy and this project are to slow the outbreak and natural spread of the GSOB on the San Jacinto Mountain portion and to keep infested wood from moving out of the Idyllwild area and into adjacent communities (such as Poppet Flats, Cherry Valley, Beaumont/Banning, and to adjacent counties). The RCFD will partner with the US Forest Service (USFS) and with our counterparts in San Bernardino County. This project will address this problem by surveying and mapping 100% of the oak trees in the project area, treat over 2,000 healthy to moderately stressed oak trees with pesticide application, and remove up to 180 DDD trees that display heavy infestation. The project also proposes a research component to work with local academia to develop a quantification tool to measure and track the carbon related issues in this unique geographic region.

Grant Funded Activities: The goals of the Riverside County Fire Department (RCFD) are to use the Riverside County Forest Health Program (the Program) to strengthen forest health and resiliency, reduce fire hazard, and increase carbon storage and sequestration in trees in the forested areas of the Riverside County portion of the San Bernardino National Forest (the Forest). The objectives of the Program will focus on pest management, forest fuels reduction, and research. Program activities will determine the infestation level of the Goldspotted Oak Borer (GSOB) in the project area, provide pest management treatments for living oak trees, and remove dead, dying, and diseased (DDD) oak trees that pose the greatest risk of burning during a wildfire. Specifically, the Program will survey and map the tree health of 100% of the areas oak trees to determine the appropriate treatment prescription for each individual tree. Once the treatment plan has been developed, the RCFD will contract with a qualified/certified pesticide applicator to spray up to 2,350 trees with an approved pesticide (treat 750

trees in year one, 1,000 trees in year 2, and 1,500 trees in year 3) and remove up to 180 DDD trees that pose the highest fire hazard. A secondary scope of this project is Biomass Utilization to convert the harvested timber into usable wood products to further aid in carbon storage and sequestration efforts. The companies contracted for this project will be required to submit a proposal for their plan for this and will be required to use accepted practices to ensure the wood products are sanitarily handled to ensure further spread of the pest does not occur.

Research Component: The third component of the project will also create a research and analysis tool to quantify the carbon related issues in this unique geographic location of Southern California to improve scientific understanding of the issues related to carbon emission and sequestration of healthy and DDD trees. The research component of the Program will be led by the University of California, Riverside (UCR) and will collect, analyze, and synthesize data to detail the health and carbon sequestration ability has on healthy and DDD trees due to the invasive insect damage. The focus of the research will be to improve scientific understanding of the impacts of increased pace and scale of fuel reduction and forest health treatments and issues. The survey data that will be collected in the initial phase of the project will be analyzed by UCR researchers to create a research and analysis tool that can be used to monitor the carbon storage, release, and sequestration efforts of the forested land area. A complete survey of the oak tree population and a sample survey of the pine tree population will be conducted to evaluate tree health. Survey data will be mapped for the oak trees to develop a robust mapping product to detail the overall health status of the individual trees in the forest. The second component of the research will on the affect that the invasive insect damage has on trees carbon and GHG storage and sequestration potential, particularly in the microclimate of this unique forest in urbanized Southern California.

Match Funding: The RCFD will provide in-kind support through grant management and administrative functions. The grant will require multiple positions to provide services such as project and contract management, accounting, IT/communications, and purchasing. The RCFD Public Information Officer (PIO) will provide press releases to the public as appropriate and needed to ensure all affected communities are informed of the project goals, objectives, and progress. The RCFD PIO will also attend community meetings and provide information through the departments website, social media accounts, and the local media to ensure information effectively and appropriately flows to citizens of the communities.

Narrative for Scope of Work and Budget

6. Budget (1 page max):

Grant Funded Activities: The Program will utilize a Registered Professional Forester (RPF) will lead the Program as the Project Manager and subject matter expert. The RPF will survey 100% of oak tree population for health and infestation status, create a treatment prescription for pest management or forest fuel reduction for each oak tree, prepare compliance documents, and manage project contractors to ensure scope, deliverables, and compliance are met. The project will contract with a Qualified/Certified Pesticide Applicator (PA) to provide pest management services in the form of pesticide spraying treatment to up to 2,000 living trees to prevent or slow GSOB infestation. A Licensed Timber Operator (LTO) will conduct forest fuels reduction operations and DDD tree removal. The GIS Mapping contractor will create an oak tree health status mapping product with the survey data compiled by the RPF. And, the research component will be led by UCR to create an analysis and quantification tool for this project as well as can be used in adjacent counties who face similar GSOB infestation issues. Further details and budget calculations are contained in the accompanying budget document.

Match Funding: The administrative services and functions provided by RCFD that will be required by this grant are estimated at one-half of a full-time equivalent (FTE) employee per year dedicated to these functions. We estimate the Program will require one-half FTE to dedicate 3,120 hours over the three-year project at a value of $162,240 through project management and administrative functions. Additionally, the labor, mileage, and outreach costs provided by the PIO will be borne by the RCFD.

CAL FIRE Tracking # (as assigned): 18-CCI-FH-0049-RRU
Project Title: Riverside County Forest Health Program

CAL FIRE Forest Health Program

California Climate Investments

(Please submit both sheets)

Organization : Riverside County Fire Dept.

Worksheet 1: Grant Info

Budget Item	Description	Cost Basis	CAL FIRE Grant Share	Program Income	Grantee Match	Total
A. Salaries and Wages			-	-	*112,320.00*	*112,320.00*
Administrative Functions (50% of one Full Time Equivalent (FTE) Employee)	Estimate one-half FTE for program management, project oversight, and administrative services	Salary Avg. $36/Hour; 1,040 Hours/Year for 3,120 Total Hours			112,320	112,320.00
B. Employee Benefits			-	-	*49,920.00*	*49,920.00*
Administrative Functions (45% Benefits Rate)	The average benefits rate is 45% of employee salary	Benefits Avg. $16/Hour; 1,040 Hours/Year for 3,120 Total Hours			49,920	49,920.00
C. Contractual			*766,500.00*	-	*6,000.00*	*772,500.00*
Registered Professional Forester	Survey 100% of oak tree population for health status and create plan to treat and remove tree. Prepare compliance documents. Manage project to ensure scope, deliverable, and compliance are met.	$110/Hour * 1,050 hours per year; 3 years	346,500.00			346,500.00
Licensed Timber Operator	Conduct timber operations and tree removal	$1,500/Tree Removal * 60 trees per year	270,000.00			270,000.00
Qualified/Certified Applicator for Pesticide Application	Certified for application of pesticide application on identified trees	Avg. $40/Tree * 2,350 Trees	94,000.00			94,000.00
GIS Mapping	Mapping product of survey results and data		50,000.00			50,000.00
Universidy of California, Riverside	Managing project research and analysis and creating quantification tool for region	$2,000 per year for contractual and $2,000 will be matched	6,000.00		6,000	12,000.00
D. Travel			-	-	-	-
						-
E. Supplies			-	-	-	-
						-
F. Equipment			-	-	-	-
						-
G. Other			-	-	-	-
						-
TOTAL DIRECT COSTS			**766,500.00**	**-**	**168,240.00**	**934,740.00**
INDIRECT COSTS	*(12% max for CAL FIRE Grant Share and Program Income, excluding equipment)*					-
TOTAL GRANT PROPOSED COSTS			**766,500.00**	**-**	**168,240.00**	**934,740.00**

CAL FIRE Tracking # (as assigned): 18-CCI-FH-0049-RRU
Project Title: Riverside County Forest Health Program

CAL FIRE Forest Health Program

California Climate Investments

(Please submit both sheets)

Organization : Riverside County Fire Dept.

Worksheet 2: Program Info

Applicant: Riverside County Fire Department

Application ID: 18-CCI-FH-0049-RRU

List only one ownership type and only one treatment type per row. You may need to list a treatment area more than one time.

Add more rows if needed. All treatment areas must be included. ***Not required for Forest Legacy projects.***

Treatment Area	Ownership Type	SRA / FRA / LRA	#of Acres	Treatment type	NEPA complete? (yes / no)	CEQA complete? (yes / no)	Total CCI funds to be spent on treatment
Riverside County portion of San Bernardino National Forest	Private	SRA	4700	Pest Management	No	No	$ 326,155.00
Riverside County portion of San Bernardino National Forest	Private	SRA	360	Forest Fuels Reduction	No	No	$ 384,345.00
	Total		5060	0			710500

Riverside County Fire Department
2018/2019 California Department of Forestry and Fire Protection
California Climate Investments - Forest Health Grant Program Project Application
Riverside County Forest Health Program - # 18-CCI-FH-0049-RRU

Project Maps

General Map:

Approximation of area of infestation of Goldspotted Oak Borer (GSOB) in the Riverside County portion of the San Bernardino National Forest

Supporting Maps and Discussion:

Initial Survey of Black Oaks using false color infrared aerial photoimagery from the 2012 National Agriculture Imagery Program (NAIP).

In 2015 we map the occurrence of individual black oak (*Quercus kelloggii*) in the community of Idyllwild California to facilitate on-the-ground surveys for trees infested

Project Maps

with the goldspotted oak borer (*Agrilus auroguttatus*) from existing imagery. We used false color imagery for the infared band of the 2012 NAIP aerial photo imagery (NAIP) (http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=prog&topic=nai).

Image resolution was 1-m pixcels, but black oak color pattern makes them relatively detectable against the background of conifers, bare ground, and structures. We had apriori knowledge of specific black oak locations, which was used to create a reference set of oak images in the NAIP. These allowed us to learn to distinguish black oaks from other trees in the forest canopy and to discriminate black oak condition: (1) healthy, (2) near death, (3) heavily declining, with limited ability to judge (4) trees in early decline. We mapped about 3200 large black (>3m canopy diameters) in the Idyllwild Valley.

We were able to map 6100 individual black oak in the vicinity of the Idyllwild and Pine Cove, ranging in size from 10 to 680 m^2, with an average of 102$\pm$65(SD) m^2.

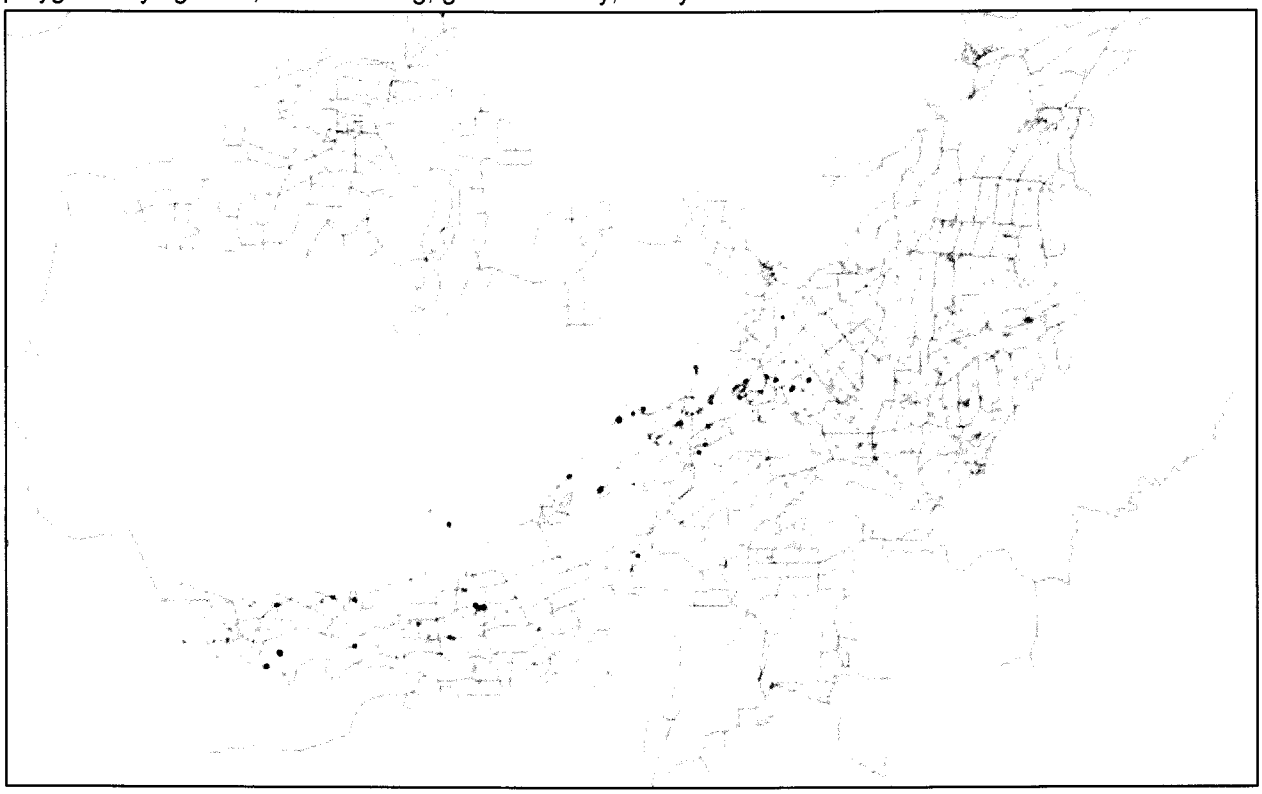
Black oak trees in the lower half of the valley, where the canopy is relatively open, were easier to map than oaks within the denser conifer canopy of the north eastern (upper) section of valley. We ground checked this area for mapping accuracy and found that we had approximately 8% errors of commission (other objects mapped as black oaks) and an equivalent (10%) percentage of error of omission (black oaks missed in mapping). Black canopies tend to be distinct in imagery but clustered trees (c. 5%) could lead to some error in overestimate of smaller diameter oaks (10 to 20 m^2).

About 35 of the 6100 trees we mapped were near death in the summer of 2012, a number commensurate with normal rates of oak decline in uninfested populations. The false color imagery of about 260 (9%) of the black oaks suggests canopy thinning or some kind of stress. Although this color difference could have been due to their normal fall leaf abscission, these trees were strongly different from the other black oaks in the imagery. All other trees appeared to have a high level of photosynthesis and appeared healthy.

There were two general areas of declining trees: (1) the vicinity of black oaks infested with GSOB, and (2) a section of the lower part of the valley at the end of Tollgate Road. We will use this map to assign survey areas to volunteers, and to contact landowners who may have trees at risk.

Project Maps

Figure 1. Initial map of large black oak (quercus kelloggii) tree in the Idyllwild Valley. Black polygons=dying oaks; red=declining, green=healthy, and yellow=unknown intermediate.



By 2017, volunteers and agency personnel had mapped approximately 148 GSOB invested on 335 parcels. Based on initial examination of GSOB damage among annual rings, most of these trees were already infested by GSOB between 2010 and 2015 – suggesting a number of points of introduction across Idyllwild and Pine Cove (Figure 2). Additional observation were limited in 2018, but it appears that GSOB has spread to woodlands to the south and southwest of Idyllwild at the time of the Cranston Wildfire (August 2018). The Cranston Fire, along the previous Mountain Fire (2014) have removed all living oaks within approximately a mile of these new infestation points. The most critical conclusion that can be drawn from these GSOB detections is that the beetle has not extended into the San Jacinto Wilderness Area, or the large populations of black to the north and west of developed lands. While it does not appear possible to completely eradicate GSOB from Idyllwild and the San Jacinto Mountains. However, aggressive efforts to control the initial outbreak by removal of infested oaks, and the

Project Maps

Figure 2. Distribution of Black Oaks (Quercus kelloggii) and the outbreak of Goldspotted oak borer (Agrilus auroguttatus) in the communities of Idyllwild and Pine Cove. Private, County, and State parcels are shown as light redlands polygons, Black oaks are shown as light green polygons, and GOSB-infested oaks are shown as red circles (from large, detected in 2010, to small, infested in 2018)

apparent inability of GSOB to disperse have kept this outbreak limited to developed parcels and adjacent stands of black oaks. This creates an opportunity to

There is funding to remove dead and dying trees from the Idyllwild area, but with GSOB present on over 300 parcels it may be too late to slow or possibly prevent the movement of GSOB into 35,000 acres of oak/conifer woodlands of San Jacinto Mountain. However, Idyllwild has become an ideal local to test the efficiency of barrier sprays in preventing both the emergence of GSOB adults from black oak bark, as well as the prevention of egg laying by females or the subsequent burrowing of larva into the bark. We propose to spray approximately 500 oaks in Idyllwild and Pine Cove in the spring of 2020, approximately 1000 oaks in 2021, and 1500 oaks in 2022 (respraying the first 500 three times, the second 500 twice and the third 500 oaks once). The goal would be to eliminate all the rapidly growing and amplifying population of GSOB, keeping the present level of carbon sequestration in the oaks the San Jacinto Mountains.

California Air Resources Board
Calculator for the
California Department of Forestry & Fire Protection
Forest Health Grant Program
Quantification Methodology
Fiscal Year 2017-2018

VERSION 4 June 5, 2018

Read Me Worksheet

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate greenhouse gas (GHG) emission reductions from California Climate Investment projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

This Forest Health GHG Calculator Tool accompanies the quantification methodology for the fiscal year (FY) 2017-18 GGRF Forest Health Program available at: www.arb.ca.gov/cci-quantification

Applicants must use this GHG Calculator Tool to estimate the net GHG benefit associated with the Forest Health projects. **Refer to the quantification methodology document for background and step-by-step detailed instructions.** To use this calculator, follow these steps:

Step 1 Enter general project information: Enter the project name and the contact information for a person who can answer project specific questions from staff reviewers on the quantification calculations. Enter the date that the project completed the GHG calculations.

Project Name:	**Riverside County Forest Health Program**
Grant ID, if applicable:	**18-CCI-FH-0049-RRU**
Contact Name:	**Jeremy Murphy**
Contact Phone Number:	**951-966-9184**
Contact Email:	**jeremy.murphy@fire.ca.gov**
Date Completed:	**1/24/2019**

Step 2 Identify the project activity(ies): The applicant must select the appropriate project activity(ies) from the list of five eligible forest health activity types listed in the quantification methodology.

Step 3 Determine the inputs needed: The applicant will use the quantification methodology and the tools identified therein to determine the project information that must be input into this GHG calculator tool for the applicable project component(s) selected in Step 2. This GHG calculator contains a conversion worksheet to assist users in determining calculator inputs.

Step 4 Estimate the GHG emission reductions: The applicant will enter the project details identified in Step 3 into this calculator tool to calculate the net GHG benefit of the project.

Step 5 Submit documentation: Save file for submittal. This file will be submitted with other documentation requirements. See Section C of the quantification methodology for additional documentation requirements.

This Forest Health GHG Calculator Tool allows users to estimate the net GHG benefit from a variety of specific forest health activities. Each eligible project activity identified in Table 1 of the quantification methodology has a worksheet within the calculator. Landscape level projects may include multiple activities of the same or differing types. This GHG calculator tool allows for multiple entries within each workbook. Applicants must input project specific data into the worksheets that apply to the proposed project. Yellow fields indicate a direct user input is required, green fields indicate a selection from a drop-down box is required, and gray fields indicate output or calculation fields that are automatically populated based on user entries and the calculation methods. After the user inputs are entered for each proposed project activity the GHG summary worksheet displays the estimated GHG benefit from each activity type, the estimated net GHG benefit of the project, as well as the estimated net GHG benefit per GGRF dollar requested.

For more information on CARB's efforts to support implementation of Greenhouse Gas Reduction Fund investments, see: https://www.arb.ca.gov/auctionproceeds.
Questions on this document should be sent to: GGRFProgram@arb.ca.gov
Questions on the Forest Health Program should be sent to: calfire.grants@fire.ca.gov

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Definitions Worksheet

Reforestation	Carbon within the treatment boundary at the end of the project with reforestation (MT C)	Enter the carbon stored in existing and planted standing live and dead trees within the treatment boundary at the end of the project in reforestation project scenario (from COLE or FVS). If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project without reforestation (MT C)	Enter the carbon stored in existing standing live and dead trees within the treatment boundary at the end of the project in reforestation baseline scenario (from Table 10 in quantification methodology or FVS). If cell is not applicable, leave blank.
	Quantity of trees to be planted in reforestation activity (number of trees)	Enter the number of trees to be planted as part of the reforestation project activity. If cell is not applicable, leave blank.
	Area subject to reforestation (acres)	Enter the number of acres within the treatment boundary to be planted with trees as part of the reforestation activity. If cell is not applicable, leave blank.
	Area subject to site preparation (acres)	Enter the acres within the treatment boundary subject to site preparation. If cell is not applicable, leave blank.
	Level of brush cover (select from options)	If site preparation is planned, select from the drop down menu the level of brush cover (light: 0-25% brush cover, medium: >25%-50% dense brush cover, or heavy: >50% brush cover and/or stump removal) that best describes land cover of area subject to site preparation prior to project implementation (used to account for mobile source combustion emissions). If cell is not applicable, leave blank.
	Land cover type (select from options)	If site preparation is planned, select from the drop down menu the land cover type (grass, light to medium shrubs, or heavy shrubs) that best describes land cover prior to project implementation. If cell is not applicable, leave blank.
Pest Management	Area within the pest management treatment boundary (acres)	Enter the number of acres within the treatment boundary of the pest management activity. If cell is not applicable, leave blank.
	Area within the pest management impact boundary (acres)	Enter the number of acres within the impact boundary of the pest management activity. If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project without disturbance or pest management treatment (MT C)	Enter the carbon stored in standing live trees within the treatment boundary at the end of the project assuming no pest management treatment and no threat from pests or disease (from COLE or FVS). If cell is not applicable, leave blank.
	Carbon within the impact boundary at the end of the project without disturbance or pest management treatment (MT C)	Enter the carbon stored in standing live trees within the impact boundary at the end of the project assuming no pest management treatment and no threat from pests or disease (from COLE or FVS). If cell is not applicable, leave blank.
	Percentage of treatment and impact boundaries at risk with pest management treatment (%)	Enter the percentage of treed area or basal area within the treatment and impact boundaries that remains at risk from pests and disease within a 10-year time frame with pest management treatment. Applicants may provide site- and treatment-specific estimates sourced from published, peer-reviewed literature directly applicable to the project site or from a Registered Professional Forester familiar with the threat facing the project site and proposed treatments. At a minimum, projects must consider the following when determining the baseline and project mortality rates within the project site: the local extent and scale of the epidemic, the type of treatment to be implemented, the species threatened by the pest or disease, the species composition and density within the project site, whether the pest is native or exotic, and the climate of the project site. If cell is not applicable, leave blank.
	Percentage of treatment and impact boundaries at risk without pest management treatment (%)	Enter the percentage of treed area or basal area within the treatment and impact boundaries at risk from pests and disease within a 10-year time frame without pest management treatment. Applicants may provide 1) site-specific estimates sourced from the USFS National Insect and Disease Risk Map (NIDRM), 2) site-specific estimates sourced from published, peer-reviewed literature directly applicable to the project site, or 3) site-specific estimates from a Registered Professional Forester familiar with the threat facing the project site. At a minimum, projects must consider the following when determining the baseline and project mortality rates within the project site: the local extent and scale of the epidemic, the type of treatment to be implemented, the species threatened by the pest or disease, the species composition and density within the project site, whether the pest is native or exotic, and the climate of the project site. If cell is not applicable, leave blank.
	Carbon removed as part of pest management treatment (MT C)	Enter the amount of standing live tree carbon to be removed from within the treatment boundary as part of pest management treatment. Applicants estimate the quantity of standing live tree carbon to be removed by analyzing current stand conditions and proposed treatments to be implemented. If cell is not applicable, leave blank.
	Biomass removed via mechanical treatments (BDT)	Enter the amount of biomass to be removed from within the treatment boundary via mechanical treatments (used to account for mobile source combustion emissions). For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
Fuels Reduction	Area within the treatment boundary (acres)	Enter the number of acres within the treatment boundary of the fuels reduction activity. If cell is not applicable, leave blank.
	Annual probability of fire occurrence (%)	Enter the annual probability that area within the treatment and impact boundaries will be subject to wildfire disturbance (mean probability from the FRAP Fire Probability for Carbon Accounting map tool; see Step 3.C in Forest Health Program Quantification Methodolog for further information). If cell is not applicable, leave blank.
	Effective period for fuels reduction treatment (Years)	Enter the length of time fuel reduction treatment is expected to be effective at modifying fire behavior (maximum of 25 years). Applicants can determine the effective period based on modeled or observed change in fire behavior as a result of the treatment and/or the professional judgement of the Registered Professional Forester or Certified Silviculturist designing the treatment. If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project with fuels reduction treatment but without fire disturbance (MT C)	Enter the carbon stored in standing live trees within the treatment boundary at the end of the project assuming no disturbance from wildfire and fuels reduction treatment was implemented (from FVS). If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project with fuels reduction treatment and with fire disturbance (MT C)	Enter the carbon stored in standing live trees within the treatment boundary at the end of the project assuming a disturbance from wildfire and fuels reduction treatment was implemented (from FVS and FEE-FVS). Inclusion of carbon stock estimates within impact boundary is optional. If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project without fuels reduction treatment and without fire disturbance (MT C)	Enter the carbon stored in standing live trees within the treatment boundary at the end of the project assuming no disturbance from wildfire and no fuels reduction treatment (from FVS). If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project without fuels reduction treatment but with fire disturbance (MT C)	Enter the carbon stored in standing live trees within the treatment boundary at the end of the project assuming a disturbance from wildfire and no fuels reduction treatment (from FVS and FFE-FVS). If cell is not applicable, leave blank.
	Biomass removed via mechanical treatments (BDT)	Enter the amount of biomass removed from within the treatment boundary via mechanical treatment (used to account for mobile source combustion emissions). Applicants estimate the quantity of biomass to be removed via mechanical treatment by analyzing current stand conditions and proposed treatments to be implemented. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	For applicants who choose to include the impact boundary for fuels reduction activities	
	Area within the impact boundary (acres)	Enter the number of acres within the impact boundary of the fuels reduction activity. If cell is not applicable, leave blank.
	Carbon within the impact boundary at the end of the project without fire disturbance (optional) (MT C)	Enter the carbon stored in standing live trees within the impact boundary at the end of the project assuming no disturbance from wildfire (from FVS). Inclusion of carbon stock estimates within impact boundary is optional. If cell is not applicable, leave blank.
	Carbon within the impact boundary at the end of the project without fuels reduction treatment but with fire disturbance (optional) (MT C)	Enter the carbon stored in standing live trees within the impact boundary at the end of the project assuming a disturbance from wildfire and no fuels reduction treatment (from FVS and FlamMap). Inclusion of carbon stock estimates within impact boundary is optional. If cell is not applicable, leave blank.
	Proportion of impact boundary likely to burn at high severity without fuels reduction treatment (optional) (%)	Enter the proportion of area within the impact boundary (%) with >50% probability of experiencing high flame lengths (>8 ft), based on Monte Carlo simulations of wildfire across the landscape without fuels reduction treatment (from FlamMap). Inclusion of carbon stock estimates within impact boundary is optional. If cell is not applicable, leave blank.
	Proportion of impact boundary likely to burn at high severity with fuels reduction treatment (optional) (%)	Enter the proportion of area within the impact boundary (%) with >50% probability of experiencing high flame lengths (>8 ft), based on Monte Carlo simulations of wildfire across the landscape with fuels reduction treatment (from FlamMap). Inclusion of carbon stock estimates within impact boundary is optional. If cell is not applicable, leave blank.

Forest Conservation: Avoided Conversion Easement	Area of the treatment boundary (acres)	Enter the acres within the easement. If cell is not applicable, leave blank.
	Area of the treatment boundary at risk of conversion (acres)	Enter the acres within the easement that are at risk of conversion to non-forest use. If cell is not applicable, leave blank.
	Carbon within the treatment boundary at the end of the project with the conservation easement (MT C)	Enter the carbon stored in standing live and dead trees within the treatment boundary at the end of the project with the conservation easement (from COLE or FVS). If cell is not applicable, leave blank.
	Type of conversion threat	Select from the drop down menu the type of conversion threat facing the land. If cell is not applicable, leave blank.
	If conversion threat type is residential, number of unique parcels that would be formed in the at-risk area (parcels)	If conversion threat type is residential, enter the number of parcels, or home lots, that the land would be divided into within the area at-risk of conversion. If cell is not applicable, leave blank.
	Biomass that would be removed from within the conservation treatment boundary and utilized without the conservation easement (BDT)	Enter the amount of biomass that would be removed from within the treatment boundary and utilized for wood products, electricity generation via combustion, and electricity generation via gasification. Estimate biomass that would be utilized if land were converted without the conservation easement. Provide separate estimates for each method of utilization. Applicants estimate the quantity of biomass to be utilized if the area were converted by analyzing the amount of biomass to be removed, based on current stand conditions, and percentage of removed biomass expected to be sent to mill or biomass facility. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	Biomass that is expected to be removed from within the conservation treatment boundary and utilized with the conservation easement (BDT)	Enter the amount of biomass that is expected to be removed from within the treatment boundary and utilized for wood products, electricity generation via combustion, and electricity generation via gasification. Estimate biomass to be utilized with the conservation easement during the 50-80 year project but after project closeout (i.e., biomass removal not funded with GGRF but as a result of the area continuing to operate as a working forest). Provide separate estimates for each method of utilization. Applicants estimate the quantity of biomass to be utilized during the 50-80 year project (after project closeout) if the area were protected by analyzing recent harvesting trends on the land and taking into account any new practices being introduced by the terms of the easement. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
Forest Conservation: Forest Management Easement	Area of the treatment boundary (acres)	Enter the acres within the easement. If cell is not applicable, leave blank.
	Area of treatment boundary subject to active forest management prescriptions (acres)	Enter the acres within the treatment boundary that are subject to active forest management prescriptions through the conservation easement. If cell is not applicable, leave blank.
	Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	Enter the carbon stored in standing live and dead trees within the active forest management portion of the easement at the end of the project without the conservation easement (from FVS). If cell is not applicable, leave blank.
	Carbon within the active forest management area at the end of the project *with the conservation easement* (MT C)	Enter the carbon stored in standing live and dead trees within the active forest management portion of the easement at the end of the project with the conservation easement (from FVS). If cell is not applicable, leave blank.
	Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	Enter the amount of biomass that would be removed from within the active forest management portion of the easement and utilized for wood products, electricity generation via combustion, and electricity generation via gasification. Estimate biomass that would be utilized if land were converted without the conservation easement. Provide separate estimates for each method of utilization. Applicants estimate the quantity of biomass to be utilized if the area were converted by analyzing the amount of biomass to be removed, based on current stand conditions, and percentage of removed biomass expected to be sent to mill or biomass facility. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	Enter the amount of biomass that is expected to be removed from within the active forest management portion of the easement and utilized for wood products, electricity generation via combustion, and electricity generation via gasification. Estimate biomass to be utilized with the conservation easement during the 50-80 year project but after project closeout (i.e., biomass removal not funded with GGRF but as a result of the area continuing to operate as a working forest). Provide separate estimates for each method of utilization. Applicants estimate the quantity of biomass to be utilized during the 50-80 year project (after project closeout) if the area were protected by analyzing recent harvesting trends on the land and taking into account any new practices being introduced by the terms of the easement. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
Biomass Utilization	For biomass utilization activities that send biomass to a mill:	
	Biomass to be removed from the project area as part of implementing reforestation, pest management, or fuels reduction activities and delivered to a mill (BDT)	Enter the total amount of biomass to be removed from the project area as a result of implementing forest health project activities (i.e., biomass removed as part of site preparation, brush removal, manual or mechanical thinning, etc.) and delivered to a mill. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	Mill efficiency (%)	Applicants can enter either the actual mill efficiency from the mill where trees will be delivered, supported with documentation, or the appropriate default mill efficiency based on the type of wood provided in Table 13 of the quantification methodology. If trees will be delivered to more than one mill with different efficiencies, applicants may provide a weighted mill efficiency. If cell is not applicable, leave blank.
	Wood product class (%)	Enter the percent of removed biomass that will go into each wood product class category (i.e., softwood lumber, hardwood lumber, softwood plywood, oriented strandboard, nonstructural panels, paper, and miscellaneous products. If not available from the mill that wood will be delivered to, assume that 100% of the biomass goes into "miscellaneous products." If cell is not applicable, leave blank.
	For biomass utilization activities that send biomass to a biomass energy facility:	
	Biomass to be removed from the project area as a result of implementing forest health project activities and delivered to a biomass facility generating electricity via combustion (BDT)	Enter the total amount of biomass to be removed from the project area as a result of implementing forest health project activities (i.e., biomass removed as part of site preparation, brush removal, manual or mechanical thinning, etc.) and delivered to a biomass facility generating electricity via combustion. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	Biomass to be removed from the project area as a result of implementing forest health project activities and delivered to a biomass facility generating electricity via gasification (BDT)	Enter the total amount of biomass to be removed from the project area as a result of implementing forest health project activities (i.e., biomass removed as part of site preparation, brush removal, manual or mechanical thinning, etc.) and delivered to a biomass facility generating electricity via gasification. For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	For projects that facilitate the utilization of biomass that would otherwise be removed from outside the project area without GGRF funding NOTE: This section only applies to activities that utilize biomass removed as part of management practices not associated with the project (i.e., the forest treatment was not funded by the GGRF grant but complementary services such as transportation to a biomass facility or mill is funded with GGRF grant money). Only these projects may include the GHG benefit of avoided emissions from an open pile burn, landfilling, or leaving biomass to decay on-site.	
	Biomass that would be removed and open pile burned without project (BDT)	Enter the amount of removed biomass that would be open pile burned in the baseline scenario (separate estimates for each method of disposal). For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	Biomass that would be removed and landfilled without project (BDT)	Enter the amount of removed biomass that would be landfilled in the baseline scenario (separate estimates for each method of disposal). For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
	Biomass that would be removed and left to decay on-site without project (BDT)	Enter the amount of removed biomass that would be left to decay on-site in the baseline scenario (separate estimates for each method of disposal). For the purposes of this quantification methodology, "biomass" refers to both merchantable timber and woody waste material. If cell is not applicable, leave blank.
GHG Summary	Forest Health GGRF Funds Requested ($)	Enter the Forest Health GGRF funds requested for all project features. This amount is equal to the amount of GGRF dollars the applicant is requesting from CAL FIRE's Forest Health program.
	Total GGRF Funds Requested ($)	Enter the total GGRF funds requested for all project features. This amount is equal to the amount of GGRF dollars the applicant is requesting from CAL FIRE's Forest Health program, plus all GGRF dollars from CAL FIRE or other agencies that have previously been awarded to the same project and any GGRF dollars from agencies other than CAL FIRE that project has or plans to apply for. For a list of GGRF funded programs, go to: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/ggrfprogrampage.htm. If no other GGRF funds are requested, this will be the same amount as the Forest Health GGRF Funds Requested.

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oject Name:	[illegible] County Forest Health Program
ect ID, if applicable:	18-CCI-FH-[illegible]

forestation Worksheet

er data below using the appropriate on-site carbon stock accounting tools identified in Table 2 of the quantification methodology. If the reforestation treatment boundary erlaps with another activity's treatment or project boundary, apportion the acreage as instructed in Table 3 of the quantification methodology.

Reforestation Activity 1

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 1 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 2

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 2 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 3

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 3 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 4

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 4 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 5

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 5 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 6

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 6 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 7

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 7 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 8

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 8 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 9

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 9 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

Reforestation Activity 10

rbon within the treatment boundary at end of project with orestation (MT C)	
rbon within the treatment boundary at end of project hout reforestation (MT C)	
antity of trees to be planted in reforestation activity mber of trees)	
a subject to reforestation (acres)	
a subject to site preparation (acres)	
a subject to herbicide treatment (acres)	
el of brush cover (select from options)	[redacted]
d cover type (select from options)	[redacted]

GHG benefit from reforestation activity 10 (MT CO_2e)	0
On-site carbon storage and project emissions in reforestation project scenario (MT CO_2e)	0
On-site carbon storage in baseline scenario (MT CO_2e)	0

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Grant ID, if applicable:	**18-CCI-FH-0049-RRU**

Pest Management Worksheet

Enter data below using the appropriate on-site carbon stock accounting tools identified in Table 2 of the quantification methodology. If the pest management treatment or impact boundary overlaps with another activity's treatment or impact boundary, apportion the acreage as instructed in Table 3 of the quantification methodology.

	Pest Management Activity 1
Area within the pest management treatment boundary (acres)	4,700
Area within the pest management impact boundary (acres)	4,700
Carbon within the treatment boundary at the end of the project without disturbance or pest management treatment (MT C)	31,960
Carbon within the impact boundary at the end of the project without disturbance or pest management treatment (MT C)	31,960
Percentage of treatment and impact boundaries at risk with pest management treatment (%)	15%
Percentage of treatment and impact boundaries at risk without pest management treatment (%)	50%
Carbon removed as part of pest management treatment (MT C)	0
Biomass removed via mechanical treatments (BDT)	0

GHG benefit from pest management activity 1 (MT CO_2e)	82,105
On-site carbon storage and project emissions in pest management project scenario (MT CO_2e)	199,398
On-site carbon storage in baseline scenario (MT CO_2e)	117,293

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Fuels Reduction Worksheet

Enter data below using the appropriate on-site carbon stock accounting tools identified in Table 2 of the quantification methodology. If the fuels reduction treatment or impact boundary overlaps with another activity's treatment or impact boundary, apportion the acreage as instructed in Table 3 of the quantification methodology.

	Fuels Reduction Activity 1
Area within the treatment boundary (acres)	**4700**
Annual probability of fire occurrence (%)	25.00%
Effective period for fuels reduction treatment (Years)	25
Carbon within the treatment boundary at the end of the project with fuels reduction treatment but without fire disturbance (MT C)	0
Carbon within the treatment boundary at the end of the project with fuels reduction treatment and with fire disturbance (MT C)	0
Carbon within the treatment boundary at the end of the project without fuels reduction treatment and without fire disturbance (MT C)	2,448
Carbon within the treatment boundary at the end of the project without fuels reduction treatment but with fire disturbance (MT C)	2,448
Biomass removed via mechanical treatments (BDT)	2,448
For applicants who choose to include the impact boundary for fuels reduction activities:	
Area within the impact boundary (acres)	
Carbon within the impact boundary at the end of the project without fire disturbance (optional) (MT C)	
Carbon within the impact boundary at the end of the project without fuels reduction treatment but with fire disturbance (optional) (MT C)	
Proportion of impact boundary likely to burn at high severity without fuels reduction treatment (optional) (%)	
Proportion of impact boundary likely to burn at high severity with fuels reduction treatment (optional) (%)	

GHG benefit from fuels reduction activity 1 (MT CO_2e)	-9,131
On-site carbon storage and project emissions in fuels reduction project scenario (MT CO_2e)	-147
On-site carbon storage in baseline scenario (MT CO_2e)	8,984

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Project Name:	[illegible]
Grant ID # application:	[illegible]

Management Easement Worksheet

Enter data below using the appropriate on-site carbon stock accounting tools identified in Table 2 of the quantification methodology. If the Forest Conservation Easement boundary overlaps with another activity's treatment or project boundary, apportion the acreage as described in Table 1 of the quantification methodology.

Management Easement Activity 1

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 1 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 2

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 2 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 3

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 3 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 4

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 4 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 5

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 5 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 6

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 6 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 7

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 7 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 8

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 8 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 9

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 9 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

Management Easement Activity 10

Area of the treatment (easement) boundary (acres)	
Area of treatment boundary subject to active forest management prescriptions (acres)	
Carbon within the active forest management area at the end of the project without the conservation easement (MT C)	
Carbon within the active forest management area at the end of the project with the conservation easement (MT C)	
Biomass that would be removed from within the active forest management area and utilized for wood products without the easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for wood products with conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via combustion without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via combustion with the conservation easement (BDT)	
Biomass that would be removed from within the active forest management area and utilized for electricity generation via gasification without the conservation easement (BDT)	
Biomass that is expected to be removed from within the active forest management area and utilized for electricity generation via gasification with the conservation easement (BDT)	

GHG benefit from forest conservation activity 10 (MT CO_2e)	[illegible]
On-site carbon storage in forest conservation project scenario (MT CO_2e)	[illegible]
On-site carbon storage in baseline scenario (MT CO_2e)	[illegible]

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Biomass Utilization Worksheet

For all biomass utilization activities that send biomass to a mill:

Biomass to be removed from the project area as part of implementing reforestation, pest management, or fuels reduction activities and delivered to a mill (BDT)	
Biomass that would be removed from within the conservation treatment boundary and utilized for wood products without the easement (BDT)	0
Biomass that is expected to be removed from within the conservation treatment boundary and utilized for wood products with the easement (BDT)	0
Mill efficiency (%) (if not known, use default efficiencies in Table 13 of the Quantification Methodology)	
Carbon transferred to wood products	0
Biomass that will go into Softwood Lumber (%)	
Biomass that will go into Hardwood Lumber (%)	
Biomass that will go into Softwood Plywood (%)	
Biomass that will go into Oriented Strandboard (%)	
Biomass that will go into Nonstructural Panels (%)	
Biomass that will go into Paper (%)	
Biomass that will go into Miscellaneous Products (%) (100% if product class categories are not available from mill)	
GHG benefit of carbon stored long-term in wood products (MT CO_2e)	0

For all biomass utilization activities that send biomass to a biomass energy facility:

Biomass to be removed from the project area as part of implementing reforestation, pest management, or fuels reduction activities and delivered to a biomass facility generating electricity via combustion as part of the project (BDT)	
Biomass that is expected to be removed from within the conservation treatment boundary and utilized for electricity generation via combustion without the conservation easement (BDT)	0
Biomass that is expected to be removed from within the conservation treatment boundary and utilized for electricity generation via combustion with the conservation easement (BDT)	0
Biomass to be removed from the project area as part of implementing reforestation, pest management, or fuels reduction activities and delivered to a biomass facility generating electricity via gasification as part of the project (BDT)	
Biomass that is expected to be removed from within the conservation treatment boundary and utilized for electricity generation via gasification without the conservation easement (BDT)	0
Biomass that is expected to be removed from within the conservation treatment boundary and utilized for electricity generation via gasification with the conservation easement (BDT)	0
GHG benefit from utilizing biomass for electricity generation (MT CO_2e)	0

For projects that facilitate the utilization of biomass that would otherwise be removed from outside the project area without GGRF funding:

Biomass that would be removed and open pile burned without project (BDT)	
Biomass that would be removed and landfilled without project (BDT)	
Biomass that would be removed and left to decay on-site without project (BDT)	
GHG benefit from avoided biomass disposal emissions (MT CO_2e)	0

GHG benefit from biomass utilization activities (MT CO_2e)	0

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GHG Summary Worksheet

GHG benefit from reforestation activities (MT CO_2e)	0
GHG benefit from pest management activities (MT CO_2e)	82,105
GHG benefit from fuels reduction activities (MT CO_2e)	-9,131
GHG benefit from avoided conversion easement activities (MT CO_2e)	0
GHG benefit from forest management easement activities (MT CO_2e)	0
GHG benefit from biomass utilization activities (MT CO_2e)	0

Net GHG Benefit (MT CO_2e)	72,974
Forest Health GGRF $ Requested ($)	
Total GGRF $ Requested ($)	
Net GHG Benefit/Forest Health GGRF Funds Requested (MT CO_2e/$)	0.00
Net GHG Benefit/GGRF $ Requested	0.00

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Co-benefit Summary Worksheet

Key Variables Summary

Acres planted in reforestation activities (acres)	0
Acres treated in pest management activities (acres)	4700
Acres impacted in pest management activities (acres)	4700
Acres treated in fuels reduction activities (acres)	4700
Acres impacted by fuels reduction activities (acres; if calculated)	0
Acres conserved via avoided conversion easement activities (acres)	0
Acres conserved via forest management easement activities (acres)	0
Total acreage treated (acres)	9400
Total easement acreage conserved (acres)	0
Trees planted in reforestation activities (number of trees)	0
Renewable energy generated via biomass utilization activities (kWh)	0

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Conversions Worksheet

Applicants must input values into this Forest Health GHG Calculator Tool that are in the correct unit. Applicants may use this worksheet to convert values from the required tools to those to be input into this calculator.

	Metric Ton Carbon/Hectare		Hectares	0	Metric Ton Carbon
	Metric Ton Carbon/Hectare		Acres	0	Metric Ton Carbon
	Metric Ton Carbon/Acre		Acres	0	Metric Ton Carbon
	Metric Ton Carbon/Acre		Hectares	0	Metric Ton Carbon

	Wood Volume by Forest Type		Wood Weight by Species Type		
	Mixed Conifer (ft^3)	0.0	BDT for Softwoods	0.0	BDT for Hardwoods
	Douglas-Fir (ft^3)	0.0	BDT for Softwoods	0.0	BDT for Hardwoods
	Fir, Spruce, or Hemlock (ft^3)	0.0	BDT for Softwoods	0.0	BDT for Hardwoods
	Ponderosa Pine (ft^3)	0.0	BDT for Softwoods	0.0	BDT for Hardwoods
	Redwood (ft^3)	0.0	BDT for Softwoods	0.0	BDT for Hardwoods

	Hectares	0.0	Acres
	Metric Ton Carbon Dioxide Equivalent	0	Metric Ton Carbon
	Short Ton Carbon	0	Metric Ton Carbon
	Bone Dry Ton Biomass	0	Metric Ton Carbon
	Metric Ton Carbon	0.0	Bone Dry Ton Biomass

Conversion Rates

2.47105	Acres/Hectare
3.67	CO_2e/C
0.50	Unit Carbon/Unit Biomass
0.90719	Metric Ton (MT)/Short Ton or Bone Dry Ton (BDT)
24.59	Wood Density of Softwoods from Mixed Conifer Forests (lbs/ft^3)
26.77	Wood Density of Softwoods from Douglas-Fir Forests (lbs/ft^3)
23.21	Wood Density of Softwoods from Fir, Spruce, or Hemlock Forests (lbs/ft^3)
23.71	Wood Density of Softwoods from Ponderosa Pine Forests (lbs/ft^3)
23.46	Wood Density of Softwoods from Redwood Forests (lbs/ft^3)
32.51	Wood Density of Hardwoods from Mixed Conifer Forests (lbs/ft^3)
30.14	Wood Density of Hardwoods from Douglas-Fir Forests (lbs/ft^3)
31.82	Wood Density of Softwoods from Fir, Spruce, or Hemlock Forests (lbs/ft^3)
31.82	Wood Density of Softwoods from Ponderosa Pine Forests (lbs/ft^3)
28.02	Wood Density of Softwoods from Redwood Forests (lbs/ft^3)
2,000	Pound (lb)/Short Ton or Bone Dry Ton (BDT)
2,204.6	Pound (lb)/Metric Ton
1,000	Kilogram (kg)/Metric Ton (MT)
907	Kilogram (kg)/Short Ton or Bone Dry Ton (BDT)

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Emission Reduction Factors Worksheet

Reforestation		
Mobile combustion emission factor for reforestation site preparation for light brush cover (0-25% brush cover) (MT CO2e/acre)	0.090	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Mobile combustion emission factor for reforestation site preparation for medium brush cover (>25-50% dense brush cover) (MT CO2e/acre)	0.202	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Mobile combustion emission factor for reforestation site preparation for heavy brush cover (>50% brush cover, stump removal) (MT CO2e/acre)	0.429	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon lost from removal of shrubs and herbaceous understory during reforestation site preparation (grass cover) (MT CO2e/acre)	3.6	Scott, J.H. and Burgan, R.E. (2005) Standard fire behavior fuel models: A comprehensive set for use with Rothermel's surface fire spread model
Carbon lost from removal of shrubs and herbaceous understory during reforestation site preparation (light to medium shrub cover) (MT CO2e/acre)	13.9	Scott, J.H. and Burgan, R.E. (2005) Standard fire behavior fuel models: A comprehensive set for use with Rothermel's surface fire spread model
Carbon lost from removal of shrubs and herbaceous understory during reforestation site preparation (heavy shrub cover) (MT CO2e/acre)	24.0	Scott, J.H. and Burgan, R.E. (2005) Standard fire behavior fuel models: A comprehensive set for use with Rothermel's surface fire spread model
Emission factor for herbicide treatment (MT CO2e/acre)	0.0607	Sonne, E. (2006) Greenhouse Gas Emissions from Forestry Operations: A Life Cycle Assessment. Journal of Environmental Quality, 35, 1439–1450 https://dl.sciencesocieties.org/publications/jeq/pdfs/35/4/1439
Pest Management		
Mobile combustion emission factor for biomass removal (MT CO2e/BDT)	0.06	California Air Resources Board, Detailed California-Modified GREET Pathway for Cellulosic Ethanol from Forest Waste (February 27, 2009) https://www.arb.ca.gov/fuels/lcfs/022709lcfs_forestw.pdf
Fuels Reduction		
Mobile combustion emission factor for biomass removal (MT CO2e/BDT)	0.06	California Air Resources Board, Detailed California-Modified GREET Pathway for Cellulosic Ethanol from Forest Waste (February 27, 2009) https://www.arb.ca.gov/fuels/lcfs/022709lcfs_forestw.pdf
Forest Conservation		
Conversion impact when threatened with conversion to agricultural use	90%	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to mining use	90%	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to recreational use	80%	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to commercial use	95%	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to industrial use	95%	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to residential use (dependent on number of unique parcels and size of the treatment area entered in Easement--Avoided Conversion tab), Conservation Activity 1	dependent on conservation tab inputs	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to residential use (dependent on number of unique parcels and size of the treatment area entered in Easement--Avoided Conversion tab), Conservation Activity 2	dependent on conservation tab inputs	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to residential use (dependent on number of unique parcels and size of the treatment area entered in Easement--Avoided Conversion tab), Conservation Activity 3	dependent on conservation tab inputs	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to residential use (dependent on number of unique parcels and size of the treatment area entered in Easement--Avoided Conversion tab), Conservation Activity 4	dependent on conservation tab inputs	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Conversion impact when threatened with conversion to residential use (dependent on number of unique parcels and size of the treatment area entered in Easement--Avoided Conversion tab), Conservation Activity 5	dependent on conservation tab inputs	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Biomass Utilization		
Carbon storage factor for softwood lumber	0.463	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon storage factor for hardwood lumber	0.250	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon storage factor for softwood plywood	0.484	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon storage factor for oriented standboard	0.582	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon storage factor for nonstructural panels	0.380	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon storage factor for paper	0.058	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Carbon storage factor for miscellaneous products	0.176	California Air Resources Board, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/forestprotocol2015.pdf
Fossil fuel displacement emission reduction factor for electricity generated via combustion (MT CO_2e/BDT)	0.23	California Air Resources Board & California Department of Resources, Recycling, and Recovery, Biomass Conversion (September 17, 2013) https://www.arb.ca.gov/cc/waste/biomassconversion.pdf *Note: This methodology assumes that the wood waste is delivered to a biomass energy facility that produces electricity via combustion where the biomass is incinerated in boiler to produce steam which powers a turbine-driven generator that produces electricity. Applicants that propose eligible projects that cannot be calculated using the GHG Calculator Tool, such as projects that utilize biomass energy technology not included in the calculator, may propose the use of alternative GHG quantification methods. See the acccompanying quantification methodology for more details*
Fossil fuel displacement emission reduction factor for electricity generated via gasification (MT CO_2e/BDT)	0.30	California Air Resources Board, Detailed California-Modified GREET Pathway for Cellulosic Ethanol from Forest Waste (February 27, 2009) https://www.arb.ca.gov/fuels/lcfs/022709lcfs_forestw.pdf Sonoma County Water Agency, Feasibility of Using Residual Woody Biomass to Generate Electricity for Sonoma County (2013) http://www.scwa.ca.gov/files/docs/carbon-free-water/SCWA Bioenergy Feasibility Assessment_WDFeatherman_FINAL REPORT_2014-05-17.pdf *Note: This methodology assumes that the wood waste is delivered to a biomass energy facility that produces electricity via gasification where the biomass is heated in an oxygen-limited environment to produce hydrogen and carbon monoxide rich gas (syn gas) which powers a turbine-driven generator or internal combustion engine that produces electricity. Applicants that propose eligible projects that cannot be calculated using the GHG Calculator Tool, such as projects that utilize biomass energy technology not included in the calculator, may propose the use of alternative GHG quantification methods. See the acccompanying quantification methodology for more details.*
Avoided Open Pile Burn Emissions (ton CO2e/BDT)	0.16	Placer County Air Pollution Control District, Biomass Waste for Energy Project Reporting Protocol (January 2013) http://www.placer.ca.gov/~/media/apc/documents/apcd biomass/biomasswasteforenergyproject.pdf
Avoided landfill emissions (MT CO_2e/short ton)	0.21	California Air Resources Board, Draft Method for Estimating Greenhouse Gas Emission Reductions from Diversion of Organic Waste from Landfills to Compost Facilities (March 2016) https://www.arb.ca.gov/cc/waste/waste.htm
Avoided on-site decay emissions (ton CO2e/BDT)	1.25	Placer County Air Pollution Control District, Biomass Waste for Energy Project Reporting Protocol (January 2013) http://www.placer.ca.gov/~/media/apc/documents/apcd biomass/biomasswasteforenergyproject.pdf
Electricity generated per ton of biomass waste via combustion (MWh/bone dry ton of biomass)	0.90	California Air Resources Board & California Department of Resources, Recycling, and Recovery, Biomass Conversion (September 17, 2013) https://www.arb.ca.gov/cc/waste/biomassconversion.pdf Calculated using 4,051,000 MWh of annual energy production divided by 4,500,000 bone dry tons of biomass inputs to determine the avoided energy production per ton of waste.
Electricity generated per ton of biomass waste via gasification (MWh/bone dry ton of biomass)	1.11	Table 5A in: Sonoma County Water Agency, Feasibility of Using Residual Woody Biomass to Generate Electricity for Sonoma County, 2013 http://www.scwa.ca.gov/files/docs/carbon-free-water/SCWA%20Bioenergy%20Feasibility%20Assessment_WDFeatherman_FINAL%20REPORT_2014-05-17.pdf

Conversion Factors	
CO_2e/C	3.67
Unit carbon/unit biomass	0.50
MT/ton	0.907185
lb/MT	2204.62
lb/short ton or bone dry ton (BDT)	2000

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
P.O. Box 944246
SACRAMENTO, CA 94244-2460
(916) 653-7772
Website: www.fire.ca.gov

April 17, 2019

Jeremy Murphy
County of Riverside
Fire Department
210 W. San Jacinto Ave.
Perris, CA 92570

8GG18659; County of Riverside, "Riverside County Forest Health Program"

This Agreement cannot be considered binding on either party until approved by appropriate authorized CAL FIRE designee. No services should be provided prior to approval, as the State is not obligated to make any payments on any Agreement prior to final approval. FAILURE TO RETURN ALL DOCUMENTS BY DATE BELOW MAY RESULT IN LOSS OF FUNDING.

Please contact Kristen Merrill at (916) 651-2022 if you have questions concerning services to be performed.

1. ☒ Full grant agreement including terms and conditions, project grant application form, scope of work, budget, map, and other exhibits enclosed. Print (single sided) and return three (3) sets of agreements with original signatures in blue ink. In addition, please return the forms below, as applicable to your entity, to be received by CAL FIRE no later than **April 24, 2019.**

   ☒ Attachment 6 – Completed Board Resolution or Attesting Document approving project and granting authority to sign (non-profit and local entity applicants).

   Return all originals and requested documents for further processing to:

   Please send the originals to the following address:
   CAL FIRE
   Attn: Grants Management Unit/CCI
   P.O. Box 944246
   Sacramento, CA 94244-2460

   You may send originals via overnight mail service to the following physical address:
   801 Capitol Mall, Suite 420
   Sacramento, CA 95814

2. ☐ Enclosed for your record is one fully executed copy of the agreement referenced above. When billing for services performed under this agreement, your invoices must reference the agreement number above and be submitted to the contract manager.

Thank you,

Alice Miller
Grants Analyst
Grants Management Unit

CC: Kristen Merrill
Angela Lottes
Stella Chan

Enclosures