STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 02/13) CALIFORNIA ENERGY COMMISSION

New Agreement EPC-14-033 (To be completed by CGL Office)

Division	Agreement Manager:	MS-	Phone
ERDD	Rizaldo Aldas	43	916-327-1417

Recipient's Legal Name	Federal ID Number
The Watershed Research and Training Center	94-3118339

Title of Project
North Fork Community Power Forest Bioenergy Facility Demonstration

Term and Amount	Start Date	End Date	Amount
	5/15/2015	9/30/2018	$ 4,965,420

Business Meeting Information

☐ ARFVTP agreements under $75K delegated to Executive Director.

Proposed Business Meeting Date	4/8/2015	☐ Consent	☒ Discussion
Business Meeting Presenter	Rizaldo Aldas	Time Needed:	5 minutes

Please select one list serve. EPIC (Electric Program Investment Charge)

Agenda Item Subject and Description

THE WATERSHED RESEARCH AND TRAINING CENTER. Proposed resolution approving Agreement EPC-14-033 with The Watershed Research and Training Center for a $4,965,420 grant to install and demonstrate a commercial-scale gasification-to-electricity facility that converts wood waste from forest management activities to renewable electricity while providing reduced fire risk, watershed protection, improved air quality, other environmental benefits, and local jobs. (EPIC funding) Contact: Rizaldo Aldas. (Staff presentation: 5 minutes)

California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
   ☒ Yes (skip to question 2) ☐ No (complete the following (PRC 21065 and 14 CCR 15378)):
   Explain why Agreement is not considered a "Project":
   Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because
2. If Agreement is considered a "Project" under CEQA:
   ☐ a) Agreement **IS** exempt. (Attach draft NOE)
   - ☐ Statutory Exemption. List PRC and/or CCR section number:
   - ☐ Categorical Exemption. List CCR section number:
   - ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

   Explain reason why Agreement is exempt under the above section:

   ☒ b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)
   Check all that apply
   - ☐ Initial Study
   - ☐ Negative Declaration
   - ☒ Mitigated Negative Declaration
   - ☐ Environmental Impact Report
   - ☐ Statement of Overriding Considerations

List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)

Legal Company Name:	Budget
TSS Consultants	$ 100,747
University of California Merced	$ 512,847
Phoenix Energy	$ 3,452,658
North Fork Community Power LLC	$ 580,856
Yosemite Sequoia Resource Conservation and Development Council	$ 47,650
Darlington Legal Services	$ 37,875
Kamalesh Doshi	$ 148,200

List all key partners: (attach additional sheets as necessary)
Legal Company Name:
The Watershed Research and Training Center

Budget Information			
Funding Source	**Funding Year of Appropriation**	**Budget List No.**	**Amount**
EPIC	13-14	301.001A	$4,965,420
R&D Program Area:	EGRO: Renewables	TOTAL:	$4,965,420
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Recipient's Administrator/ Officer				**Recipient's Project Manager**			
Name:	Cindy Blackburn			Name:	Nick Goulette		
Address:	98 Clinic Ave.			Address:	98 Clinic Ave.		
City, State, Zip:	Hayfork, CA 96041			City, State, Zip:	Hayfork, CA 96041		
Phone:	(530) 628 – 4206	Fax:	(530) 628-5100	Phone:	(530) 628-4206	Fax:	530-628-5100
E-Mail:	cindy@thewatershedcenter.com			E-Mail:	nickg@hayfork.net		

Selection Process Used	
☒ Competitive Solicitation	Solicitation #: PON-14-305
☐ First Come First Served Solicitation	

The following items should be attached to this GRF		
1. Exhibit A, Scope of Work		☒ Attached
2. Exhibit B, Budget Detail		☒ Attached
3. CEC 105, Questionnaire for Identifying Conflicts		☒ Attached
4. Recipient Resolution	☒ N/A	☐ Attached
5. CEQA Documentation	☐ N/A	☒ Attached

Agreement Manager	**Date**	**Office Manager**	**Date**	**Deputy Director**	**Date**

EXHIBIT A
Scope of Work Template

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2	X	Pre-Construction and Construction Activities
3		Facility Research
4		Evaluation of Project Benefits
5		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
IOU	Investor Owned Utility
LCOE	Levelized Cost of Electricity
SJVAPCD	San Joaquin Valley Air Pollution Control District
TAC	Technical Advisory Committee
WFM	Wood Waste from Forest Management
Nox	Nitrogen Oxides
PM	Particulate Matter
CO_2e	Carbon Dioxide Equivalent
FBF	Forest Biomass Feedstock

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the installation and demonstration of a commercial scale forest waste bioenergy gasification-to-electricity facility in the foothills of the Sierra Mountains. This project will remove excess woody forest material in order to provide renewable energy, thereby resulting in reduced fire risk, watershed protection, air quality benefits, greenhouse gas benefits, local jobs, and forest ecosystem protection.

B. Problem/ Solution Statement

Problem

There have been challenges to commercialization of forest biomass as a feedstock for renewable energy due to quality of the biomass and the location of the sites. Variations in the moisture content, species variability and infiltration of rocks and soil into the feedstock can impact system efficiencies, and operation and maintenance costs. High elevations can also challenge a biomass-fueled generation facility without the optimized protocols and control

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

technologies to address the conditions specific to forest biomes. Another major barrier to utilizing biomass is lack of publicly available data on optimized biomass gasification technologies and best practices including: wood waste from forest management (WFM) biomass feedstock handling, effects of location of the plant, and assessment of air emissions, cost, and reliability of downstream gas treatment and catalyst systems. This is because of the limited research efforts made so far due to lack of support by competitive or regulated markets.

The challenging barriers to business have prevented successful commercialization of forest biomass electricity generation near high-altitude forests where the feedstock is sourced. For this reason, this project, having been specifically tailored to these conditions, can inform the industry on how to operate the system efficiently and sustainably, both ecologically and economically.

Solution

Utilizing standard research protocols for a demonstration setting, the recipient will demonstrate, deploy, and research optimization of grid-connected forest bioenergy technologies. The project will provide immediate benefits including increased renewable bioenergy generation capacity for California, expanded technical resources and knowledge for other WFM bioenergy production, and community environmental, wildfire, and economic development benefits.

The demonstration and research portion of this project will focus on assessing and optimizing the in-use plant, including measurement of reactor design, gas cleaning, automation and control, and plant design in order to address multiple factors and conditions. Performance results will be collected, analyzed and published to show comparable performance reliability, efficiencies and economics in diesel-engine based systems.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Successfully implement California's first WFM bioenergy facility producing renewable energy from forest biomass.
- Reduce operational costs by improving scrubber system approaches to maximize tar and gas cleanup processes.
- Increase cost-effectiveness of bioenergy gasifier projects and demonstrate economic viability by achieving at least 7,000 hours of operation per year.
- Develop and share best practices that will accelerate the market penetration of forest biomass gasification systems.
- Reduce emissions by diverting biomass from burn piles and utilizing the biomass as an energy resource in a controlled environment, with projected annual emission reductions of 10 tons of Nitrogen oxides(NOx), 38.2 tons of particulate matter (PM), and 2,430 tons of Carbon dioxide equivalent (CO_2e).
- Optimize quantity of producer gas output per unit of feedstock input.
- Minimize concentration of undesirable gas constituents as defined by optimal internal combustion engine specifications.
- Improve the value of the system by maximizing the production of biochar – a valuable co-generated substance that can be used as a soil amendment or filtration element – instead of other less valuable co-products.
- Optimize maintenance procedures with minimized operational downtime and system component cleanup activities.

Ratepayer Benefits:[2] This Agreement will result in the ratepayer benefits of greater electricity reliability, and lower costs, and increased safety by providing a local, clean, renewable form of energy that does not have the problems of intermittency that are characters of solar and wind energy technologies. The forest biomass feedstock is a continually accumulating substrate that requires removal and disposal for reasons unrelated to energy generation: fire risk. Forest fuel reduction work removes the small diameter understory trees which have very little economic value. Bioenergy facilities located adjacent to at-risk forest ecosystems can provide a market for this 'waste biomass.' The Investor Owned Utilities (IOUs) in California pay out an average of more than $11 million per year in fire related damages to state and federal land management agencies. Reducing wildfire risks would likely also reduce costs of fire insurance. This technology would reduce this risk, and it would also reduce the expense of fire avoidance measures. Local ratepayers will be less likely to pay the costs of replacing utility infrastructure that also connects to crucial hydroelectric infrastructure in the region that can be destroyed in wildfires. Furthermore, the current local disposal method for biomass is incineration through burn piles. This technology turns a waste stream that adversely affects air quality in the region into a cleaner supply of energy that also offsets the need for other fossil fuel generated electricity. By promoting hazardous forest fuel treatment, forest biomass will help to maintain the carbon sequestration value of California's forests and also help to avoid catastrophic fires and the resulting release of greenhouse gases. Additional carbon sequestration benefits are ensured from biochar, which is the primary byproduct of gasification technology. This form of electricity generation is consistent, the fuel is much lower cost, and the consumption of biomass for electricity generation removes a fuel that could potentially lead to devastating fires.

Technological Advancement and Breakthroughs:[3] This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by deploying community-scale bioenergy generation and by assessing the performance characteristics and best practices of WFM feedstock management, conversion technologies, generation systems and development strategies. The project will provide immediate benefits including increased renewable bioenergy generation capacity for California, expanded technical resources and knowledge for other WFM bioenergy production, and community environmental, wildfire, and economic development benefits.

Agreement Objectives

The objectives of this Agreement are to:

- Obtain a consistent set of test data that allows the analysis and optimization of the gasification process using a specific set of test procedures and performance evaluation protocols.
- Understand the effects of operating conditions on gasification reactions for reliably predicting and optimizing the product compositions with the purpose of reaching optimal efficiencies and extending the operational hours of the equipment.

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

[3] California Public Resources Code, Section 25711.5(a) also requires EPIC-funded projects to lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory and energy goals.

- Analyze the operational and performance characteristics of the gasifier using forest biomass feedstock (FBF) with the purpose of optimizing feedstock management and preparation, biomass conversion technologies, gas clean-up process, and power generation capability.

II. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products
The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V).** Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, **"days"** means working days.

The Recipient shall:

For products that require a draft version

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Submit the final product to the CAM once agreement has been reached on the draft. The CAM will provide written approval of the final product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- If the CAM determines that the final product does not sufficiently incorporate his/her comments, submit the revised product to the CAM within 10 days of notice by the CAM, unless the CAM specifies a longer time period.

For products that require a final version only

- Submit the product to the CAM for approval.
- If the CAM determines that the product requires revision, submit the revised product to the CAM within 10 days of notice by the CAM, unless the CAM specifies a longer time period.

For all products

- Submit all data and documents required as products in accordance with the following Instructions for Submitting Electronic Files and Developing Software:

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

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

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
- Text documents will be in MS Word file format, version 2007 or later.
- Documents intended for public distribution will be in PDF file format. The Recipient must also provide the native Microsoft file format.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

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

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

MEETINGS

Subtask 1.2 Kick-off Meeting
The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other Energy Commission staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential

meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

The administrative portion of the meeting will include discussion of the following:

- Terms and conditions of the Agreement;
- Administrative products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Match fund documentation (subtask 1.7);
- Permit documentation (subtask 1.8);
- Subcontracts (subtask 1.9); and
- Any other relevant topics.

The technical portion of the meeting will include discussion of the following:

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

- Provide an *Updated Project Schedule, List of Match Funds,* and *List of Permits*, as needed to reflect any changes in the documents.

The CAM shall:

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

Recipient Products:

- Updated Project Schedule *(if applicable)*
- Updated List of Match Funds *(if applicable)*
- Updated List of Permits *(if applicable)*

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

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

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to

cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the Energy Commission, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:

- Prepare a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Submit the CPR Report along with any other *Task Products* that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a *CPR Agenda* and a *List of Expected CPR Participants* in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a *Schedule for Providing a Progress Determination* on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:

- CPR Report(s)
- Task Products (draft and/or final as specified in the task)

CAM Products:

- CPR Agenda
- List of Expected CPR Participants
- Schedule for Providing a Progress Determination
- Progress Determination

Subtask 1.4 Final Meeting

The goal of this subtask is to complete the closeout of this Agreement.

The Recipient shall:

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

The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.

- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
    - Disposition of any state-owned equipment.
    - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1) regarding the Energy Commission's interest in patented technology.
    - The Energy Commission's request for specific "generated" data (not already provided in Agreement products).
    - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
    - "Surviving" Agreement provisions such as repayment provisions and confidential products.
    - Final invoicing and release of retention.

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

Products:

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

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

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

The Recipient shall:

- Submit a monthly *Progress Report* to the CAM. Each progress report must:
    - Summarize all Agreement activities conducted by the Recipient for the preceding month, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
    - Provide a synopsis of the project progress, including accomplishments, problems, milestones, products, schedule, fiscal status, and any evidence of progress such as photographs.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions. In addition, each invoice must document and

verify:

- Energy Commission funds received by California-based entities;
- Energy Commission funds spent in California *(if applicable)*; and
- Match fund expenditures.

Products:

- Progress Reports
- Invoices

Subtask 1.6 Final Report

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. The CAM will review and approve the Final Report, which will be due at least **two months** before the Agreement end date. When creating the Final Report Outline and the Final Report, the Recipient must use a Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a *Final Report Outline* in accordance with the *Style Manual* provided by the CAM.
- Submit a draft of the outline to the CAM for review and comment.
- Once agreement has been reached on the draft, submit the final outline to the CAM. The CAM will provide written approval of the final outline within 10 days of receipt.

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Style Manual
- Comments on Draft Final Report Outline
- Approval of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline and the Style Manual provided by the CAM.
- Submit a draft of the report to the CAM for review and comment. Once agreement on the draft report has been reached, the CAM will forward the electronic version for Energy Commission internal approval. Once the CAM receives approval, he/she will provide written approval to the Recipient.
- Submit one bound copy of the Final Report to the CAM.

Products:

- Final Report (draft and final)

CAM Product:

- Comments on Draft Final Report

EXHIBIT A
Scope of Work Template

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

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

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

The Recipient shall:

- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. If <u>no match funds</u> were part of the proposal that led to the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

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

Products:

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

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

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If <u>no permits</u> are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
    - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
    - The schedule the Recipient will follow in applying for and obtaining the permits.

  The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

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

Subtask 1.9 Subcontracts
The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

The Recipient shall:

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

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

Products:

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)
The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.

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

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

EXHIBIT A
Scope of Work Template

The Recipient shall:

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

Products:

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

Subtask 1.11 TAC Meetings

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

The Recipient shall:

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

Products:

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

EXHIBIT A
Scope of Work Template

III. TECHNICAL TASKS

*Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. **Subtask 1.1 (Products)** describes the procedure for submitting products to the CAM.*

TASK 2: Pre-Construction and Construction Activities
The goals of this task are to plan and manage the pre-construction and construction phases of the project. This task will establish project protocols needed for project completion and will include activities such as permitting, engineering assessment, grading, and construction phases followed by the equipment installation and start-up test phase.

The Recipient shall:

- Commence pre-construction and project readiness assessments along with establishing project protocols to manage the design, construction, commissioning, operations, and research assessments.
- Finalize remaining permits for construction, building, grading, and operating the proposed facility. This may include, but not limited to the following: Business License, County Building Permit, Stormwater Construction Permit, County Grading Permit, Authority to Construct Permit, Small Waste Generator Permit, and Permit to Operate.
- Perform engineering assessments.
- Grade the property and construct the necessary infrastructure, including the water, sewer, and gas connections, and pour the foundation and equipment pads.
- Purchase and procure the gasification system equipment.
- Construct the property improvements and place the equipment.
- Install the equipment and perform all necessary system welding, insulation, and wiring for the electrical controls.
- Perform start-up check including pump calibration; pressure check; cold test for gas, water, and oil loops; followed by a hot test with the lit gasifier in order to gather set points for grate speed and frequency drive.
- Submit *Unified Program Consolidated Forms* as required by county Department of Health for storing hazardous waste on site and provide a copy to the Commission Agreement Manager.
- Complete *Hazardous Materials Release Response Plan* and submit a copy to the Commission Agreement Manager.
- Complete the facility Source Test in accordance with regional air district requirements.
- Obtain Small Waste Generator Permit and Permit to Operate.
- Submit copies of all permits mentioned above per subtask 1.8
- Draft and submit a *Notification of Construction Completion Letter* to Commission Agreement Manager. This notification letter will include, as an appendix to the letter, a brief description and photographs of the constructed biomass facility

Products:

- Unified Program Consolidated Forms
- Hazardous Materials Release Response Plan
- Notification of Construction Completion Letter

EXHIBIT A
Scope of Work Template

TASK 3: Facility Research

The goal of this task is to assess and optimize the in-use plant, including measurement of installed reactor design, gas cleaning, automation and control, and plant design in order to address multiple factors and conditions. The research team will participate in two pre-research review meetings on-site and then conduct the start-up test, four test sessions, and a post test site visit to deliver final findings to on-site managers. Performance results will be collected, analyzed and published to show comparable performance reliability, efficiencies and economics against diesel-engine based systems.

The Recipient shall:

- Conduct preliminary assessment of the biomass gasification facility to confirm system design and requirements for test and operation. This will involve site visits by research partners and each site visit will generate a *Site Visit Status Reports* that will be included in the corresponding monthly progress report.
- Conduct start-up sessions to establish test and operation protocols. A *Gasification System Test Plan* that describes the research design including the parameters to be tested, measured, and analyzed and that prescribes a minimum of four test sessions and at least 44 hours of operation, will be developed and submitted to the Commission Agreement Manager. Some of the parameters to be investigated include but are not limited to:
    - Feedstock characteristics
    - Flow rates of feedstock and ambient air into the gasifier
    - Ambient air temperature and humidity
    - Temperature and differential pressure profiles at various points in the gasification vessel (real time monitoring for tar control)
    - Time lag to start engine from starting of gasifier
    - Quality of syn gas at the gasifier outlet and engine inlet and at a few points in between.
    - Visual inspection of filter internals after operation and at the shutdowns
    - Analysis & quantity of ash (ash fusion temperature)
    - Residence time in gasifier
    - Syn gas quality at various points
    - Longest continuous operation
    - Fuel level in the feed hopper
    - Temperature and flow rate of jacket cooling water for engines
    - Quality of engine and lubricating oil over the operation of engines
    - Gasifier run time (loading, start, run, refueling, ash removal, shut off)
    - Pressure drop and temp , flow rates of syn gas around each equipment
    - Bio-char production rates
- Conduct the test sessions according the approved test plan and protocols. Test results from every conducted test session will be reported as part of the monthly progress report.
- Evaluate all test results, lessons learned and recommendations, and project benefits and develop a comprehensive *Biomass Facility Performance Report* that includes those results.
- Draft at least one *Technical Paper for Publication*, to include the test results and analysis and provide to the Commission Agreement Manager.

Products:

- Site Visit Status Reports (to be included in corresponding monthly progress reports)

- Gasification System Test Plan (draft and final)
- Biomass Facility Performance Report (draft and final)
- Technical Paper For Publication (draft and final)

TASK 4: Evaluation of Project Benefits
The goal of this task is to report the benefits resulting from this project.

The Recipient shall:

- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) *Kick-off Meeting Benefits Questionnaire*; (2) *Mid-term Benefits Questionnaire*; and (3) *Final Meeting Benefits Questionnaire*. Update *Attachment 12 Cost and Benefit Calculations and Small-Scale Bioenergy LCOE calculator.* If not using LCOE calculator, clearly explain why not applicable, provide other cost measures and justify the measures.

- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include:
  - <u>For Product Development Projects and Project Demonstrations:</u>
    - Published documents, including date, title, and periodical name.
    - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
    - Greenhouse gas and criteria emissions reductions.
    - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
    - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.
    - A discussion of project product downloads from websites, and publications in technical journals.
    - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
    - <u>Additional Information for Product Development Projects</u>:
      - Outcome of product development efforts, such copyrights and license agreements.
      - Units sold or projected to be sold in California and outside of California.
      - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
      - Investment dollars/follow-on private funding as a result of Energy Commission funding.
      - Patent numbers and applications, along with dates and brief descriptions.
    - <u>Additional Information for Product Demonstrations</u>:
      - Outcome of demonstrations and status of technology.
      - Number of similar installations.
      - Jobs created/retained as a result of the Agreement.

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

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

Products:

- Kick-off Meeting Benefits Questionnaire, Attachment 12 Cost and Benefits Calculations, LCOE calculator or other, as applicable.
- Mid-term Benefits Questionnaire, Attachment 12 Cost and Benefits Calculations, LCOE calculator or other, as applicable.
- Final Meeting Benefits Questionnaire, Attachment 12 Cost and Benefits Calculations, LCOE calculator or other, as applicable.

TASK 5: Technology/Knowledge Transfer Activities
The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to the public and key decision makers.

The Recipient shall:

- Prepare an *Initial Fact Sheet* at start of the project that describes the project. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that discusses results. Use the format provided by the CAM.
- Prepare a *Technology/Knowledge Transfer Plan* that includes:
  - An explanation of how the knowledge gained from the project will be made available to the public, including the targeted market sector and potential outreach to end users, utilities, regulatory agencies, and others.
  - A description of the intended use(s) for and users of the project results.
  - Published documents, including date, title, and periodical name.
  - Copies of documents, fact sheets, journal articles, press releases, and other documents prepared for public dissemination. These documents must include the Legal Notice required in the terms and conditions. Indicate where and when the

documents were disseminated.
  - A discussion of policy development. State if project has been or will be cited in government policy publications, or used to inform regulatory bodies.
  - The number of website downloads or public requests for project results.
  - Additional areas as determined by the CAM.
- Conduct technology transfer activities in accordance with the Technology/Knowledge Transfer Plan. These activities will be reported in the Progress Reports.
- When directed by the CAM, develop *Presentation Materials* for an Energy Commission-sponsored conference/workshop on the results of the project.
- Prepare a *Technology/Knowledge Transfer Report* on technology transfer activities conducted during the project.

Products:

- Initial Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

EXHIBIT R

Environmental Checklist Form

Title of Proposal: CUP #2013-007 North Fork Biomass Plant

Date Checklist Submitted: 4/15/2013

Agency Requiring Checklist: Madera County Planning Department

Agency Contact: Robert Mansfield, Planner III **Phone:** (559) 675-7821

Description of Initial Study/Requirement

The Initial Study is a public document used by the decision-making lead agency to determine whether a project may have significant effects on the environment. In the case of the proposed project, the Madera County Planning Department, acting as lead agency, will use the initial study to determine whether the project has a significant effect on the environment. In accordance with CEQA, Guidelines (Section 15063[a]), an environmental impact report (EIR) must be prepared if there is substantial evidence (such as results of the Initial Study) that a project may have significant effect on the environment. This is true regardless of whether the overall effect of the project would be adverse or beneficial. A negative declaration (ND) or mitigated negative declaration (MND) may be prepared if the lead agency determines that the project would have no potentially significant impacts or that revisions to the project, or measures agreed to by the applicant, mitigate the potentially significant impacts to a less-than-significant level.

The initial study considers and evaluates all aspects of the project which are necessary to support the proposal. The complete project description includes the site plan, operational statement, and other supporting materials which are available in the project file at the office of the Madera County Planning Department.

Description of Project:
To allow for a Biomass plant to operate at the North Fork Mill Site

Project Location:
North side of Road 225 at its intersection with Douglas Ranger Station Road (57839 Road 225) North Fork

Applicant Name and Address:
North Fork Community Development Council
P.O. Box 1484
North Fork, CA
93643

General Plan Designation:
HI (Heavy Industrial)

Zoning Designation:
IH (Industrial, Urban or Rural, Heavy)

Surrounding Land Uses and Setting:
South: Residential; West: Commercial, Residential; North: Remainder of Mill Site and Forest Land; East: Residential and forest land

Other Public Agencies whose approval is required:
None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology /Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

☐ Click here to enter text.
Prior EIR or ND/MND Number

Signature

April 15, 2013
Date

I. AESTHETICS -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion:

(a) No Impact
No scenic vistas are known to exist in the vicinity of this project, therefore no known impacts will occur.

(b) No Impact
No impacts identified as a result of this project. No historic buildings remain on the property due to dismantling after closure of the Mill in 1994.

(c) No Impact
No impacts identified as a result of this project. The actual facility will be in the interior of the old mill site and not readily visible from either Douglas Ranger Station Road or Road 225.

There are currently piles of rubble that are the result of deconstruction of several structures that were once associated with the Mill Site when it was in operations. This rubble and debris are piled sporatically throughout the site, and typically cannot be seen from Road 225, and can only be seen from vantage points throughout the site. The proposed project will not be affected by, nor will it contribute to these piles.

There are structures still existing on site, both those associated with the Mill Operations, and those being utilized by current operations. These structures include the Crossroads Lumber operations and the North Fork Community Development Council offices.

(d) Less than Significant Impact
The operations is expected to run 24 hours a day, seven days a year all year round. Lighting is expected to be minimal outside, mostly for security and general visibility purposes. Majority of the lighting will be inside where the operations will take place. The impact, in light of the whole, will be minimal.

General Information:

A nighttime sky in which stars are readily visible is often considered a valuable scenic/visual resource. In urban areas, views of the nighttime sky are being diminished by "light pollution." Light pollution, as defined by the International dark-Sky Association, is any adverse effect of artificial light, including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste. Two elements of light pollution may affect city residents: sky glow and light trespass. Sky glow is a result of light fixtures that emit a portion of their light directly upward into the sky where light scatters, creating an orange-yellow glow above a city or town. This light can interfere with views of the nighttime sky and can diminish the number of stars that are visible. Light trespass occurs when poorly shielded or poorly aimed fixtures cast light into unwanted areas, such as neighboring property and homes.

Light pollution is a problem most typically associated with urban areas. Lighting is necessary for nighttime

viewing and for security purposes. However, excessive lighting or inappropriately designed lighting fixtures can disturb nearby sensitive land uses through indirect illumination. Land uses which are considered "sensitive" to this unwanted light include residences, hospitals, and care homes.

Daytime sources of glare include reflections off of light-colored surfaces, windows, and metal details on cars traveling on nearby roadways. The amount of glare depends on the intensity and direction of sunlight, which is more acute at sunrise and subset because the angle of the sun is lower during these times.

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III. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest land?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion:

(a) No Impact
Under the Farmland Mapping and Monitoring Program of the California Resources Agency, the property is classed as Other Land, and as the project is on already disturbed land, there will be no impact.

(b) No Impact
The parcel is not subject to the Williamson Act.

(c) No Impact
While the area surrounding the North Fork Mill Site is considered forest land, or zoned as forest land, or timberland, the project is located on an already disturbed property and will therefore have no known impacts.

(d) No Impact
See above.

(e) No Impact
No impact as a result of the project.

General Information

The California Land Conservation Act of 1965--commonly referred to as the Williamson Act--enables local gov-

ernments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

The Department of Conservation oversee the Farmland Mapping and Monitoring Program. The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The program's definition of land is below:

PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of thestate's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

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III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

(a) No Impact

No impacts identified as a result of this project.

(b) Less than Significant Impact

The project operations is self sustained, in which there will be very minimal amounts of air quality pollutants entering the surroundings. These emissions will come from the trucks bringing in the material as well as potential emissions from operations that are not utilized as a part of the process.

There are no projected or existing air quality violations at this site or in the vicinity.

Emissions vary depending on the biomass resource, the conversion technology (type of power plant), and the pollution controls installed at the plant.

Because most biomass resources and natural gas contain far less sulfur and mercury than coal, biomass and natural gas power plants typically emit far less of these pollutants than do coal-fired power plants. Similarly, biomass plants emit less nitrogen oxide (NOx) emissions than conventional coal plants.

Biomass facilities with stoker boilers do emit significant quantities of particulates (PM-10) and carbon monoxide (CO), but these emissions can also be significantly reduced with fluidized bed and gasification systems.

(c) Less than Significant Impact with Mitigation Incorporated

Construction activity air emissions would consist primarily of fugitibe particulate emissions resulting from surface grading and vehicular traffic. Temporary localized emissions of gaseous combustion pollutants would also result from construction-related traffic and miscellaneous activities. All construction-related air emissions would be intermittent, of limited duration, and of low quantities with respect to air emissions that normally occur in the area. Ongoing direct, indirect, and cumulative adverse impacts on background pollutant concentrations resulting from construction-related activities would be negligable.

Because the proposed facility would require biomass fuel to be delivered to the facility via enclosed haul truck, fugitive emissions would be generated in very small quantities.

Emissions from vehicles related to the operation would be minimal, as it is expected to be no more than 5 deliveries per day, spread out throughout the day. While haul trucks run on diesel predominately, given that deliveries will not arrive all at once, the concentration factor of diesel exhaust will be minimal.

Burning forest biomass as an energy feedstock in power production facilities will result in release of some air pollutants. In order to accurately assess these impacts, it is important to compare these emissions with more traditional energy feedstiocks (natural gas and coal), and slash burning (a common treatment for the woody residuals of logging). Burning of coal generally results in higher emissions of sulfer dioxide, mercury and hydorchloric acid; while wood combustion has higher carbon monoxide emissions. Particulate emissions depend on the feedstock, quality of the feedstock, and emission controls established for the system being used. Particulate emissions are also a factor of completeness of combustion. In comparison to a home wood burning stove will have more particulate matter discharge versus a more efficient system typically used by biomass systems such as the one proposed for this project. Steam from the combustion process may be seen during colder periods of the day and year, but this is due to moisture content in the feed stock.

(d) Less than Significant Impact

There is the potential some pollutants or odors emitted from this project as a result of normal operations. These odors could include those from vehicular diesel exhuast. The operation in and of itself will not generate much in exhaust.

Sensitive receptors are facilities that "house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities and residential areas are examples of sensitive receptors." (GAMAQI, 2002).

There are some facilities that meet the above criteria that lay between 0.37 of a mile and 3.01 miles from the site.

(e) Less than Significant Impact

As a course of normal operations, there is the potential of some odors being generated as a result of this project. The size of the operation may not generate significant amounts of odors, but there will be some.

General Information

Global Climate Change

Climate change is a shift in the "average weather" that a given region experiences. This is measured by changes in temperature, wind patterns, precipitation, and storms. Global climate is the change in the climate of the earth as a whole. It can occur naturally, as in the case of an ice age, or occur as a result of anthropogenic activities. The extent to which anthropogenic activities influence climate change has been the subject of extensive scientific inquiry in the past several decades. The Intergovernmental Panel on Climate Change (IPCC), recognized as the leading research body on the subject, issued its Fourth Assessment Report in February 2007, which asserted that there is "very high confidence" (by IPCC definition a 9 in 10 chance of being correct) that human activities have resulted in a net warming of the planet since 1750.

CEQA requires an agency to engage in forecasting "to the extent that an activity could reasonably be expected under the circumstances. An agency cannot be expected to predict the future course of governmental regulation or exactly what information scientific advances may ultimately reveal" (CEQA Guidelines Section 15144, Office of Planning and Research commentary, citing the California Supreme Court decision in Laurel Heights

Improvement Association v. Regents of the University of California [1988] 47 Cal. 3d 376).

Recent concerns over global warming have created a greater interest in greenhouse gases (GHG) and their contribution to global climate change (GCC). However at this time there are no generally accepted thresholds of significance for determining the impact of GHG emissions from an individual project on GCC. Thus, permitting agencies are in the position of developing policy and guidance to ascertain and mitigate to the extent feasible the effects of GHG, for CEQA purposes, without the normal degree of accepted guidance by case law.

Click here to enter text.

IV. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion:

(a) Less than Significant Impact with Mitigation Incorporated

The project site used to be the North Fork Mill Site and has been developed in regards to internal roads. However, with the Mill shutting down in the mid 1990s, not much activity has occurred. This would normally allow for the local biodiversity to start reclaiming the site. There are a couple businesses in operation site (a metal recycling business, a woodworking/cabinatry facility and the North Fork Community Development Commission office). The road that leads from Road 225 to the project location is in close prosimity to a ponding basin that could potentially be habitat for special status species.

A tailings pond is adjacent to the roadway that will be utilized for transit of the vehicles delivering material to the project. There is a potential for habitats existing at this location. Additionally, the location where the equipment facility has some overgrowth resulting from years

of non-use at the site. Again there is the potential of habitat being disturbed.

(b) Less than Significant Impact with Mitigation Incorporated
The project site was built out as a result of previous operations and not specifically in an area that would be biologically affected by operations. Surrounding areas could potentially support habitats and could potentially be impacted.

As mentioned above in (a), a Tailings Pond exists adjacent to the roadway. While no expansion of the road is anticipated as a result of the project, use of the road may have an impact to some degree.

(c) No Impact
There are no known federally protected wetlands on the site..

(d) Less than Significant Impact
There will be no instances of impacts to fish migration as a direct or indirect impact from this project.

Migration of wildlife may temporarily occur as a result of this project during construction. However, this will be temporary in nature and for short duration in light of the whole. Once construction has completed, the chances of impacts to migratory patterns is considered less than significant.

(e) No Impact
No impacts anticipated as a result of this project.

(f) No Impact
No impacts anticipated as a result of this project.

General Information

Special Status Species include:

- Plants and animals that are legally protected or proposed for protection under the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA);
- Plants and animals defined as endangered or rare under the California Environmental Quality Act (CEQA) §15380;
- Animals designated as species of special concern by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG);
- Animals listed as "fully protected" in the Fish and Game Code of California (§3511, §4700, §5050 and §5515); and
- Plants listed in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California.

A review of both the County's and Department of Fish and Game's databases for special status species have identified the following species:

Species	Federal Listing	State Listing	Dept. of Fish and Game Listing	CNPS Listing
Foothill Yellow Legged Frog	None	None	SSC	None
Bald Eagle	Delisted	Endangered	FP	None
Great Grey Owl	None	Endangered	None	None

Yuma Myotis	None	None	None	None
Long Eared Myotis	None	None	None	None
Long Legged Myotis	None	None	None	None
Western Mastiff bat	None	None	SSC	None
Western Pond Turtle	None	None	SSC	None
Central Valley Drainage Residential Rainbow Trout Stream	None	None	None	None
Central Valley Drainage Rainbow Trout/Cyprinid Stream	None	None	None	None
Central Valley Drainage Hardhead/Squawfish Stream	None	None	None	None
An Isopod	None	None	None	None
Orange Lupine	None	None	None	1B.2
Tree anemone	None	Threatened	None	1B.2
Rawson's Flaming Trumpet	None	None	None	1B.2
Mariposa Pussypaws	Threatened	None	None	1B.1
Abram's Onion	None	None	None	1.B.2
Valley Elderberry Longhorn Beetle	Threatened	None	None	None
Madera Leptosiphon	None	None	None	1B.2

Cascadel Point and North Fork Quadrangles

List 1A: Plants presumed extinct

List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.

List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

List 3 Plants which more information is needed – a review list

List 4: Plants of Limited Distributed - a watch list

Ranking

0.1 – Seriously threatened in California (high degree/immediacy of threat)

0.2 – Fairly threatened in California (moderate degree/immediacy of threat)

0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known)

Effective January 1, 2007, Senate Bill 1535 took effect that has changed de minimis findings procedures. The Senate Bill takes the de minimis findings capabilities out of the Lead Agency hands and puts the process into the hands of the California Department of Fish and Wildlife (formally the California Department of Fish and Game). A Notice of Determination filing fee is due each time a NOD is filed at the jurisdictions Clerk's Office. The authority comes under Senate Bill 1535 (SB 1535) and Department of Fish and Wildlife Code 711.4. Each year the fee is evaluated and has the potential of increasing. For the most up-to-date fees, please refer to http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

The Valley elderberry longhorn beetle was listed as a threatened species in 1980. Use of the elderberry bush

by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. According to the USFWWS, the Valley Elderberry Longhorn Beetle habitat is primarily in communities of clustered Elderberry plants located within riparian habitat. The USFWS stated that VELB habitat does not include every Elderberry plant in the Central Valley, such as isolated, individual plants, plants with stems that are less than one inch in basal diameter or plants located in upland habitat.

A field study of the North Fork site was conducted in 1999. The Mill Site was divided into three zones.

The first zone is the most impacted area furthest east and upslope and includes the upper log-deck and portions of the mill site that at the time was occupied by buildings, roadways, pavement and other disturbed areas. The zone has very little or no vegetation, compacted and disturbed soils and heavily modified topography. At the time there were large amounts of wood waste, trash, metal debris and abandoned mill buildings. This zone is the most modified with the least amount of natural habitat on site. Returning vegetation consists mainly of grasses, clover, lupine and small forbs.

The second zone is generally down slope from the first, and is a transition zone into riparian areas below. Vegetation is much thicker, with abundent grasses and forbs, some brush and some trees (grey pine, black and live oak, ponderosa pine). Several man-made ponds and a stream diversion canal (Pitcher Creek) occur in the area and have varrying amounts of aquatic vegetation such as cattail, willow and hardwoods (cottonwood). These areas show less impact from use and appear more natural, althought the topography here has also been modified in the past.

The third zone is the riparian area associated with Pechinpah Creek and the South Fork of Wilow Creek. This area is characterized by substantiak riparian vegetation such as willows, oak, cottonwood, pine trees, blackberry, ceanothus, and heavy grasses and forbs. Evidence of human impact to this area is less noticable and isolated. This is the most natural and habitat on the site.

Due to the previous use of the property, the potential of significant impact to biological resources is very minimal if any at all.

V. CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion:

(a) Less than Significant Impact with Mitigation Incorporated

Historic resources are standing structures of historic or aesthetic significances that are generally 50 years of age or older.

The area including the mill site was inhabited prior to western settlement by the Western Mono (Monach), a Shoshonean group closely related to the eastern Mono and Ownes Valley Paiute. The Mill Site and surrounding area has evidence of past use by the Mono tribes throughout the area. Most of the Mill Site has been disturbed by previous grading and building and mill operations. Therefore the potential of finding archaeologically significant items are less than likely. However, that does not preclude the prospect of finding previously unknown artifacts in the subsurface regions during grading.

There are few, if any historical structures on site as a result of the mill site being closed and having gone through a hazardous waste remediation project. This project when constructed will not have an impact on any remaining historical structures. No structures that exist now will be impacted as a result of this project.

(b) Less than Significant Impact with Mitigation Incorporated

While there have been some archaeological sites identified in the vicinity of the project, there are no known sites where the project will be located. This does not mean, however, that there are no impacts. There is the potential of finding previously overlooked or unknown resources as a result of construction activities.

(c) Less than Significant Impact

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleotological resources represent limited, non-renewable and impact sensitive scientific and educational resources.

Most of the paleontological finds have been on the Valley Floor of Madera County, however that does not preclude the potential of discovering previously unknown finds during cosntruction.

(d) Less than Significant Impact with Mitigation Incorporated

The area historically has been utilized by indigenous tribes as well as more recent settlements. While the site has been utilized as a mill for several years, there is still the potential of finding previously unknown sites of archaeological and historical significance.

General Information

Public Resource Code 5021.1(b) defines a historic resource as "any object building, structure, site, area or place which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." These resources are of such import, that it is codified in CEQA (PRC Section 21000) which prohibits actions that "disrupt, or adversely affect a prehistoric or historic archaeological site or a property of historical or cultural significance to a community or ethnic or social groups; or a paleontological site except as part of a scientific study."

Archaeological importance is generally, although not exclusively, a measure of the archaeological research value of a site which meets one or more of the following criteria:

- Is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory.
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions.
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.
- Is at least 100 years old and possesses substantial stratigraphic integrity (i.e. it is essentially undisturbed and intact).

- Involves important research questions that historic research has shown can be answered only with archaeological methods.

Reference CEQA Guidelines §15064.5 for definitions.

Most of the archaeological survey work in the County has taken place in the foothills and mountains. This does not mean, however, that no sites exist in the western part of the County, but rather that this area has not been as thoroughly studied. There are slightly more than 2,000 recorded archaeological sites in the County, most of which are located in the foothills and mountains. Recorded prehistoric artifacts include village sites, camp sites, bedrock milling stations, pictographs, petroglyphs, rock rings, sacred sites, and resource gathering areas. Madera County also contains a significant number of potentially historic sites, including homesteads and ranches, mining and logging sites and associated features (such as small camps, railroad beds, logging chutes, and trash dumps.

A Historic Evaluation and Determination of Significance for the North Fork Mill Site was completed by Tom Nave in June, 1998. The original North Fork Mill consisted of 22 structures and features, not including the residential area that is no longer associated with the site. By November, 1969, 13 to 25 additional structures had been added to the site, not including additions made to original structures. The addition of these structures changed the appearance and design of the site.

The loss of 15 out of the original 22 structures and features within the current property boundaries, combined with the addition of the neweer structures, resulted in a significant loss of historic inegrity of the site. Due to the extensive expansion of the facilities and the loss of the mill pond, boiler room, refuse burner, original office, and 12 bunkhouses, the North Fork Mill Site has not retaine significant integrity to be considered eligible for the Nation Register of Historic Places. All other remaining structures on the site are less than 50 years old.

VI. GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion:

(a-i) Less than Significant Impact
The County is not known for significant seismic activity. It still does happen, and the potential of a sizable earthquake occuring is minimal but still possible.

(a-ii) Less than Significant Impact
Madera County is in the Central Valley, Foothill and Sierra Nevada rgions of California and in an area crossed by very few faults. One fault does cross through the southeastern portion of the County, is unanamed and is a part of the Hartley Springs Fault Zone.

There has been no recorded seismic events in the area of the project site in recent records.

(a-iii) Less than Significant Impact
See above

(a-iv) Less than Significant Impact with Mitigation Incorporated
The area where the project will be operating from may be relatively flat, it is surrounded by topographical features that are conducive to landslides, no matter how minor they may be. The overall impact may not be very significant, however the overall threat remains.

(b) Less than Significant Impact with Mitigation Incorporated
With construction of a new facility, rainfall will be diverted to areas it once never went or did not go as much. This has the potential of increasing erosion potential in the new areas.

(c) No Impact
No impacts identified.

(d) No Impact
No impacts identified.

(e) No Impact
No impacts identified.

General Information

Madera County is divided into two major physiographic and geologic provinces: the Sierra Nevada Range and the Central Valley. The Sierra Nevada physiographic province in the northeastern portion of the county is underlain by metamorphic and igneous rock. It consists mainly of homogenous types of granitic rocks, with several islands of older metamorphic rock. The central and western parts of the county are part of the Central Valley province, underlain by marine and non-marine sedimentary rocks.

The foothill area of the county is essentially a transition zone, containing old alluvial soils that have been dissected by the west-flowing rivers and streams which carry runoff from the Sierra Nevada's.

Seismicity varies greatly between the two major geologic provinces represented in Madera County. The Central valley is an area of relatively low tectonic activity bordered by mountain ranges on either side. The Sierra Nevada's, partly within Madera County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Ranges on the west side of the Central Valley are also a result of these forces, and continued movement of the Pacific and North American tectonic plates continues to elevate the ranges. Most of the seismic hazards in Madera County result from movement along faults associated with the creation of these ranges.

There are no active or potentially active faults of major historic significance within Madera County. The County does not lie within any Alquist Priolo Special Studies Zone for surface faulting or fault creep.

However, there are two significant faults within the larger region that have been and will continue to be, the principle sources of potential seismic activity within Madera County.

San Andreas Fault: The San Andreas Fault lies approximately 45 miles west of the county line. The fault has a long history of activity and is thus a concern in determining activity in the area.

Owens Valley Fault Group: The Owens Valley Fault Group is a complex system containing both active and potentially active faults on the eastern base of the Sierra Nevada Range. This group is located approximately 80 miles east of the County line in Inyo County. This system has historically been the source of seismic activity within the County.

The *Draft Environmental Impact Report* for the state prison project near Fairmead identified faults within a 100 mile radius of the project site. Since Fairmead is centrally located along Highway 99 within the county, this information provides a good indicator of the potential seismic activity which might be felt within the County. Fifteen active faults (including the San Andreas and Owens Valley Fault Group) were identified in the *Preliminary Geotechnical Investigation*. Four of the faults lie along the eastern portion of the Sierra Nevada Range, approximately 75 miles to the northeast of Fairmead. These are the Parker Lake, Hartley Springs, Hilton Creek and Mono Valley Faults. The remaining faults are in the western portion of the San Joaquin Valley, as well as within the Coast Range, approximately 47 miles west of Fairmead. Most of the remaining 11 faults are associated with the San Andreas, Calaveras, Hayward and Rinconada Fault Systems which collectively form the tectonic plate boundary of the Central Valley.

In addition, the Clovis Fault, although not having any historic evidence of activity, is considered to be active within quaternary time (within the past two million years), is considered potentially active. This fault line lies approximately six miles south of the Madera County line in Fresno County. Activity along this fault could potentially generate more seismic activity in Madera County than the San Andreas or Owens Valley fault systems. However, because of the lack of historic activity along the Clovis Fault, there is inadequate evidence for assessing maximum earthquake impacts.

Seismic ground shaking, however, is the primary seismic hazard in Madera County because of the County's seismic setting and its record of historical activity (General Plan Background Element and Program EIR). The project represents no specific threat or hazard from seismic ground shaking, and all new construction will comply with current local and state building codes. Other geologic hazards, such as landslides, lateral spreading, subsidence, and liquefaction have not been known to occur within Madera County.

According to the Madera County General Plan Background Report, groundshaking is the primary seismic hazard in Madera County. The valley portion of Madera County is located on alluvium deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas.

Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged ground shaking. According to the Madera County General Plan Background Report, although there are areas of Madera County where the water table is at 30 feet or less below the surface, soil types in the area are not conducive to liquefaction because they are either too coarse in texture or too high in clay content; the soil types mitigate against the potential for liquefaction.

The soils within the project site and vicinity are identified by the USDA as belonging to the Holland-Chias Families Comples which generally consists of sandy loam, coarse sandy loam, sandy clay loam, and weathered bedrock. Bedrock is relatively close to the surface on the north side of the project site and dips down to the south. Much of the proposed project site had either structures associated with the former saw mill site (which have been torn down) or hs fill material.

VII. GREENHOUSE GAS EMISSIONS - Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion:

(a) No Impact
No impacts identified as a result of this project.

(b) No Impact
No impacts identified.

General Information

Greenhouse Gas (GHG) Emissions: The potential effect of greenhouse gas emission on global climate change is an emerging issue that warrants discussion under CEQA. Unlike the pollutants discussed previously that may have regional and local effects, greenhouse gases have the potential to cause global changes in the environment. In addition, greenhouse gas emissions do not directly produce a localized impact, but may cause an indirect impact if the local climate is adversely changed by its cumulative contribution to a change in global climate. Individual development projects contribute relatively small amounts of greenhouse gases that when added to other greenhouse gas producing activities around the world would result in an increase in these emissions that have led many to conclude is changing the global climate. However, no threshold has been established for what would constitute a cumulatively considerable increase in greenhouse gases for individual development projects. The State of California has taken several actions that help to address potential global climate change impacts.

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, outlines goals for local agencies to follow in order to bring Greenhouse Gas (GHG) emissions to 1990 levels (a 25% overall reduction) by the year 2020. The California Air Resources Board (CARB) holds the responsibility of monitoring and reducing GHG emissions through regulations, market mechanisms and other actions. A Draft Scoping Plan was adopted by CARB in order to provide guidelines and policy for the State to follow in its steps to reduce GHG. According to CARB, the scoping plan's GHG reduction actions include: direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Following the adoption of AB 32, the California State Legislature adopted Senate Bill 375, which became the first major bill in the United States that would aim to limit climate change by linking directly to "smart growth" land use principles and transportation. It adds incentives for projects which intend to be in-fill, mixed use, affordable and self-contained developments. SB 375 includes the creation of a Sustainable Communities Strategy (SCS) through the local Metropolitan Planning Organizations (MPO) in order to create land use patterns which reduce overall emissions and vehicle miles traveled. Incentives include California Environmental Quality Act streamlining and possible exemptions for projects which fulfill specific criteria.

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VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact

a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion:

(a) Less than Significant Impact with Mitigation Incorporated

The applicant does not anticipate much of a quantity of hazardous materials. However, oils, lubricants and diesel fuels will be a part of the overll operations of the site. The transport to and use of materials at the site will lead to the potential of a release of materials into the environment requiring cleanup.

(b) Less than Significant Impact with Mitigation Incorporated

Given the road network and topography of the site, there is the potential of accidents occuring, not just with the delivery of materials used for the equipment (oils, lubricants and fuel), but there is also the potential of accidents occuring by the trucks bringing in material for the gasification process. There is the chance of spillage onto the site and into nearby riparian habitats.

(c) Less than Significant Impact

There may be some emissions generated as a result of this project, but these emissions typically are byproducts of the processing of the biofuels (i.e. water from "green" material in the form of water vapor and particulate material from incomplete burning of the material). These are not typically seen as hazardous.

(d) Less than Significant Impact

The North Fork Mill Site was at one point listed as a Brownfields Site due to the logging industry that once worked the site. The designation was a result of the hazardous materials and hazardous waste that was generated through mill operations. The site has since gone through remediation of the toxic areas.

Any remaining contamination is considered surface level in the form of oil leageages from improperly maintained vehicles.

(e) No Impact
The project site is not within an Airport/Airspace Overlay District nor within proximity to any known airports and airstrips. No impacts identified.

(f) No Impact
The project site is not within an Airport/Airspace Overlay District nor within proximity to any known airports and airstrips. No impacts identified.

(g) No Impact
No impacts identified as a result of this project.

(h) No Impact
No impacts identified as a result of this project.

General Information

Any hazardous material because of its quantity, concentration, physical or chemical properties, pose a significant present or potential hazard to human health and safety, or the environment the California legislature adopted Article I, Chapter 6.95 of the Health and Safety Code, Sections 25500 to 25520 that requires any business handling or storing a hazardous material or hazardous waste to establish a Business Plan. The information obtained from the completed Business Plans will be provided to emergency response personnel for a better-prepared emergency response due to a release or threatened release of a hazardous material and/or hazardous waste.

Business owners that handle or store a hazardous material or mixtures containing a hazardous material, which has a quantity at any one time during the year, equal to or greater than:

1) A total of 55 gallons,
2) A total of 500 pounds,
3) 200 cubic feet at standard temperature and pressure of compressed gas,
4) any quantity of Acutely Hazardous Material (AHM).

Assembly Bill AB 2286 requires all business and agencies to report their Hazardous Materials Business Plans to the Certified Unified Program Agency (CUPA) information electronically at http://cers.calepa.ca.gov

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IX. HYDROLOGY AND WATER QUALITY – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒

c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☒
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:

(a) Less than Significant Impact with Mitigation Incorporated

The project has the potential of using cooling towers as a method of cooling the engines used as a part of the operation. If the cooling tower were to be used, instead of air cooled, will not come in contact with the syngas or gasification process.

Water removed from the syngas steam contain tars and will be stored temporarily in a water/oil separator. The oil is collected and reintroduced into the gasifier for complete combustion. Excess water is evaporated using process heat from the gasifier and the exhaust steam is run through the engine's catalytic converter to minimize the potential to emit contaminents. There is still the potential for discharge in the event of accident or malfunction.

There will no discharges of non-domestic or industrial wastewater as a result of this project. A septic system for domestic wastewater (employee based) will be designed and constructed by qualified individuals.

(b) No Impact

No impacts identified as a result of this project.

(c) Less than Significant Impact

The North Fork Mill Site is bounded by the perennial South Fork of Willow Creek on the west and the seasonal Peckinpah Creek to the north. The two meet at the northwest corner of the site with Peckinpah Creek emptying into Willow Creek. These are located approximately 400 feet from the project site.

There are also two springs on the proeprty, but none are found on the area where the proposed project is to be located.

No streams will be altered as a result of this project. there is the potential of alteration of ex-

isting drainage patterns on site as a result of this project. These changes however will be localized to the area of the mill site where the biomass plant is located. The alteration is not anticipated as being significant.

(d) Less than Significant Impact

As mentioned above, there is a potential of alteration of drainage patterns due to the construction of the building for this operation. However, the alteration will only be localized to the area of construction. The amount of alteration is not anticipated to be significant, but will be noticeable during period of heavy rainfall.

(e) Less than Significant Impact with Mitigation Incorporated

With equipment use as a result of this project, there is the potential that there will be some oil, grease and antifreeze leakage occuring in areas where runoff water will come in contact. The project is not anticipated to create new runoff requireing new drainage systems, but could contribute to pollution in runoff materials.

(f) No Impact

No impacts identified.

(g) No Impact

No housing is planned as a result, directly or indirectly, of this project. The site is not within the 100-year flood plane.

(h) No Impact

No impact identified as a result of this project, directly or indirectly.

(i) No Impact

No impact identified as a result of this project, directly or indirectly.

(j) No Impact

No impact identified as a result of this project, directly or indirectly.

General Information

Groundwater quality contaminants of concern in the Valley Floor include high salinity (total dissolved solids), nitrate, uranium, arsenic, methane gas, iron, manganese, slime production, and dibromochloropropane with the maximum contaminant level exceeded in some areas. Despite the water quality issues noted above, most of the groundwater in the Valley Floor is of suitable quality for irrigation. Groundwater of suitable quality for public consumption has been demonstrated to be present in most of the area at specific depths.

Groundwater quality contaminants of concern in the Foothills and Mountains include manganese, iron, high salinity, hydrogen sulfide gas, uranium, nitrate, arsenic, and methylbutylethylene (MTBE) with the maximum concentration level being exceeded in some areas. Despite these problems, there are substantial amounts of good-quality groundwater in each of the areas evaluated in the Foothills and Mountains. Iron and manganese are commonly removed by treatment. Uranium treatment is being conducted on a well by the Bass Lake Water Company.

A seiche is an occasional and sudden oscillation of the water of a lake, bay or estuary producing fluctuations in the water level and caused by wind, earthquakes or changes in barometric pressure. A tsunami is an unusually large sea wave produced by seaquake or undersea volcanic eruption (from the Japanese language, roughly translated as "harbor wave"). According to the California Division of Mines and Geology, there are no active or potentially active faults of major historic significance within Madera County. As this property is not located near any bodies of water, no impacts are identified.

The flood hazard areas of the County of Madera are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare. These flood losses are caused by uses that are inadequately

elevated, floodproofed, or protected from flood damage. The cumulative effect of obstruction in areas of special flood hazards which increase flood heigh and velocities also contribute to flood loss.

Click here to enter text.

X. LAND USE AND PLANNING – Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:
(a) No Impact
This project as designed will not divide any established communities within the County.

(b) No Impact
No known impacts exist.

(c) No Impact
No known impacts exist.

XI. MINERAL RESOURCES – Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion:

(a) No Impact
No impacts identified as a result of this project.

(b) No Impact
No impacts identified as a result of this project

XII. NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐

b)	Exposure of persons to or generation of excessive ground-borne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d)	A substantial temporary or periodic increase in ambient levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

(a) Less than Significant Impact with Mitigation Incorporated

There is the potential of excessive noise generation during the construction phase of this project. This is expected to be temporary and short term for the duration of the construction phase of the project.

The applicant indicates that the highest decible (dB) reading anticipated is 74dB at 50 feet from center of project and is based on an Environmental Impact Report for Placer County for a similar project (a 2MW plant). At 250 feet from that project, again based on the EIR, the reading dropped to 60dB.

The Mill Site, when in operation as a Mill Site, had a cogeneration plant in a similar location as this proposed project. According to the Madera County General Plan Background Report, at that time, when in operation, decible readings at the residential area across Roadd 225 ranged from 48 to 51 decibels, averaging 49dB. Readings elsewhere surrounding the facility was no higher than 62dB. Most of these readings were in light of other uses associated of the site at that time. A reading of 40dB is the equivalent to a library setting, while a 60dB reading is equivalent to conversation in a restaurant, office or background music.

The closest homes are across Road 225 from the Mill Site. The structure where operations are occuring is more or less center of the Mill Site. The nearest business is Crossroads Lumber on one side, and a metal recycling business on the other. These two business may be more impacted by ongoing operations and their close proximities. The residences across Road 225 have distance, topography and structures inbetween the source and the homes. These factors will have a reducing effect on the noise output on top of the decible reduction mentioned above.

(b) Less than Significant Impact

There is expected to be some ground bourne vibrations expected as a result of this project during the construction phase of the project. This is expected to be temporary and short term for the duration of construction.

There is the potential of minimal groundborne vibrations as a result of truck traffic in and out of the project facility. However, these events are not anticipated to be excessive or in any significant amount of duration.

(c) Less than Significant Impact with Mitigation Incorporated

It is expected that there will be a permanent increase in the ambient noise levels as a result

of this project as it is expected to run 24/7. With mitigations, this can be reduced to a level of less than significant.

(d) Less than Significant Impact with Mitigation Incorporated

As mentioned in (c), due to the operational time from of this project, the ambient noise level will increase slightly. As mentioned earlier, the amount of decibles at the source could reach 61dB, but due to decible reductions over distance, topographic features as well as structural features at the site, the impact to the housing across Road 225 is expected to be minimal if anything at all.

(e) No Impact

This project is not located near an airport or airstrip nor is it in the Airport/Airspace Overlay District, therefore no impacts identified as a result of this project.

(f) No Impact

This project is not located near an airport or airstrip nor is it in the Airport/Airspace Overlay District, therefore no impacts identified as a result of this project.

General Discussion

The Noise Element of the Madera County General Plan (Policy 7.A.5) provides that noise which will be created by new non-transportation noise sources shall be mitigated so as not to exceed the Noise Element noise level standards on lands designated for noise-sensitive uses. However, this policy does not apply to noise levels associated with agricultural operations. All the surrounding properties, while include some residential units, are designated and zoned for agricultural uses. This impact is therefore considered less than significant.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g. demolition/land clearing, grading and excavation, erection). The United States Environmental Protection Agency has found that the average noise levels associated with construction activities typically range from approximately 76 dBA to 84 dBA Leq, with intermittent individual equipment noise levels ranging from approximately 75 dBA to more than 88 dBA for brief periods.

Short Term Noise

Noise from localized point sources (such as construction sites) typically decreases by approximately 6 dBA with each doubling of distance from source to receptor. Given the noise attenuation rate and assuming no noise shielding from either natural or human-made features (e.g. trees, buildings, fences), outdoor receptors within approximately 400 feet of construction site could experience maximum noise levels of greater than 70 dBA when onsite construction-related noise levels exceed approximately 89 dBA at the project site boundary. Construction activities that occur during the more noise-sensitive eighteen hours could result in increased levels of annoyance and sleep disruption for occupants of nearby existing residential dwellings. As a result, noise-generating construction activities would be considered to have a potentially significant short-term impact. However with implementation of mitigation measures, this impact would be considered less than significant.

Long Term Noise

Mechanical building equipment (e.g. heating, ventilation and air conditioning systems, and boilers), associated with the proposed structures, could generate noise levels of approximately 90 dBA at 3 feet from the source. However, such mechanical equipment systems are typically shielded from direct public exposure and usually housed on rooftops, within equipment rooms, or within exterior enclosures.

Landscape maintenance equipment, such as leaf blowers and gasoline powered mowers, associated with the proposed operations could result in intermittent noise levels that range from approximately 80 to 100 dBA at 3 feet, respectively. Based on an equipment noise level of 100 dBA, landscape maintenance equipment (assuming a noise attenuation rate of 6 dBA per doubling of distance from the source) may result in exterior noise levels of approximately 75 dBA at 50 feet.

MAXIMUM ALLOWABLE NOISE EXPOSURE FOR
NON-TRANSPORTATION NOISE SOURCES*

		Residential	Commercial	Industrial (L)	Industrial (H)	Agricultural
Residential	AM	50	60	55	60	60
	PM	45	55	50	55	55
Commercial	AM	60	60	60	65	60
	PM	55	55	55	60	55
Industrial (L)	AM	55	60	60	65	60
	PM	50	55	55	60	55
Industrial (H)	AM	60	65	65	70	65
	PM	55	60	60	65	60
Agricultural	AM	60	60	60	65	60
	PM	55	55	55	60	55

*As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers at the property line.

AM = 7:00 AM to 10:00 PM
PM = 10:00 PM to 7:00 AM
L = Light
H = Heavy

Note: Each of the noise levels specified above shall be lowered by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings).

Vibration perception threshold: The minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects. The perception threshold shall be presumed to be a motion velocity of one-tenth (0.1) inches per second over the range of one to one hundred Hz.

Reaction of People and Damage to Buildings from Continuous Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006 to 0.019	Threshold of perception; possibility of intrustion	Damage of any type unlikely
0.08	Vibration readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Continuous vibration begins to annoy people	Virtually no risk of architectural damage to normal buildings
0.20	Vibration annoying to people in buildings	Risk of architectural damage to normal dwellings such as plastered walls or ceilings
0.4 to 0.6	Vibration considered unpleasant by people subjected to continuous vibrations vibration	Architectural damage and possibly minor structural damage

Source: Whiffen and Leonard 1971

XIII. POPULATION AND HOUSING -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

(a) No Impact
No impact identified as a result of this project.

(b) No Impact
No impact identified as a result of this project.

(c) No Impact
No impact identified as a result of this project.

General Information

According to the California Department of Finance, in January of 2012, the County wide population was 152,074 with a total of 49,334 housing units. This works out to an average of 3.33 persons per housing unit. The vacancy rate was 11.84%.

The project as a whole is seen as beneficial as it will provide for jobs in a community where unemployment has hit hard. Granted, the number of employees for oepration are minimal, it is still a jobs producer.

XIV. PUBLIC SERVICES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☒	☐	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion:

(a-i) Less than Significant Impact with Mitigation Incorporated
Due to the nature of the materials (wood based), there is the potential of fire occuring in the feedstocks due to any number of reasons. The concentration of the material will allow "feed"

for fires and allow for further spread of wildland based fires.

Madera County, at the time of the writing of this Intial Study, was completing construction of a volunteer fire station to be located on a newly established parcel on the Mill Site. This will be staffed by volunteers and equiped with fire suppression equipment per procedures established by the Madera County Fire Department and CDF. The Fire Station currently located under the library in North Fork will relocate to this location when it is completed.

(a-ii) Less than Significant Impact
There will be incidental need for sheriff and other law enforcement assistance due to potential theft and/or vandalism issues.

(a-iii) No Impact
No schools will be impacted as a result of this project.

(a-iv) No Impact
No parks will be impacted as a result of this project.

(a-v) No Impact
No public facilities will be impacted as a result of this project.

General Information

The proposed project site is within the jurisdiction of the Madera County Fire Department. Crime and emergency response is provided by the Madera County Sherriff's Department. The proposed project will have no impact on local parks and will not create demand for additional parks.

The Madera County Fire Department exists through a contract between Madera County and the CALFIRE (California Department of Forestry and Fire Prevention) and operates six stations for County responses in addition to the state-funded CALFIRE stations for state responsibility areas. Under an "Amador Plan" contract, the County also funds the wintertime staffing of four fire seasonal CALFIRE stations. In addition, there are ten paid-call (volunteer) fire companies that operate from their own stations. The administrative, training, purchasing, warehouse, and other functions of the Department operate through a single management team with County Fire Administration.

A Federal Bureau of Investigations 2009 study suggests that there is on average of 2.7 law enforcement officials per 1,000 population for all reporting counties. The number for cities had an average of 1.7 law enforcement officials per 1,000 population.

Single Family Residences have the potential for adding to school populations. The average per Single Family Residence is:

Grade	Student Generation per Single Family Residence
K – 6	0.425
7 – 8	0.139
9 – 12	0.214

The Madera County General Plan allocates three acres of park available land per 1,000 residents' population.

Click here to enter text.

XV. RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighbor-	☐	☐	☐	☒

hood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion:

(a) No Impact
No impact identified as a result of this project.

(b) No Impact
No impact identified as a result of this project.

General Information

The Madera County General Plan allocates three acres of park available land per 1,000 residents' population.

Click here to enter text.

XVI. TRANSPORTATION/TRAFFIC -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards, established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Discussion:

(a) No Impact
No impacts anticipated as a result of this project.

(b) Less than Significant Impact

The applicant anticipates between 2 and 5 deliveries per day (totally up to 10 round trips) delivering feedstock for the operations. It is not expected to significantly impact levels of service or add to congestion in the vicinity. Utilization of local roads and access points will be a part of the operation.

The number of trucks entering the site during a typical workday is anticipated to be approximately 5. This will create 10 round trips. This will be spread out during the course of a normal work day. This amount of traffic increase is minimal compared to counts for Road 225 and Douglas Ranger Station Road. No deliveries will occur over the weekend, nor during times when forest management operations will occur (late fall to early spring).

(c) No Impact
The site is not located in the vicinity of an airport or airstrip, nor is it in an Airport/Airspace Overlay District. No impacts anticipated as a result of this project.

(d) Less than Significant Impact with Mitigation Incorporated
Storage of feddstock material may cause problems in regards to hazards to life and safety if not properly addressed. Following Best Management Practices for this type of business and other mitigations can reduce this impact to less than Significant.

(e) Less than Significant Impact with Mitigation Incorporated
Due to the nature of this business, materials that are stored in feedstock formations typical of this type of business may create access issues especially during fire incidents. With mitigation, this impact can be reduced to less than significant.

(f) No Impact
No impacts anticipated as a result of this project.

General Information

According to the Institute of Traffic Engineers (7th Edition, pg. 268-9) the trips per day for one single-family residence are 9.57.

Madera County currently uses Level Of Service "D" as the threshold of significance level for roadway and intersection operations. The following charts show the significance of those levels.

Level of Service	Description	Average Control Delay (sec./car)
A	Little or no delay	0 – 10
B	Short traffic delay	>10 – 15
C	Medium traffic delay	> 15 – 25
D	Long traffic delay	> 25 – 35
E	Very long traffic delay	> 35 – 50
F	Excessive traffic delay	> 50

Unsignalized intersections.

Level of Service	Description	Average Control Delay (sec./car)
A	Uncongested operations, all queues clear in single cycle	< 10
B	Very light congestion, an occasional phase is fully utilized	>10 – 20
C	Light congestion; occasional queues on approach	> 20 – 35

D	Significant congestion on critical approaches, but intersection is functional. Vehicles required to wait through more than one cycle during short peaks. No long-standing queues formed.	> 35 – 55
E	Severe congestion with some long-standing queues on critical approaches. Traffic queues may block nearby intersection(s) up-stream of critical approach(es)	> 55-80
F	Total breakdown, significant queuing	> 80

Signalized intersections.

Level of service	Freeways	Two-lane rural highway	Multi-lane rural highway	Expressway	Arterial	Collector
A	700	120	470	720	450	300
B	1,100	240	945	840	525	350
C	1,550	395	1,285	960	600	400
D	1,850	675	1,585	1,080	675	450
E	2,000	1,145	1,800	1,200	750	500

Capacity per hour per lane for various highway facilities

Madera County is predicted to experience significant population growth in the coming years (62.27 percent between 2008 and 2030). Accommodating this amount of growth presents a challenge for attaining and maintain air quality standards and for reducing greenhouse gas emissions. The increase in population is expected to be accompanied by a similar increase in vehicle miles traveled (VMT) (61.36 percent between 2008 and 2030).

Horizon Year	Total Population (thousands)	Employment (thousands)	Average Weekday VMT (millions)	Total Lane Miles
2010	175	49	5.4	2,157
2011	180	53	5.5	NA
2017	210	63	6.7	NA
2020	225	68	7.3	2,264
2030	281	85	8.8	2,277

Source: MCTC 2007 RTP

The above table displays the predicted increase in population and travel. The increase in the lane miles of roads that will serve the increase in VMT is estimated at 120 miles or 0.94 percent by 2030. This indicates that roadways in Madera County can be expected to become much more crowded than is currently experienced.

Emissions of CO (Carbon Monoxide) are the primarily mobile-source criteria pollutant of local concern. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed and delay. Carbon monoxide transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, school children, hospital patients, the elderly, etc.). As a result, the SJVAPCP recommends analysis of CO emissions of at a local rather than regional level. Local CO concentrations at intersections projected to operate at level of service (LOS) D or better do not typically exceed national or state ambient air quality standards. In addition, non-signalized intersections located within areas having relatively low background concentrations do not typically have sufficient traffic volumes to warrant analysis of local CO concentrations.

Click here to enter text.

XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion:

(a) Less than Significant Impact
Water usage is expected to be minimal as a part of the operations. Water will be drawn from wells and septic systems will be utilized.

(b) No Impact
Septic systems will be utilized for this project.

(c) Less than Significant Impact
There is expected to be a slight increase in rainfall drainage due to impervious surfaces, and drainage patterns are expected to change as a result of the structure. However neither of these will require the construction of any new stormwater facilities.

(d) Less than Significant Impact
Water will be supplied by onsite wells, and is expected to be minimal in usage.

(e) No Impact
No impacts anticipated as a result of this project.

(f) Less than Significant Impact
Solid waste is expected to be minimal.

(g) No Impact
No impacts anticipated.

General Discussion

Madera County has 34 County Service Areas and Maintenance Districts that together operate 30 small water systems and 16 sewer systems. Fourteen of these special districts are located in the Valley Floor, and the re-

maining 20 special districts are in the Foothills and Mountains. MD-1 Hidden Lakes, Bass Lake (SA-2B and SA-2C) and SA-16 Sumner Hill have surface water treatment plants, with the remaining special districts relying solely on groundwater.

The major wastewater treatment plants in the County are operated in the incorporated cities of Madera and Chowchilla and the community of Oakhurst. These wastewater systems have been recently or are planned to be upgraded, increasing opportunities for use of recycled water. The cities of Madera and Chowchilla have adopted or are in the process of developing Urban Water Management Plans. Most of the irrigation and water districts have individual groundwater management plans. All of these agencies engage in some form of groundwater recharge and management.

Groundwater provides almost the entire urban and rural water use and about 75 percent of the agricultural water use in the Valley Floor. The remaining water demand is met with surface water. Almost all of the water use in the Foothills and Mountains is from groundwater with only three small water treatment plants relying on surface water from the San Joaquin River and its tributaries.

In areas of higher precipitation (Oakhurst, North Fork, and the topographically higher part of the Coarsegold Area), groundwater recharge is adequate for existing uses. However, some problems have been encountered in parts of these areas due to well interference and groundwater quality issues. In areas of lower precipitation (Raymond-Hensley Lake and the lower part of the Coarsegold area), groundwater recharge is more limited, possibly requiring additional water supply from other sources to support future development.

Madera County is served by a solid waste facility (landfill) in Fairmead. There is a transfer station in North Fork. The Fairmead facility also provides for Household Hazardous Materials collections on Saturdays. The unincorporated portion of the County is served by Red Rock Environmental Group. Above the 1000 foot elevation, residents are served by EMADCO services for solid waste pick-up.

Click here to enter text.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Discussion:
(a) No Impact
No impacts anticipated as a result of this project.

(b) No Impact
No impacts anticipated as a result of this project.

(c) No Impact

No impacts anticipated as a result of this project.

General Information

CEQA defines three types of impacts or effects:

- Direct impacts are caused by a project and occur at the same time and place (CEQA §15358(a)(1).

- Indirect or secondary impacts are reasonably foreseeable and are caused by a project but occur at a different time or place. They may include growth inducing effects and other effects related to changes in the pattern of land use, population density or growth rate and related effects on air, water and other natural systems, including ecosystems (CEQA §15358(a)(2).

- Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA §15355(b)). Impacts from individual projects may be considered minor, but considered retroactively with other projects over a period of time, those impacts could be significant, especially where listed or sensitive species are involved.

Click here to enter text.

Documents/Organizations/Individuals Consulted
In Preparation of this
Initial Study

Madera County General Plan

California Department of Finance

California Integrated Waste Management Board

California Environmental Quality Act Guidelines

United States Environmental Protection Agency

Caltrans website http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm accessed October 31, 2008

California Department of Fish and Game "California Natural Diversity Database" http://www.dfg.ca.gov/biogeodata/cnddb/

Madera County Integrated Regional Water Management Plan.

State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011 and 2012, with 2010 Benchmark.* Sacramento, California, May 2012

Madera County Engineering Department Comments

Madera County Environmental Health Department Comments

Madera County Fire Marshall's Office Comments

Madera County Roads' Department

NEPA Site Enviornmental Assessment for Relocation of Fire Station, 2009.

MITIGATED NEGATIVE DECLARATION MND

RE: Conditional Use Permit #2013-007- North Fork CDC Biomass Plant

LOCATION AND DESCRIPTION OF PROJECT:
The application for conditional use permit is to allow for a biomass plant

The subject property is located on the north side of Road 225 at its intersection with Douglas Ranger Station Road (57839 Road 225), North Fork.

ENVIRONMENTAL IMPACT:

No adverse environmental impact is anticipated from this project. The following mitigation measures are included to avoid any potential impacts.

BASIS FOR NEGATIVE DECLARATION:

1. As designed and operated, this project could potentially create particulate matter emissions. As a result, this project will install and utilize equipment that will reduce, if not completely eliminate, any particulate matter emissions.

2. No grading or construction to occur near riparian habitats or potential riparian habitats.

3. If project construction related activities (including but not limited to ground disturbing activities) result in the disturbing of subsurface cultural deposits, project related activities shall be halted and a professional archaeologist brought in to determine the culture of the deposits. In addition, if human remains are unearthed, the Madera County Coroner, by law, must be notified immediately.

4. No construction shall occur within 50 feet of known cultural resources.

5. If any grading is to occur, the applicant shall submit a grading, drainage and erosion control plan to the Engineering Department. This plan shall identify onsite retention for any increase in storm water runoff generated by this project. The basis for all designs shall be the provision of capacity for the runoff from a 100 year, 24 hour storm event. The grading, drainage and erosion control plan shall be prepared by a registered civil engineer and shall meet all applicable standards of the Uniform Building Code and the Madera County Code.

6. All hazardous materials utilized on site as a part of normal operations shall be handled, stored, transported, and disposed of in according to all Federal, State and Local regulations.

7. All hazardous wastes utilized on site as a part of normal operations shall be handled, stored, transported, and disposed of in according to all Federal, State and Local regulations.

8. All applicable Regional Water Quality Control Permits shall be applied for. The applicant shall adhere to the conditions of said permits.

9. Noise levels shall not exceed Madera County Noise Ordinance established guidelines at any point in time.

10. Storage of materials shall not be in such a manner as to cause combustion, or provide fuel for wildfire events.

11. At no point shall operations on site interfere with emergency access to all points of the facility or adjoining facilities.

Madera County Environmental Committee

A copy of the negative declaration and all supporting documentation is available for review at the Madera County Planning Department, 2037 West Cleveland Avenue, Madera, California.

DATED: April 15, 2013

FILED:

PROJECT APPROVED:

Print Form

FILED
MADERA COUNTY

2013015

Notice of Determination

2013 MAY 13 AM 11:33

REBECCA NAVARRO
COUNTY CLERK

Appendix D

To:

☐ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☒ County Clerk
County of: Madera County
Address: 200 W. 4th Street, Madera, CA

From:
Public Agency: Madera County Planning Dept.
Address: 2037 W. Cleveland Avenue
Contact: Robert Mansfield
Phone: 559-675-7821

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): n/a

Project Title: CUP #2013-007 North Fork Mill Site Biomass Plant

Project Applicant: North Fork Community Development Commission

Project Location (include county): 57839 Road 225 North Fork, Madera County

Project Description:
To allow for a community based 1 megawatt Biomass Plant on the North Fork Biomass Plant.

This is to advise that the Madera County Planning Department (☒ Lead Agency or ☐ Responsible Agency) has approved the above described project on May 7, 2013 (date) and has made the following determinations regarding the above described project.

1. The project [☒ will ☐ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☐ was ☒ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
Mitigated Negative Declaration 2013-08 available at the Planning Department

Signature (Public Agency): [signature] Title: Planner III

Date: May 13, 2013 Date Received for filing at OPR: n/a

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2011

RESOLUTION NO: 15-0408

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: THE WATERSHED RESEARCH AND TRAINING CENTER

WHEREAS the Watershed Research and Training Center proposes a project that consists of installing and demonstrating a biomass plant to operate at the North Fork Mill Site in North Fork, California, and

WHEREAS the Madera County Planning Department, in accordance with the California Environmental Quality Act (CEQA), has prepared a mitigated negative declaration assessing the environmental impacts of the proposed project; and

WHEREAS the Madera County Planning Department reviewed the mitigated negative declaration and determined that with the imposition of the mitigation measures there was no substantial evidence that the proposed project would have a significant effect on the environment; and

WHEREAS the State Energy Resources Conservation and Development Commission (Energy Commission) has reviewed the mitigated negative declaration as a responsible agency under CEQA;

THEREFORE BE IT RESOLVED, that the Energy Commission finds, based on the entire record before it, that the project will have no significant environmental impact; and

FURTHER BE IT RESOLVED, that the mitigated negative declaration reflects the Energy Commission's independent judgment and analysis; and

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

RESOLVED, that the Energy Commission approves Agreement EPC-14-033 from PON-14-305 with **The Watershed Research and Training Center** for a **$4,965,420** grant to install and demonstrate a commercial-scale gasification-to-electricity facility that converts wood waste from forest management activities to renewable electricity while providing reduced fire risk, watershed protection, improved air quality, other environmental benefits, and local jobs; and

FURTHER BE IT RESOLVED, that the Executive Director or his/her designee shall execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on April 8, 2015.

AYE: [List of Commissioners]
NAY: [List of Commissioners]
ABSENT: [List of Commissioners]
ABSTAIN: [List of Commissioners]

_____
Harriet Kallemeyn,
Secretariat