

WILSEYVILLE BIOENERGY COMBINED HEAT AND POWER PRELIMINARY DESIGN AND ENGINEERING SERVICES

Final Report

**Prepared for:
Calaveras Healthy Impacts Products Solutions, Inc.**



**Prepared by:
TSS Consultants**



with



**Provost & Pritchard
Consulting Group**



Phoenix Energy

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List of Abbreviations

Organizations

ACCABU	Amador Calaveras Cooperative Association for Biomass Utilization
ACCG	Amador Calaveras Consensus Group
CCAPCD	Calaveras County Air Pollution Control District
CCPD	Calaveras County Planning Department
CCWD	Calaveras County Water District
CHIPS	Calaveras Healthy Impacts Products Solutions Group
PG&E	Pacific Gas and Electric Company
Phoenix	Phoenix Energy
TSS	TSS Consultants
WRF	Weatherby-Reynolds-Fritson Engineering and Design
USFS	United States Forest Service

Other Terms

ATC	Authority to Construct
BDT	Bone Dry Tons
CBC	California Building Code
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CHP	Combined Heat and Power
CUP	Conditional Use Permit
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
IR	Interconnection Request
LLC	Limited Liability Company
LRP	Legally Responsible Person
MND	Mitigated Negative Declaration
MW	Megawatt
ND	Negative Declaration
NEM	Net Energy Metering
PS	Public Service (Zoning Designation)
PPA	Power Purchase Agreement
PPR	Program Participation Request
PTO	Permit to Operate
ReMAT	Renewable Energy Market Adjusting Tariff
RPS	Renewable Portfolio Standard
SIS	System Impact Study
SMARTS	Storm Water Multi-Application Report Tracking System
SWPPP	Storm Water Pollution Prevention Plan
WBUG	Woody Biomass Utilization Grant
WDIN	Waste Discharge Identification Number
WDT	Wholesale Distribution Tariff

CHIPS has selected a project developer, Phoenix Energy (Phoenix), through a competitive bid process. Phoenix is a California-based renewable energy systems integrator and has developed two biomass gasification projects operating in California utilizing Ankur¹ gasification technology.

This preliminary design and engineering report has been funded by the U.S. Forest Service's (USFS) Woody Biomass Utilization Grant (WBUG) Program to provide initial system design and engineering services, including civil and electrical engineering work necessary for project financing. TSS Consultants (TSS) was selected to complete the design and engineering work.

Environmental Permitting Plan and Critical Timeline

Permitting for community-scale bioenergy facilities in California is new to most county and state agencies. With the development of projects in the Central Valley (0.5 MW and 1 MW) and forest projects in Truckee (2 MW) and in North Fork (1 MW), agency knowledge and experience is growing. With successfully permitted projects in the Central Valley and in the Lake Tahoe Region (Placer County sponsored project), groundbreaking work has been conducted to develop the information base for much of the environmental permitting.

The environmental review and approval process will include compliance with the California Environmental Quality Act (CEQA). Without the completion of CEQA, many of the other permits should not be initiated, as the outcome of the CEQA permitting process has the potential to stall or completely halt the project. The Truckee project, a 2 MW project, required an Environmental Impact Report (EIR) and the North Fork project, a 1 MW project, passed with a Mitigated Negative Declaration (MND).

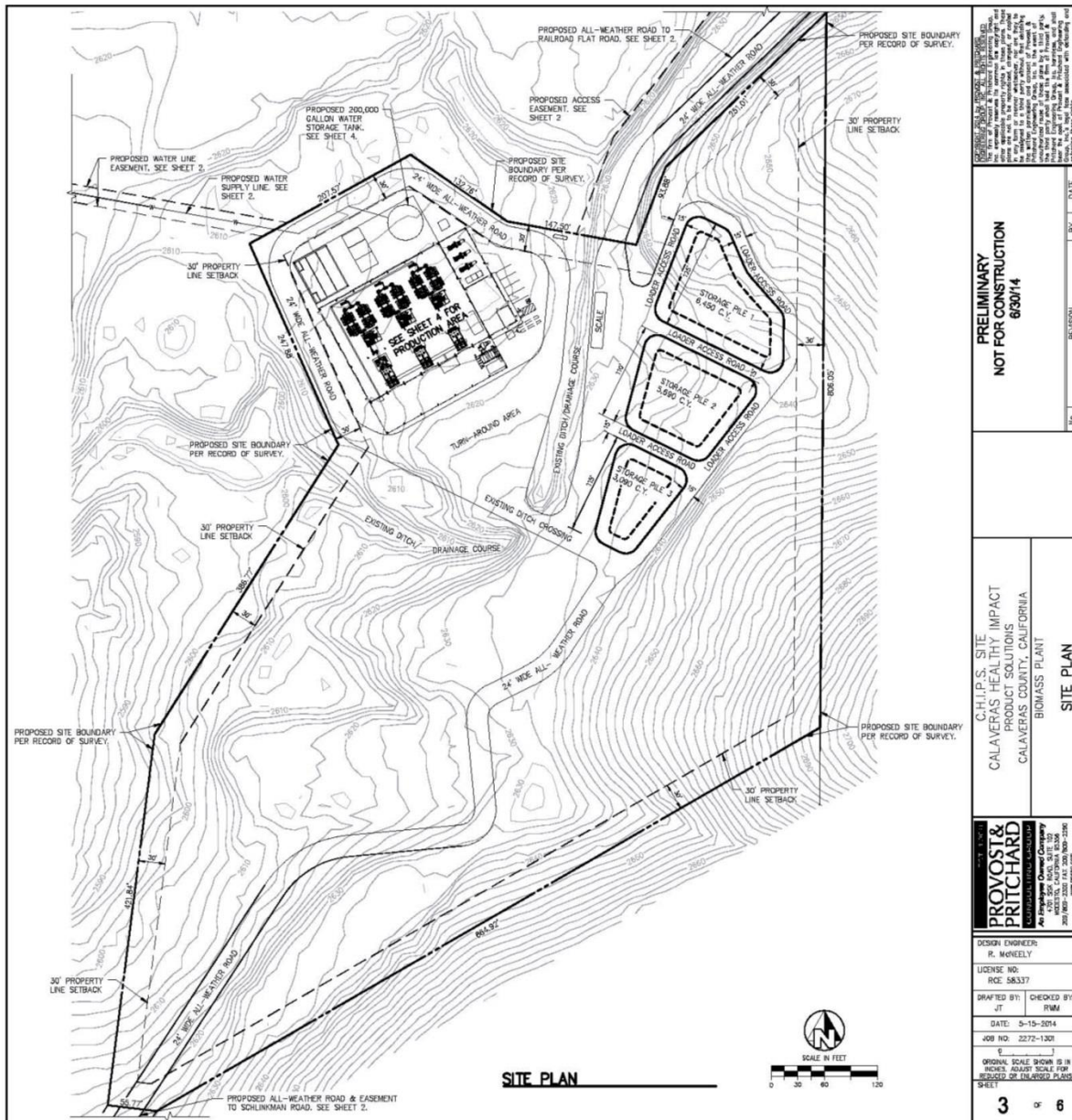
Other necessary environmental permits include air permits, water permits, hazardous material storage, and building permits.

Site Planning and Building Program

The 13-acre CHIPS parcel contains land formerly used by the American Lumber and Box Company sawmill. The parcel contains several acres of relatively level ground, two hills, and a riparian area that was originally developed as a spillway for the sawmill's log pond. The bioenergy facility is planned to occupy the northwest portion of the property with limited chip storage planned onsite. Figure 2 identifies the preferred site layout based on the bioenergy facility size and feedstock storage requirements.

¹ www.ankurscientific.com

Figure 2. Preferred Site Layout



CHIPS intends for the parcel to be a woody biomass value-added utilization product yard with multiple co-located activities. To achieve this goal and still have sufficient feedstock to operate a bioenergy facility through the winter season, strategic feedstock sourcing will be necessary to ensure sufficient availability. Feedstock sourcing from high-elevation forest, low-elevation forest, agricultural sources, and urban wood waste will be necessary for the project to succeed.²

² TSS has been retained by CHIPS to conduct a feedstock supply review and procurement plan.

Preliminary Grid Interconnection

The CHIPS proposed project is not expected to be able to pass the PG&E Fast Track process due to the relatively low minimum peak load at the local distribution line identified in the Pre-Application Report. TSS therefore recommends that the project start with the Detailed Study Process to maximize interconnection timeliness and minimize cost. TSS anticipates that the project will follow the Independent Study Process; however, this must be determined by PG&E through the Detailed Study Process.

Since the completion of the System Impact Study (SIS) is part of the eligibility requirements for SB 1122 Renewable Market Adjusting Tariff (ReMAT), interconnection is critical to project development and securing financing. The SIS process is a time-sensitive process. It is critical to meet these timelines to maintain position in the SB 1122 ReMAT queue; therefore the CHIPS business entity should be established with all roles and responsibilities agreed upon.

Findings and Recommendations

As reviewed for technical, regulatory, and environmental impacts, TSS did not identify any deficiencies at the time of this report's publication; however, there are specific challenges that must be addressed and defined next steps based on the findings from each report section that will be critical to the project's successful progression. TSS recommends the following steps to move the project to the next stage.

- Formalize the business relationship between Phoenix Energy and CHIPS, and develop a detailed business plan that identifies the roles and responsibilities of both parties.
- Submit applicant-provided CEQA documentation to the Calaveras County Planning Department to begin the CEQA process.
- Submit the PG&E Detailed Study Process application, fees, and deposit to begin the interconnection processes.
- Develop a feedstock procurement plan to identify credit-worthy supply sources (for the purposes of raising capital) and to develop a strategy to maximize access to just-in-time feedstock storage, thereby minimizing inventory costs and space requirements.
- Identify financing strategy contingent on SB 1122 energy price point.
- Upon completion of the System Impact Study and the opening of the SB 1122 ReMAT process, apply for a position in the queue.

INTRODUCTION

Statement of Purpose

The Calaveras Healthy Impacts Products Solutions Group was awarded a Woody Biomass Utilization Grant from the USDA Forest Service (USFS). CHIPS has retained TSS Consultants to provide engineering design services and cost analyses to support the build-out of a forest-sourced woody biomass-fired combined heat and power facility. The CHP facility will be sized to fit the local infrastructure and sustainable feedstock supply with a maximum power generation capacity of three megawatts. The project is a strategic step to develop economic uses for forest biomass material generated through sustainable forest management and hazardous fuels treatment activities in the local area. The design and engineering services will support CHIPS by providing conceptual plans, drawings, an environmental permit plan, critical path timeline, and cost estimate for the successful implementation of the project. The services will support the application for the SB 1122 Renewable Market Adjusting Tariff program implemented by the California Public Utilities Commission (CPUC) and executed by PG&E. Specific goals for the design and engineering analysis include:

- providing a comprehensive site development analysis that is compliant with local, state, and federal safety standards, applicable laws, regulations, permits, codes, and standards;
- generating conceptual plans, site layouts, and cost estimates to allow CHIPS to proceed to the next phase of project development; and
- addressing site conditions, distribution-level interconnection, and technical equipment documentation.

The CHP design and engineering project will be integrated with the site planning and development work undertaken in a separate contract with Weatherby-Reynolds-Fritson Engineering and Design (WRF).

Project Background

The USFS supports sustainable utilization of harvested forest biomass and small-diameter trees generated as a byproduct of fuels treatment and forest restoration activities. The WBUG was awarded to CHIPS for the biomass CHP project located in Wilseyville, CA. CHIPS represents a community-based cooperative partnership focused on value-added processing and utilization of locally produced woody biomass materials. The biomass CHP project is a strategic step, directed by CHIPS, to develop economic uses for forest biomass material generated as a result of local forest management and hazardous fuels treatment activities. CHIPS has established the following objectives with the successful implementation of this project.

- Create jobs for local residents.
- Create an income stream for CHIPS to further promote alternative uses for excess forest biomass and roundwood sourced from forest fuels reduction and restoration activities.
- Support locally owned and operated businesses such as biomass harvesting, chipping and transport.

- Beneficially utilize woody biomass being removed from surrounding public and private land for purposes of fire safety and/or ecological restoration.
- Have minimal noise and odor impacts to nearby residents and businesses.
- Provide opportunities for additional businesses that can utilize potential heat from the CHP facility, such as kiln dried wood products, greenhouses, etc.
- Generate renewable energy consistent with the state’s Renewable Portfolio Standard and SB 1122.

The proposed facility will generate up to 3 MW of electricity which will be delivered to the PG&E grid net of internal, onsite use. The capture and utilization of waste heat for adjacent operations will be evaluated as practical and appropriate. The CHP facility is estimated to use up to 75 bone dry tons (BDT)³ of biomass feedstock per day. The facility will control the discharge of air pollutants in accordance with the air emissions standards of the Calaveras County Air Pollution Control District (CCAPCD).

The Amador Calaveras Cooperative Association for Biomass Utilization (ACCABU) intends to implement sustainable processes to harvest woody biomass and small diameter trees to support the Wilseyville project. The project will support jobs in small enterprises that utilize woody biomass harvested sustainably from lands within and adjacent to the upper Mokelumne and Calaveras River watersheds of Amador and Calaveras counties. ACCABU members are represented in the Amador Calaveras Consensus Group (ACCG) and “sustainable” is considered to be consistent with the ACCG healthy local triple bottom line of the environment, community, and economy achieved through activities consistent with ACCG established principles.

CHIPS retained TSS to complete a Wilseyville Woody Biomass Value-Added Product Yard Feasibility Study⁴ prior to this preliminary design and engineering project. The feasibility study identified bioenergy as the most economically feasible use for this material and provides information regarding available feedstocks, the proposed product yard, and initial plans for co-located value-added enterprises. A request for proposals was circulated and Phoenix Energy was selected as the preferred technology vendor by CHIPS.

³ One BDT is equal to 2,000 pounds of woody biomass material with 0% moisture content.

⁴ “Updated Wilseyville Woody Biomass Value-Added Product Yard Feasibility Study,” April 5, 2103

PERMITTING PLAN AND CRITICAL TIMELINE

Introduction

The permitting plan identifies environmental and construction permits required, provides key agency input, presents expected fees, and includes a recommended implementation schedule to secure environmental compliance permits. The permitting plan is based on application forms, TSS' prior experience, and communication with representatives from local permitting agencies. The local jurisdiction for most of the required permits is Calaveras County.

Land Use Permits

Conditional Use Permit

A Conditional Use Permit (CUP) allows a city or county to consider special land uses which may be essential or desirable to a particular community, but which are not specified within a zoning district, through a public hearing process.⁵ The Calaveras County Planning Department (CCPD) is the lead agency that administers applications for a CUP. The lead contact is Gina Kathan.

The Wilseyville project site is located in the Public Service (PS) Zone. The purpose of the PS Zone is to classify lands that are used for public purposes, public utilities, and for public agencies. Permitted uses as defined by the Calaveras County Code of Ordinances⁶ are:

“All public uses, buildings, facilities, structures, offices, maintenance yards or storage facilities, provided that there are no toxic or hazardous materials stored at the site, and except those enumerated below:

- Hydroelectric power generation projects by public or private entities;
- Sanitary and septage waste disposal facilities;
- Class II or Class III landfills;
- Temporary employee housing, except for one mobile home for security purposes;
- Public or private entity facilities which involve the storage, handling, or use of toxic or hazardous materials;
- Fire protection facilities;
- Correction or prison facilities;
- Animal shelters;
- Commercial agriculture;
- Ambulance services;
- Residence for security personnel;
- Accepted farming practices; and
- Upon findings by the planning commission that a use is consistent with the purposes of this chapter, the use may be added to this section, provided that the commission concurrently initiates a change in this chapter for inclusion of the use.”

It was determined through correspondence with Rebecca Willis, Planning Director, CCPD in a letter dated October 20, 2011, that a CUP is not required for this project (Appendix A). This

⁵ http://ceres.ca.gov/planning/cup/condition.htm#what_is_anchor

⁶ Calaveras County Code of Ordinances Section 17.48.020 and 17.48.030.

determination was verified during an in-person meeting with Rebecca Willis,⁷ Gina Kathan,⁸ and Andrew Morgenson⁹ on August 21, 2013. In a meeting on April 28, 2014, TSS verified Rebecca Willis's interpretation regarding a CUP for the project with Peter Maurer, the new¹⁰ Calaveras County Planning Director.

California Environmental Quality Act

The intent of CEQA is that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage while providing a decent home and satisfying living environment for every Californian.¹¹ Although a CUP is not required, the CCPD has indicated that their project review process requires addressing CEQA. The lead agency will independently evaluate the potential environmental impacts of the project and will circulate its analysis along with the project review application to appropriate regulatory agencies and stakeholders for their comments per the CEQA process. After comments have been received, the lead agency will prepare an Initial Study per CEQA Guidelines¹² for assistance in determining the appropriate environmental documents. Potential environmental documents include an Environmental Impact Report, Negative Declaration (ND), or Mitigated Negative Declaration.

An EIR is a detailed statement setting forth all significant effects on the environment as a result of the proposed project. Each significant effect must describe if the effect cannot be avoided or will be irreversible, if there are mitigated measures to minimize significant effects, and if there are alternatives to the proposed project or growth-inducing impacts of the proposed project.¹³

The ND is a written statement briefly describing the reasons that a proposed project will not have a significant effect on the environment and does not require the preparation of an EIR.

The MND is a negative declaration prepared for a project when the Initial Study has identified potentially significant effects on the environment that can be mitigated with revisions to the project plans or proposals made by, or agreed to by, the applicant. Revisions must be made, and agreed upon, before the proposed ND and Initial Study are released for public review. Mitigation measures must mitigate the effects of the environmental impact they address to the point where clearly no significant impacts on the environment would occur, and there is no substantial evidence, in light of the whole record before the public agency, that the project, as revised may have a significant effect on the environment.

During the preparation for the Initial Study, the lead agency can accept applicant prepared (and/or directed) environmental information, documents, and studies for inclusion into the Initial Study. The preparation of the appropriate documentation will vary greatly based on the required

⁷ Director as of August 21, 2013, Calaveras County Planning Department.

⁸ Planner II as of August 21, 2013, Calaveras County Planning Department.

⁹ Planner IV as of August 21, 2013, Calaveras County Planning Department.

¹⁰ Peter Maurer's term began in March 2014.

¹¹ California Public Resource Code: Division 13. Environmental Quality. Chapter 1, Section 21000.a.

¹² <http://resources.ca.gov/ceqa/guidelines/>

¹³ Details can be found in the California Public Resources Code Section 21061.

environmental documentation. Upon completion of the Initial Study, the determination, and the preparation of the appropriate environmental document, a public hearing is granted before final approval by the Calaveras County Board of Supervisors.

The lead agency for the project review will be the CCPD. To facilitate its review process, CCPD has requested CHIPS to provide various documents. These documents are shown in Appendix B and include:

- Application form;
- Existing land use information;
- County assessor's map;
- Current deed; and
- Development plan.

In addition, the applicant may supply supplemental information as pertinent to CEQA for the appropriate agency's review as such information may help streamline the process. At the discretion of the respective agency, applicant-supplied information may be utilized in their Initial Study conclusions. The CCPD conducts an Initial Study when possible and may contract out to third-party consultants if necessary. The applicant-supplied information may be utilized to help reduce the cost of the Initial Study.

TSS prepared supporting documentation for the CEQA Initial Study process. The documents were structured in a manner consistent with the 17 criteria outlined in the CEQA guidelines and included an environmental operations statement (Available Upon Request from CHIPS). The 17 criteria include the following items.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resource
- Geology and Soils
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

Environmental Site Assessment

A Phase 1 Environmental Site Assessment (ESA) was prepared in September 2013 for the 13-acre parcel prior to purchase by CHIPS. The Phase I ESA did not identify any significant releases of hazardous substances at the site. However, the Phase I ESA recommended some additional near-surface soil sampling be conducted in areas where heavy equipment was maintained and in the nearby drainage ditch. In December 2013, a Phase II Environmental Site Assessment was conducted. Although some very low amounts of petroleum hydrocarbons were detected in the project site's soil, all levels were well under federal and state thresholds of environmental concern. Previously, in 1984, soil and groundwater sampling was conducted on the entire Water District property. Although slightly elevated levels of arsenic were found, it was within the range of background levels commonly found in the Sierra Nevada mountains and foothills.

Air Permits

Applicable air permits are an Authority to Construct (ATC) and a Permit to Operate (PTO). The ATC grants a project the right to be constructed. After construction has been completed and an air emissions source test conducted, a PTO grants a project the right to operate. The ATC remains in effect until the PTO has been granted.

For the Wilseyville project, the lead agency for air permits is the Calaveras County Air Pollution Control District, which is a part of the Calaveras County Environmental Management Agency. The CCAPCD is part of the Mountain Counties Air Basin and is recognized as a Special District, governed by the Calaveras County Air Pollution Control Board. Lead staff at the CCAPCD is Brian Moss.

Authority to Construct

Any person building, altering, or replacing any source of air contaminants shall first obtain an ATC from the CCAPCD. An ATC shall remain in effect until the PTO for that source for which the application was filed is either granted or denied.¹⁴

There are three potential air pollutant emission sources associated with the proposed project.

- The woody biomass feedstock dryer used to remove moisture from the wood prior to consumption by the gasifier.
- The internal combustion engine-generator system (ICEG).
- The flare device to burn the synthetic gas (syngas) if the ICEG is not operating.

The ATC application for CCAPCD can be found in Appendix C and requires information regarding operation and ownership, process and project descriptions, and an application fee.

¹⁴ Calaveras County Air Pollution Control District Rule 401.

Permit to Operate

A PTO application is filed with CCAPCD within 60 days of the commencement of commercial operations. During the 60-day period, the project will have an air emissions source test performed to verify that the operation complies with the emissions limits indicated in the ATC. If the project is completed as planned, the application is the same as the ATC except that the form is filled out for a PTO and the ATC for the project is referenced.

Included in the PTO application are the results of the source test. The PTO is renewed annually and the renewal process may involve a source test.

Water Permits

Water permits traditionally include a water supply permit, water discharge permits (e.g., domestic and/or process wastewater), and storm water permits for construction and operation. Sufficient water infrastructure must be in place to provide process water, sanitary system water, and fire protection water as well as to provide sufficient capacity for wastewater discharge.

Water Supply

The development of a well onsite may prove challenging due to the complex hydrogeologic setting of the Wilseyville area.

Alternatively, water may be provided by Calaveras County Water District (CCWD). The CCWD will determine the most cost effective manner by which to provide sufficient water supply to the site. Through this study, TSS submitted a Concept Review application to determine the infrastructure requirements to provide water to the site from the CCWD. The application and response are available in Appendix D. The Concept Review requires information regarding:

- the project location;
- the property owners;
- type of service requested; and
- a description of the project including plans, maps, and engineering calculations.

CCWD identified that they would be able to supply the project site with domestic and fire protection water through their West Point system and suggests the use of a water storage tank to help achieve proper flow rates and pressure for hydrants.

Wastewater Discharge

Only domestic wastewater will be discharged onsite via a septic system. The septic system is permitted through the Department of Environmental Health. A septic system for the site is expected to be a residential-type system which will require a percolation test to assess the infiltration capacity of the soil and a plan check for the final system layout. Process water will be moved offsite for treatment at an appropriate facility.

For projects that disturb over one acre of soil (or that disturb less than one acre but are part of a larger development plan), the California State Water Resources Control Board requires that the project obtain permit coverage for the discharge of storm water from the site. The project obtains coverage under the statewide “General Permit for Discharges of Storm Water Associated with Construction Activities.”¹⁵ The permit is based on a project’s overall risk and requires measures to prevent erosion and reduce sediment and other pollutant discharge. A Legally Responsible Person (LRP) for the project must electronically submit Permit Registration Documents prior to commencement of construction activities in the Storm Water Multi-Application Report Tracking System (SMARTS). The LRP is typically the owner of the property or an agent for the owner with full authority to act on behalf of the owner. Permit Registration Documents consist of the Notice of Intent, Risk Assessment, Post-Construction Calculations, a Site Map, a Storm Water Pollution Prevention Plan (SWPPP), a signed certification statement by the LRP, and the first annual fee. The SMARTS can be found online.¹⁶

The SWPPP is a critical component of compliance with the Storm Water Construction Permit. All SWPPPs and SWPPP updates entered into the SMARTS system must be certified by a Qualified SWPPP Developer. However, actual project compliance with the SWPPP and the Storm Water Construction Permit is the ultimate responsibility of the LRP.

The Storm Water Construction Permit process is a “Permit-by-Rule” process, meaning the permit application (specifically the Notice of Intent) notifies the state via the SMARTS that the LRP is accepting the conditions of the General Permit for Discharges of Storm Water Associated with Construction Activity. Once the LRP has made notification that they are accepting the permit, all permit conditions apply immediately.

Upon application for permit coverage, the project will be assigned a Waste Discharge Identification Number (WDIN). This WDIN must be shown on the grading plans and provided to the Calaveras County Department of Public Works prior to permit issuance.

Storm Water – Operations Phase

The California Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) is a National Pollutant Discharge Elimination System permit that regulates discharges associated with 10 broad categories of industrial activities. These categories are listed in Attachment 1 of the General Industrial Permit.¹⁷ The proposed Wilseyville gasification facility does not fit into any of these categories and therefore the General Industrial Permit is not required.

Hazardous Material Storage

The Calaveras County Environmental Health Department, a Certified Unified Program Agency, manages a hazardous materials business program regarding hazardous materials that are handled

¹⁵ California State Water Resources Control Board Order No. 2009-0009-DWQ.

¹⁶ <http://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>.

¹⁷ www.waterboards.ca.gov/water_issues/programs/stormwater/docs/induspmt.pdf

and/or stored at a business or facility. As defined in California Health and Safety Code, hazardous materials are:

“...any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment... [including] hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious... or harmful...”

Common hazardous materials include gasoline and other motor vehicle fuels, propane, solvents, lubricating oils, welding gases, and acids and bases.

The CHIPS project, once operating, must complete and submit Unified Program Consolidated Forms and must complete and submit a Hazardous Materials Release Response Plan (Business Plan) to the Calaveras County Environmental Health Department if handling or storing a hazardous material equal to or greater than the minimum reportable quantities. The minimum hazardous materials quantities are:

- 55 gallons of liquid;
- 500 pounds of a solid; or
- 200 cubic feet of compressed gas.

The facility prepares and submits the Unified Program Consolidated Forms and the Business Plan to Calaveras County as soon as any minimum quantities of hazardous materials are stored at the site, even during construction. Calaveras County will acknowledge the acceptance of the plan. The Unified Program Consolidated Forms and the Business Plan forms are available in Appendix E.

Building and Occupational Permit

Calaveras County has adopted the California Building Code (CBC) as mandated by the State of California. The provisions of this Code are administered by the Department of Engineering and General Services, Building Division. The bioenergy project will consist of constructed site and building improvements, all of which shall comply with the CBC and Calaveras County ordinances and standards. Calaveras County will conduct a construction document review and plan check for all necessary building on the site. The grading permit review generally occurs within 30 days of submission.

Grading Permit

A Grading Plan shall be prepared that identifies grading on the site, determination of building finish floor elevation, identification of flood-proofing measures, if necessary, and routing of storm water to appropriate retention, detention or discharge. The outcome of the Grading Plan review may be a requirement for site inspections by the Calaveras County and/or third party engineering and inspection consultants. The application for a grading permit is available in Appendix F. The application is submitted to the Department of Public Works.

Building Permit

Calaveras County permits buildings on an individual basis. The building permit process covers all aspects of compliance with the 2010 CALGreen Building Code, Cal/OSHA, ADA disabled access requirements, 2008 Title 24 Energy Standards (new standards effective 1/1/2014), snow load calculations, truss specs, with sub-permit categories of plumbing, mechanical, and electrical. A deferred separate submittal on fire sprinklers is allowed.

Building permit applications require the following documentation to be submitted to the Calaveras County Building Department.

- Permit Application
- Two Complete Sets of Building Plans
- Title 24 Energy Calculations
- Truss Specifications
- Engineering Documentation
- Three Plot Plans
- One Additional Floor Plan

Detailed information for the submittal will be found in Appendix G. Typically the waiting period for plan check and energy review is two to four weeks. If corrections or additions to plans are required, one set of red-line plans will be returned to the applicant for revision.

Note that the Calaveras County Building Department is responsible for reviewing building plans, zoning setbacks, and driveway mitigations, but the Calaveras County Department of Public Works is responsible for driveway encroachment onto county maintained roads.

Permit Fees

Estimated costs and fees are indicated in this section and do not include additional fees assessed from hourly work provided by any of the agencies.

California Environmental Quality Act

A deposit for CEQA processing of \$266 is required. The applicant must pay any additional costs incurred through the CEQA process in connection with the preparation of the environmental document. CCPD may contract outside consultants to help prepare the Initial Study. The applicant is responsible for any additional costs above the \$266 deposit.

In addition to the county's CEQA processing fees, an environmental filing fee must be paid to the County Clerk within five (5) days of the approval of the project. The County Clerk collects the environmental filing fee for the California Department of Fish and Wildlife. The fees vary depending on the outcome of the Initial Study.

- Negative Declaration: \$2,156.25
- Mitigated Negative Declaration: \$2,156.25

- Environmental Impact Report: \$2,995.25
- Certified Regulatory Program: \$1,018.50

In addition to the Department of Fish and Wildlife filing fees, a Calaveras County administrative processing fee of \$50 is assessed.

Air Permits

The application fee for the ATC and PTO are \$348 and \$87 per hour for additional work over the four (4) hours covered by the application fee. A source test is required for the PTO. The annual renewal fee for the PTO is \$348.

Water Permits

A well permit application is \$356 per well and \$89 per year for permit renewal. Well test hole construction and destruction are dependent on the number of holes per parcel and are tiered as follows.

- 1-5 Holes per Parcel: \$356
- 6-10 Holes per Parcel: \$445
- 11-20 Holes per Parcel: \$534

The concept review application costs \$200. The concept review has been completed and the fee has been paid as part of this project (see Appendix D).

The septic system will require a \$231 fee for the profile hole analysis and additional fees of \$77 per hour for any labor above three hours. After the system determination, the plan check fees will be \$385 for a standard system or \$462 if an engineering review is required. This will be determined after the profile hole analysis.

Storm Water Construction application fees are based on acreage of the proposed project. The fee for a parcel less than 2.5 acres would be \$466. If the parcel is over 2.5 acres, the fee would be \$505. The application fee is due upon the initial application for the permit and annually each June, regardless of the initial application filing date (e.g., if a three acre project began construction in May, the initial fee of \$505 would be due in May and the annual fee of \$505 would be due in June of the same year).

Hazardous Material Storage

Since the site is expected to generate and store hazardous materials less than 100 kilograms per month, the fee is \$89 per year.

Grading Permit

For minor grading projects, a deposit of \$900 will be collected to cover the county's cost of plan review and site inspection. For grading projects that require certification by a professional

engineer, a deposit of \$1,250 will be collected. For this project, it is anticipated that the grading permit will require certification by a professional engineer.

Building Permit

The master plan set up includes a non-refundable plan check deposit of \$1,000. After receiving approval for the master plan, an additional submittal of the final documentation is required with a non-refundable \$239 to cover fire inspection, plan check, and processing.

Summary

Table 1 summarizes the applicable environmental permitting addressed in this section. Additional fees and inspections may be required during the construction of the project.

Table 1. Summary of Permit Fees

APPLICATION	LEAD AGENCY	FEES
Land Use Permits		
Conditional Use Permit	Calaveras County Planning Department	N/A
Minimum Subtotal:		N/A
California Environmental Quality Act (CEQA)		
CEQA Deposit	Calaveras County Planning Department	\$266 + Hourly Fees from CCPD + Cost of developing the environmental documentation
Filing Fees upon Approval	Calaveras County Planning Department & Department of Fish and Game & Filing Fee	\$2,206.25
Minimum Subtotal:		\$2,472.25
Air Permits		
Authority to Construct	Calaveras County Air Pollution Control District	\$348.00 + Hourly Fees Determined by CCAPCD
Permit to Operate	Calaveras County Air Pollution Control District	\$348.00
Minimum Subtotal:		\$696.00
Water Permits		
Water Supply	Calaveras County Water District	\$200 (already paid)
Domestic Wastewater Discharge Permit	Calaveras County Environmental Management Agency	\$231 + Hourly Fees if necessary \$385 for a Standard System
Storm Water Construction Permit	Central Valley Regional Water Quality Control Board	\$1,100.00
Storm Water Operations Permit	Central Valley Regional Water Quality Control Board	N/A
Minimum Subtotal:		\$1,716.00
Hazardous Materials Permits		
Hazardous Materials Management	Calaveras County Environmental Management Agency	\$89.00
Minimum Subtotal:		\$89.00
Building Permits		
Grading Permit	Calaveras County Department of Public Works	\$1,250.00
Building Permit	Calaveras County Building Department	\$1,239.00
Minimum Subtotal:		\$2,489.00
Total:	Base Cost Estimate - \$7,412.25 Additional Costs may include CEQA Documentation Preparation, ATC Evaluation Fees, and Grading Permit Assessment Fees	

*Note the assumptions and conditions of this cost analysis (e.g., the CEQA determination).

Critical Path Timeline

While the proposed project is contingent on the successful acquisition of all the previously mentioned permits, there are two permit processes that will likely control the critical path: the CEQA review and the ATC. The CEQA review is dependent on the required environmental documentation for CEQA compliance. The review and acceptance of the CEQA documentation includes a public review period. An uncontested ND or MND is a relatively straightforward and efficient process. However, additional time may be required to address and resolve issues raised by stakeholders, including private citizens and organizations. Due to the potential delays with

the CEQA review and approval process, this permitting step is critical before progression with any other permits, as development is contingent on this step.

With the completion of the CUP process, the next critical permit is the ATC. The ATC has a well-defined time period of 30 days for review and 180 days after a complete application has been accepted for the final determination. Given the relatively low emissions that the proposed project will generate, the ATC permitting should not be problematic.

Table 2 shows the critical path timeline relative to construction, indicated with the solid black line on the right side of the table. Construction is expected to take three to six months.

Table 2. Critical Path Timeline for Permits

	Pre-Construction [months]											Commissioning [months]				Operation [months]	
	As Soon As Possible	10	9	8	7	6	5	4	3	2	1	1	2	3	4	5	6
CEQA Review																	
Water Supply Concept Review																	
ATC																	
Building																	
Water Discharge (domestic septic)																	
HazMat																	
Grading																	
Storm Water Construction Permit																	
Commissioning Equipment																	
PTO																	

SITE PLANNING AND BUILDING PROGRAM

The objective of the site planning and building program was to develop an understanding of the requirements of the proposed bioenergy facility and the interaction with the selected parcel. This section identifies project requirements based on the material flow and proposed equipment. Conceptual drawings were developed of both the facility and the site to identify how the proposed project fits within the development goals of CHIPS.

Site Background and Objectives

The CHIPS project site is a recently acquired 13-acre parcel purchased from the Calaveras County Water District. The CHIPS parcel is the former site of the American Lumber and Box Company sawmill which closed in 1968. Figure 3 shows the northern portion of the CHIPS parcel (viewed from east of the site, looking west) when the American Lumber and Box Company facility was operating (approximately shaded in red). Figure 4 shows the current site aerial. The brown open space in the northern part of the parcel is the part indicated in Figure 3.

Figure 3. Aerial Image of the Former American Lumber and Box Company Site



Figure 4. Aerial Image of the Current CHIPS Parcel

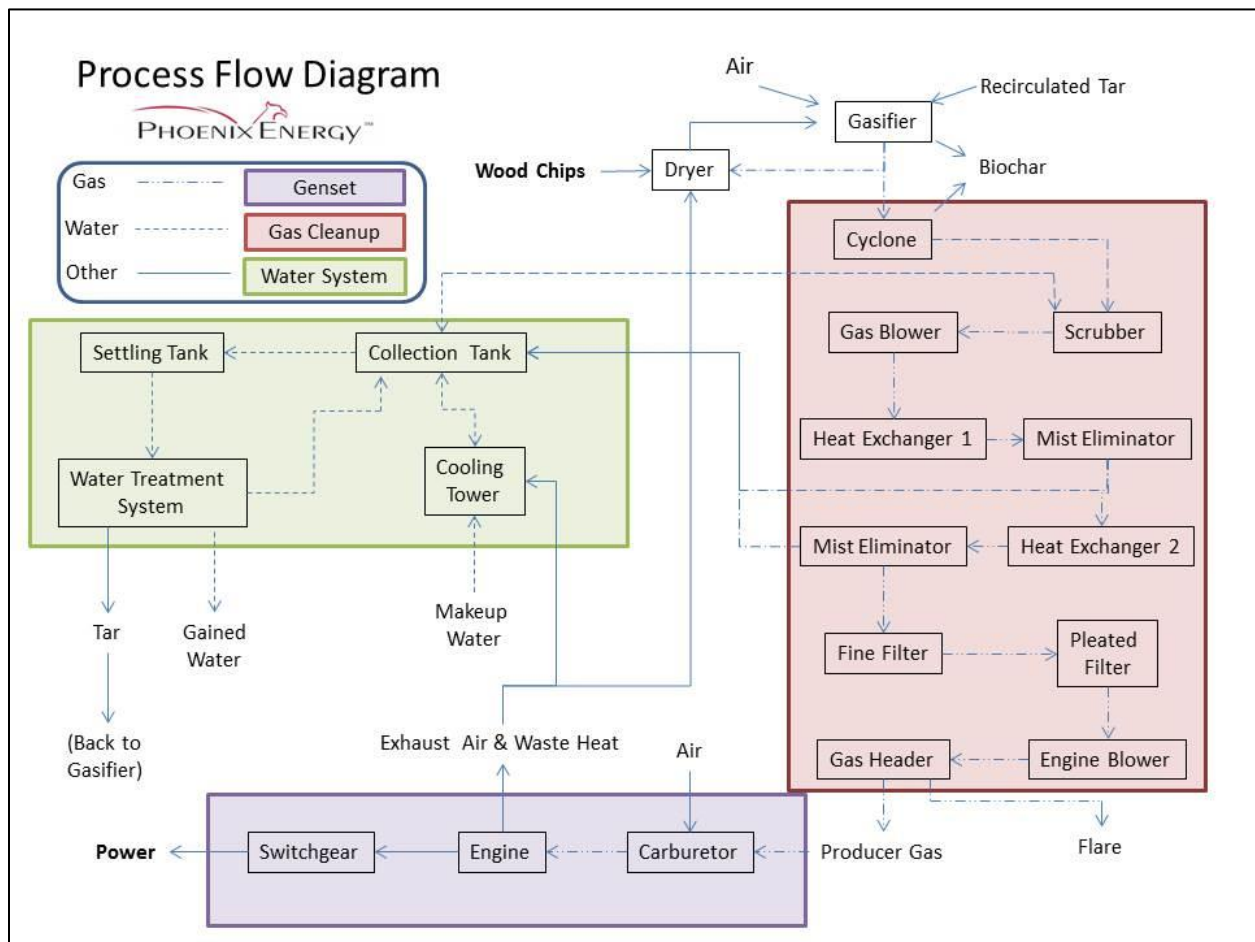


Figure 4 was created for this study to overlay the topography on top of an aerial image to develop a better understanding of the potential for bioenergy facility siting. The site is relatively flat throughout the center of the property with significant acreage of hills on the east side of the property along with a ravine and sloping terrain across the west side of the property.

Process Flow Diagram

To understand the bioenergy system, a process flow diagram was developed to outline the material flows through the system (Figure 5). The process flow diagram begins with wood chips located onsite and ends with electricity production. The process flow diagram focuses on the gasification technology.

Figure 5. Process Flow Diagram



Generally, the process moves wood chips through a dryer to reduce the moisture content and into the gasifier. At this stage, the wood energy is converted into gas. The gas flows through the gas cleanup system which has a series of steps, each targeting the removal of different constituents, principally water and tar. The conditioned (cleaned) gas is then fed to the internal combustion engine-generator set to produce power. Waste heat in the form of exhaust air and jacket water¹⁸

¹⁸ Jacket water is the coolant used to remove heat from the engine block.

is used to supplement energy to the dryer. Propane is used for dryer start up. During steady state operations, the dryer is fueled using gas from the gasifier.

The water system's primary purpose is engine cooling for excess heat that is not otherwise utilized. Additionally, water is used in the scrubber and therefore must be treated for recirculation. Gained water comes from the addition of water into the system via the moisture content in the wood and the ambient humidity.

Equipment and Facility Layout

The equipment and facility layout was designed to minimize the project's footprint and facilitate material flows. The conceptual design includes the major component including the dryer, the gasifier, the gas conditioning system, the engine generators, the cooling towers and settling pond, biochar storage, dry fuel storage, control room, restrooms, and electrical room. The facility's conceptual drawings are shown in Figure 6 and Figure 7.

Figure 6. Equipment Layout

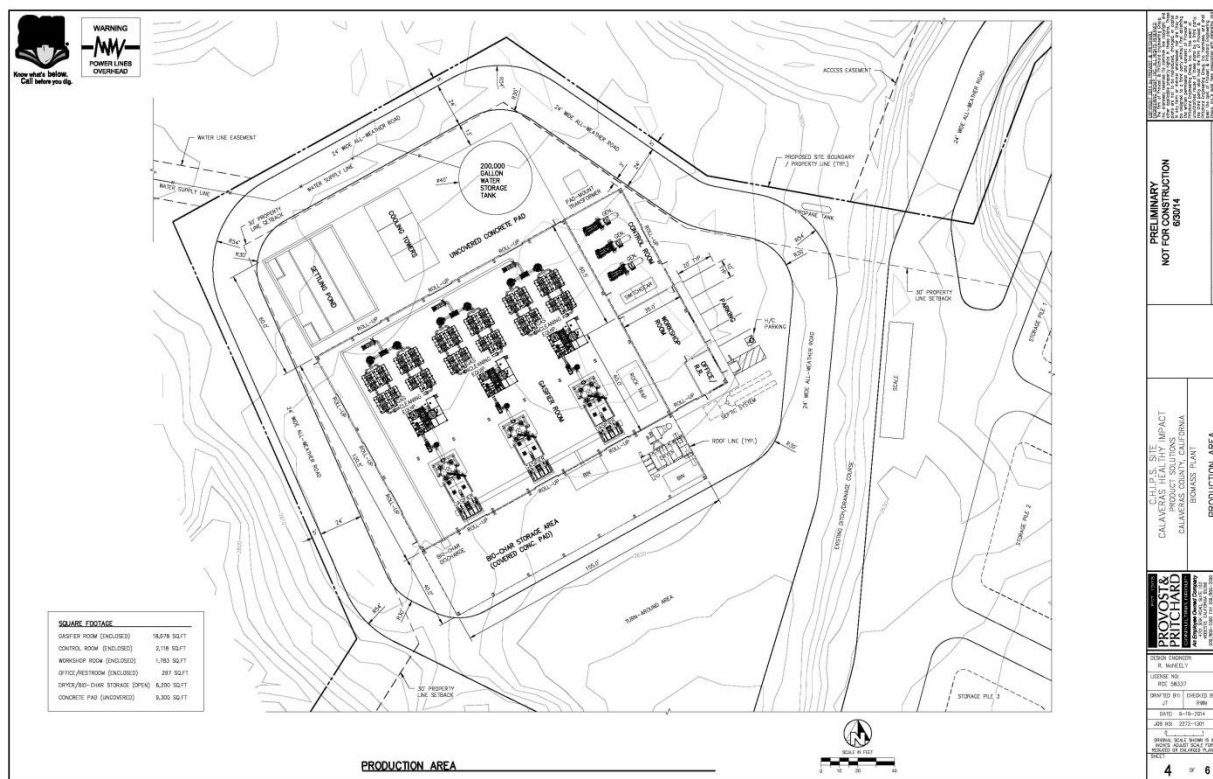
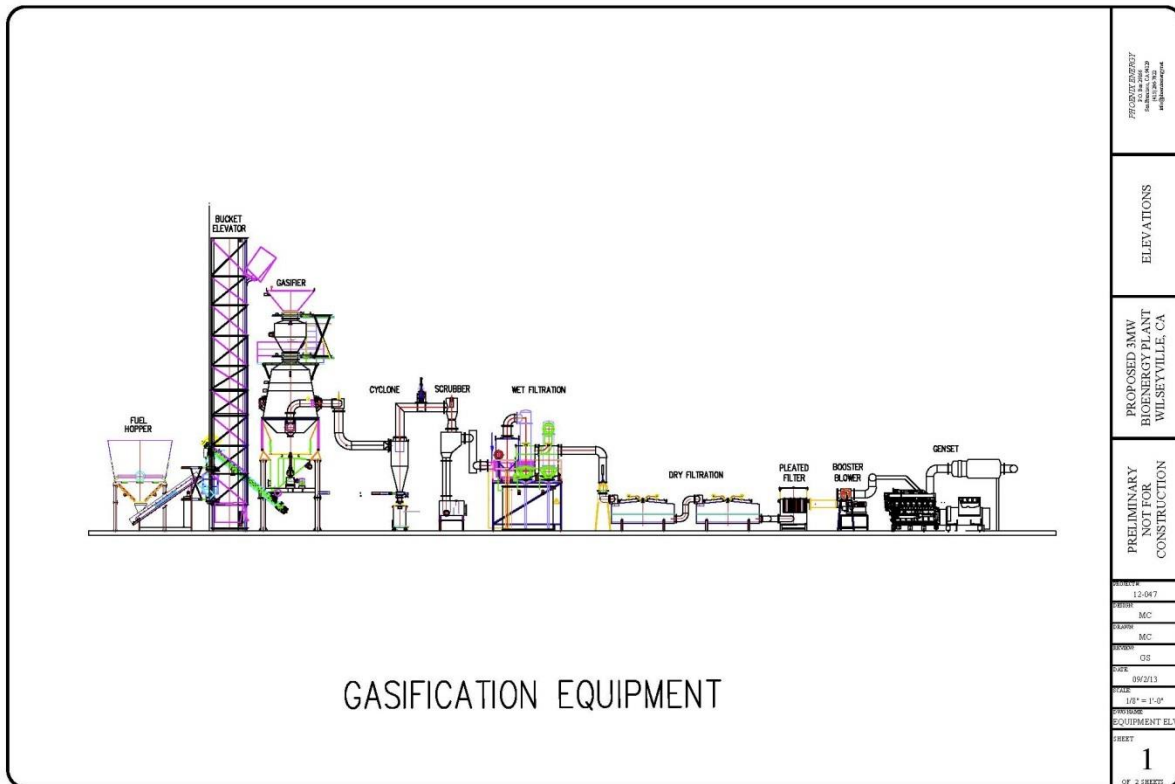
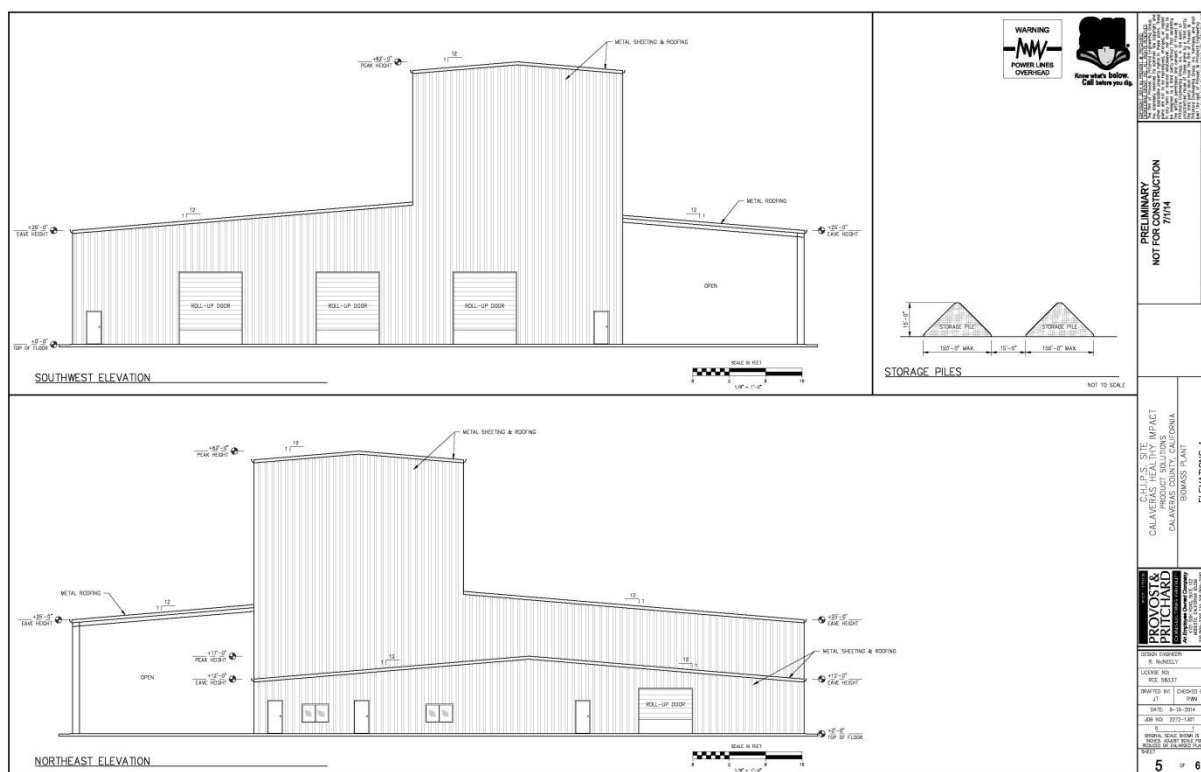


Figure 7. Equipment Elevations



The equipment is expected to be housed in a building to protect the equipment and the staff against inclement weather and to provide a more controlled environment for the gasifier. Since ambient air is introduced to the gasifier, housing the equipment in a building helps to regulate the ambient conditions from high temperature swings. While the building is not expected to be heated or cooled beyond appropriate ventilation for health and safety, the heat generated by the equipment will buffer against cold temperatures and the shaded space against high temperatures. The building elevation is shown in Figure 8.

Figure 8. Proposed Building Elevations



Site Design

Before developing a site layout, TSS met with the West Point Fire Protection District,¹⁹ the Calaveras County Planning Department,²⁰ and the Calaveras County Building Department²¹ to discuss the project and identify potential requirements for development. The focus of the conversations was fire safety, building setbacks, and easements.

Feedstock Storage Requirements

The 2013 Wilseyville Feasibility Study²² confirmed net availability of biomass feedstock at 33,500 to 59,050 BDT per year. Over 99% of this feedstock consists of forest biomass material sourced as byproduct from timber harvest and fuels treatment activities within the Upper Mokelumne and Calaveras River watersheds (Target Study Area). Discussions with local foresters indicated that forest operations are typically conducted between May 1 and November 15 due primarily to inclement weather conditions (e.g., snow, rain). Availability of forest biomass feedstock will be limited during the winter and early spring months thus requiring that some volume of material be stockpiled on site for winter operations.

¹⁹ Captain Terry Miller, Prevention and Education, West Point Fire Protection District.

²⁰ Andrew Mogensen, Planner IV, Calaveras County Planning Department.

²¹ Dan Nygren, Plan Checker, Calaveras County Building Department.

²² Wilseyville Woody Biomass Value-Added Product Yard Feasibility Study, TSS Consultants, April 2013.

BDT, represents approximately five months of feedstock storage. Table 3 summarizes pile capacities and specifications.

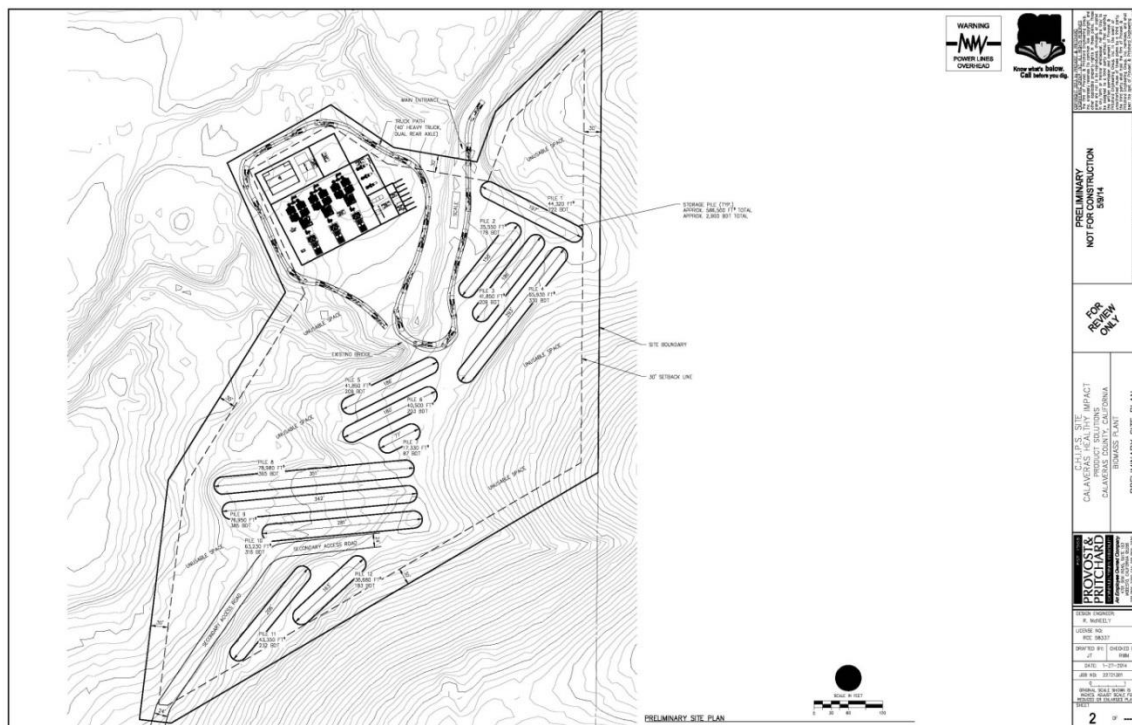
Table 3. Storage Configurations with Maximum Pile Size

PILE NUMBER	PILE SIZE (FT ³)	STORAGE POTENTIAL (BDT (days))	CUMULATIVE STORAGE (BDT (days))
1	291,000	1,455 (20.2)	1,455 (20.2)
2	423,000	2,115 (29.4)	3,570 (49.6)
3	302,000	1,510 (21.0)	5,080 (70.6)
4	548,000	2,740 (38.1)	7,820 (108.6)
5	226,000	1,130 (15.7)	8,950 (124.3)
6	217,000	1,085 (15.1)	10,035 (139.4)

In the maximum pile size configuration, the pile height would be 25 feet. To store at this height requires significant planning and operations, as piles must be managed with front-end loaders to create piles of adequate height. The operational strategy becomes more complicated with the height, as pile management has a vertical and horizontal component for first-in first-out storage.

Alternative storage configurations with smaller pile sizes can avoid many of the management challenges, as feedstock can be stored in rows with pile heights of approximately 15 feet (the height of a standard front-end loader bucket). At this height, there is not vertical component to the storage and the first-in first-out strategy is linear for the pile. While this arrangement simplifies the management of the storage, the quantity of feedstock that can be stored diminishes. Figure 10 shows the storage potential of the site.

Figure 10. Wood Chip Storage with Low Profile Pile Sizes



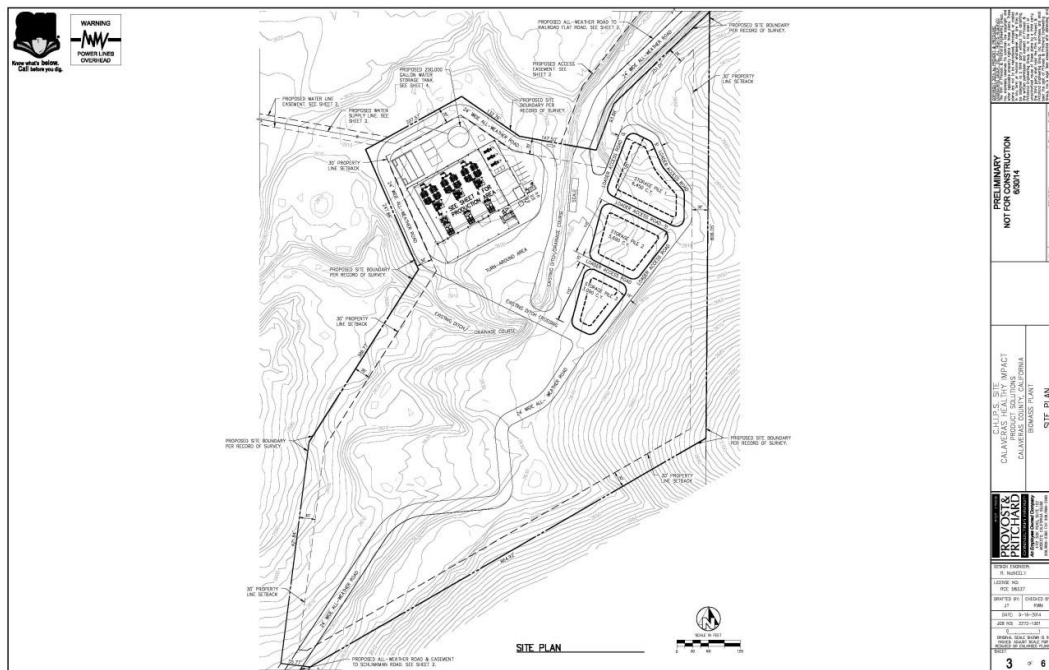
The low profile pile size configuration consists of more piles; however, only 3,000 BDT or approximately 1.5 months of storage. Table 4 provides low profile pile feedstock storage calculations and specifications.

Table 4. Storage Configurations with Low Profile Pile Size

PILE NUMBER	PILE SIZE (FT ³)	STORAGE POTENTIAL (BDT (days))	CUMULATIVE STORAGE (BDT (days))
1	44,320	222 (3.1)	222 (3.1)
2	35,550	178 (2.5)	400 (5.6)
3	41,850	209 (2.9)	609 (8.5)
4	65,930	330 (4.6)	939 (13)
5	41,850	209 (2.9)	1,148 (15.9)
6	40,500	203 (2.8)	1,351 (18.8)
7	17,330	87 (1.2)	1,438 (20)
8	78,980	395 (5.5)	1,833 (25.5)
9	76,950	385 (5.3)	2,218 (30.8)
10	63,230	316 (4.4)	2,534 (35.2)
11	43,350	232 (3.2)	2,766 (38.4)
12	36,680	183 (2.5)	2,949 (41)

Based on CHIPS' goals for a bioenergy yard with additional space for other forest biomass and related operations on the parcel, the steering committee advised that up to one month of storage be retained onsite. CHIPS prefers the wood chips storage to remain below 15 feet to reduce operational risks and simplify storage/handling procedures. Using these parameters, the preferred site layout is shown in Figure 11.

Figure 11. Preferred Storage Configuration



This layout would require offsite storage, as only one month of storage space is available onsite (Table 5). Offsite storage, in the form of in field storage, is the preferred strategy to avoid costs associated with double handling. In field storage requires a strategic procurement plan that allows for high elevation feedstock procurement in the summer and low elevation feedstock procurement in the winter when the high elevation material is more challenging to reach due to weather and ecological constraints. The project site is located in a region geographically suitable for this type of strategic feedstock procurement.

Table 5. Preferred Storage Configuration

PILE NUMBER	PILE SIZE (FT³)	STORAGE POTENTIAL (BDT (days))	CUMULATIVE STORAGE (BDT (days))
1	174,150	871 (12.1)	871 (12.1)
2	153,630	768 (10.7)	1,639 (22.8)
3	83,430	417 (5.8)	2,056 (28.6)

The proposed layout will provide 4 to 5 acres of relatively open and level ground for additional business enterprises.

Fire Safety

Fire protection is paramount for this site as it is surrounded by heavily forested areas and in close proximity to the community of Wilseyville. Under certain conditions, wood chip piles can build up heat. Common anaerobic microbial activity is exothermic (releasing heat). Proper first-in first-out pile management and temperature recordings (to monitor pile heat) can maintain proper air flow, limit the activity of anaerobic bacteria and significantly reduce or eliminate the potential risk of wood chip combustion.

Appropriate access to the site will likely include road access with turnouts every 500 feet in lieu of a 24-foot double lane road from both the main entrance at Railroad Flat Road²⁴ and from the secondary entrance at Schlinkman Way. A knox box²⁵ will be required if the site access routes will be routinely locked for security purposes.

Through the building permitting process, the West Point Fire Protection District will review the site layout and building layout to ensure the site planning is adequate for fire protection. Pile size will be an important factor in this review.

Water Access

Water storage requirements are important for the site, which currently has no access to water. Estimated water demand for fire prevention is 1,500 gallons per minute for two hours, with a total minimum storage of 180,000 gallons. The water demand can be provided directly by pipeline to the site via fire hydrants or by onsite storage tanks. If water is stored onsite, the water tank recharge should take place within two days.

²⁴ The existing roadway is only 12 feet wide and would require significant grading to accommodate a double lane access route.

²⁵ Rapid entry system specifically for non-destructive emergency access.

Using the water demand data provided by Phoenix Energy and the fire suppression demands, a concept review application was submitted to the CCWD to determine the most appropriate means to acquiring the necessary water availability onsite.

The concept review found that the CCWD can provide water to the site via the West Point water system. The Wilseyville side of the CCWD system requires a pump house that is not equipped for the increased load. The West Point side of the CCWD system is located to the northwest of the proposed parcel and will require a longer interconnection; however, the extra distance is expected to be less than a quarter mile. The concept review suggested that the fire protection water system use a water storage tank to ensure proper pressure and flow rate.

Code Requirements and Easements

Site development standards for the site are governed by Calaveras County Code of Ordinances Chapter 17.48 for Public Service Zone. There are no height restrictions for development on this parcel and the maximum lot coverage is 95%. The minimum building setbacks to achieve defensible space requires a 30-foot setback from all property lines.²⁶ The setback can be used as an all-weather access road for emergency vehicles.

An easement will be necessary to connect to the existing public road system, which can be obtained through the County Department of Public Works.

Noise mitigation shall conform to the standards of the noise element of the general plan for average and maximum noise levels.²⁷ Noise for industrial use is 75 decibels (dB) from 7:00 AM to 10:00 PM and 65 dB from 10:00 PM to 7:00 AM. Noise for commercial use is 70 dB from 7:00 AM to 10:00 PM and 60 dB from 10:00 PM to 7:00 AM.²⁸ Provided that the equipment is located within a building, the noise ordinances are not expected to present a challenge for the operations of the bioenergy facility.

A minimum area equal to 5% of the land area devoted to structures and parking shall be planted with new landscaping. Landscaping shall be installed prior to use or occupancy and shall be maintained in a vigorous and healthy condition in perpetuity.²⁹

Cost Estimate

TSS compiled an initial project budget based on the findings throughout this task. The costs shown in Table 6 represent preliminary estimates and are subject to change based on project refinement and detailed engineering analysis.

²⁶ Calaveras County Code of Ordinances Chapter 17.48 Section 070.

²⁷ Calaveras County Code of Ordinances Chapter 17.48 Section 060.

²⁸ Calaveras County Code of Ordinances Chapter 9.02 Section 030.

²⁹ Calaveras County Code of Ordinances Chapter 17.48 Section 060.

Table 6. Preliminary Cost Estimate

Item Description		Subtotal
Machinery and Equipment		
	Gasification and Cleanup Equipment	\$3,000,000
	Feedstock In-Feed System	\$215,000
	Controls	\$1,150,000
	Electrical and Power Generation	\$6,765,000
	Installation and Labor	\$2,750,000
	Subtotal:	\$13,880,000
Site Improvements		
	General Conditions, Clearing, and Demolition	\$220,000
	Grading and Roadways	\$400,000
	Site Utilities	\$500,000
	Building Construction	\$760,000
	Subtotal:	\$1,880,000
Preliminary Cost Estimate Subtotal:		\$15,760,000
10% Contingency Subtotal:		\$1,576,000
Preliminary Cost Estimate with 15% Contingency Total:		\$17,336,000

PRELIMINARY GRID INTERCONNECTION

Introduction

The CHIPS bioenergy project at Wilseyville is expected to target the SB 1122 ReMAT program to procure a long-term power purchase agreement (PPA) from Pacific Gas & Electric, the electric service provider for the region. Grid interconnection can be a costly component of a successful bioenergy project, particularly in rural areas where development has not resulted in high levels of electric infrastructure investment. TSS focused the preliminary design and engineering on work designed to prepare the project with technical information necessary for the SB 1122 ReMAT (part of which is a completed SIS).

Feed in Tariff Program

The CHIPS bioenergy project is expected to be eligible for the SB 1122 ReMAT feed in tariff program. The CPUC has authorized two ReMAT programs, one for all renewables and one specifically for bioenergy projects, initiated by SB 1122. This project is expected to participate in the SB 1122 ReMAT because of the higher proposed starting price and the exclusion of lower-cost solar, hydro, and wind projects.

The ReMAT is designed to balance cost-competitive renewable energy procurement with project developer timelines. The SB 1122 ReMAT is currently being finalized by the CPUC and is based on the standard ReMAT. To be eligible for the ReMAT, developers must demonstrate the following criteria.

1. Territory: The Project must be physically located within PG&E, SCE, or SDG&E's electric service territory and must be interconnected to PG&E, SCE, or SDG&E's electric distribution system.
2. Eligible Renewable Energy Resource: The Project must be an Eligible Renewable Energy Resource as defined in CPUC Section 399.12.
3. Qualifying Facility: The Project must be a Qualifying Facility, as defined by the Federal Energy Regulatory Commission (FERC). See 16 U.S.C. § 824a-3(b); 18 C.F.R. § 292.304(a) (2).
4. Contract Capacity: The Contract Capacity for the Project cannot exceed 3.0 MW.
5. Interconnection Study/Strategically Located: An Applicant must have passed the Fast Track screens, passed Supplemental Review, completed a PG&E, SCE, or SDG&E [based on the service territory] System Impact Study in the Independent Study Process; or completed a PG&E, SCE, or SDG&E [based on the service territory] Phase 1 Study in the Cluster Study Process for its Project (Interconnection Study).
 - a. The Project must be interconnected to the PG&E, SCE, or SDG&E [based on the service territory] distribution system and the Project's most recent Interconnection

Study or Interconnection Agreement must affirmatively support the Project's ability to interconnect (a) within twenty-four months of the execution of the ReMAT PPA form #79-1150 and (b) without requiring transmission system Network Upgrades in excess of \$300,000.

- b. If PG&E's, SCE's, or SDG&E's [based on the service territory] Rule 21 and Wholesale Distribution Tariff (WDT) are applicable and available to a Project in a given situation, the Project can choose to pursue interconnection under either Rule 21 or WDT, until the CPUC makes a determination otherwise. After such a CPUC decision, the Project must interconnect as stipulated in that CPUC determination unless the next sentence applies. Those Projects that request interconnection pursuant to Rule 21 or WDT and have submitted a completed Program Participation Request (PPR) under this Schedule prior to any final CPUC determination will not be required to switch interconnection tariffs and will continue to be eligible to receive service under this Schedule, provided the Project is otherwise eligible.
6. Site Control: The Applicant must provide to PG&E, SCE, or SDG&E [based on the service territory] an attestation that it has 100% site control for the Project through: (a) direct ownership; (b) lease; or (c) an option to lease or purchase that may be exercised upon execution of the ReMAT PPA. The Applicant is required to submit a map showing the boundary of the Site for which the Applicant has control as part of the PPR. PG&E, SCE or SDG&E [based on service territory] reserve the right to request additional information.
7. Developer Experience: The Applicant must provide an attestation that at least one member of its development team has: (a) completed the development of at least one project of similar technology and capacity; or (b) begun construction of at least one other project of similar technology and capacity. A project less than 1 MW will be deemed to be similar capacity to a Project up to 1 MW. A project between 1 MW and 3 MW will be deemed to be a similar capacity to a Project up to 3 MW. For example, for a 3 MW Project, a project of similar capacity cannot be smaller than 1 MW.
8. Daisy Chaining: The Applicant must provide an attestation that the project is the only exporting project being developed, owned or controlled by the Applicant on any single or contiguous pieces of property. PG&E, SCE, or SDG&E [based on service territory] may, at its sole discretion, determine that the Applicant does not satisfy this Eligibility Criteria if the Project appears to be part of a larger installation in the same general location that has been or is being developed by the Applicant or the Applicant's Affiliates.
9. Other Incentives: A Project that previously received incentive under the California Solar Initiative or the Self-Generation Incentive Program is ineligible for ReMAT if the incentives were received within ten years or less of the date that Applicant submits a PPR for ReMAT for such Project. An Applicant for a Project that previously received incentive payments under the California Solar Initiative or the Self-Generation Incentive Program must provide an attestation stating that, as of the date the Applicant submits the PPR: (1) the Project has been operating for at least ten years from the date the Applicant

first received ratepayer-funded incentive payments under either incentive program for the Project; and (2) to the extent the CPUC requires reimbursement of any ratepayer-funded incentive, the Applicant can demonstrate the Project's owner has provided the applicable incentive administrator with any required refunds of the incentives.

10. Net Energy Metering: An Applicant that is a net energy metering (NEM) customer can only participate in ReMAT if the Applicant terminates its participation in the NEM program for the Project prior to the ReMAT PPA's Commercial Operation Date.

The following list discusses each of the ten Eligibility Criteria and their implications for the Wilseyville Project.

1. Territory: The Wilseyville proposed project site is within PG&E territory and passes this criteria.
2. Eligible Renewable Energy Resource: The biomass to electricity proposed project qualifies as an eligible resource.³⁰
3. Qualifying Facility: The proposed biomass to electricity project in Wilseyville qualifies as an FERC qualifying facility.³¹

³⁰ The 5th Edition of the Commission Guidebook for Renewables Portfolio Standard Eligibility defines the Eligible Renewable Energy Resources. The definition for biomass is defined as:

"any organic material not derived from fossil fuels, including, but not limited to, agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, construction wood wastes, landscape and right-of-way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, biosolids, sludge derived from organic matter, wood and wood waste from timbering operations, and any materials eligible for "biomass conversion" as defined in Public Resources Code Section 40106.

Agricultural wastes and residues include, but are not limited to, animal wastes, remains and tallow; food wastes; recycled cooking oils; and pure vegetable oils.

Landscape or right-of-way tree trimmings include all solid waste materials that result from tree or vegetation trimming or removal to establish or maintain a right-of-way on public or private land for the following purposes:

- 1) For the provision of public utilities, including, but not limited to, natural gas, water, electricity, and telecommunications.
- 2) For fuel hazard reduction resulting in fire protection and prevention.
- 3) For the public's recreational use."

³¹ Qualifying Facilities fall into two categories: qualifying small power production facilities and qualifying cogeneration facilities. (<http://www.ferc.gov/industries/electric/gen-info/qual-fac/what-is.asp>)

A small power production facility is a generating facility 80 MW or less whose primary energy source is renewable (hydro, wind or solar), biomass, waste, or geothermal resources. There are some limited exceptions to the 80 MW size limit that apply to certain facilities certified prior to 1995 and designated under section 3(17)(E) of the Federal Power Act (16 U.S.C. § 796(17)(E)), which have no size limitation. In order to be considered a qualifying small power production facility, a facility must meet all of the requirements of 18 C.F.R. §§ 292.203(a), 292.203(c) and 292.204 for size and fuel use, and be certified as a QF pursuant to 18 C.F.R. § 292.207.

A cogeneration facility is a generating facility that sequentially produces electricity and another form of useful thermal energy (such as heat or steam) in a way that is more efficient than the separate production of both forms of energy. For example, in addition to the production of electricity, large cogeneration facilities might provide steam for industrial uses in facilities such as paper mills, refineries, or factories, or for HVAC applications in commercial or residential buildings. Smaller cogeneration facilities might provide hot water for domestic heating or other useful applications. In order to be considered a qualifying cogeneration facility, a facility must meet all of the requirements of 18 C.F.R. §§292.203(b) and 292.205 for operation, efficiency and use of energy output, and be certified as a QF pursuant to 18 C.F.R. § 292.207. There is no size limitation for qualifying cogeneration facilities.

4. Contract Capacity: The proposed biomass project is less than 3.0 MW.
5. Interconnection Study/Strategically Located: The Wilseyville project has not completed an Interconnection Study to identify project costs for the definition of strategic location.
6. Site Control: Wilseyville is anticipated to be able to work with Phoenix Energy to arrange appropriate site control documentation now that CHIPS has purchased the site.
7. Developer Experience: Phoenix Energy has developed a project equal to 1 MW; therefore they will be able to meet the developer experience requirements.
8. Daisy Chaining: The proposed project is not part of any other energy development projects and should not have any issue with the daisy chaining provision.
9. Other Incentives: Since this project does not yet exist, no additional incentives have been received.
10. Net Energy Metering: Since this project does not yet exist, there is no NEM contract to cancel to meet the requirements of this provision.

The only ReMAT eligibility criteria that could be challenging for the Wilseyville bioenergy project would be the Interconnection Study/Strategically Located provision. Appendix I includes the completed System Impact Study application.

The SB 1122 ReMAT proceedings are still underway. There has been discussion amongst the CPUC and those organizations with party status to the proceedings (including PG&E, SCE, SDG&E, the Bioenergy Association of California, Placer County Air District, Phoenix Energy, Center for Biological Diversity, and Pacific Forest Trust among others). The SB 1122 proceedings are intended to identify any modifications to the standard ReMAT necessary to support bioenergy's specific needs. This proceeding should be monitored closely to fully understand the SB 1122 ReMAT process and how it may impact the CHIPS project.

Currently, the SB 1122 ReMAT program is expected to have a starting price of \$0.12772/kWh. Depending on industry participation, the offerings may increase, decrease, or remain constant. Offerings will increase if there is sufficient industry participation (total number of potential projects) and if participants do not accept the previous offering. Price increases are \$0.004/kWh to \$0.128/kWh for the first price jump, \$0.008/kWh to \$0.136/kWh for the second price jump, and \$0.012/kWh for all subsequent intervals. The price step interval resets if a project proponent accepts an offering. Offerings occur every two months. TSS reiterates that at the time of this report, the SB 1122 ReMAT proceedings have not been finalized.

Interconnection to the Distribution Network

Through onsite visits, TSS identified the closest point for interconnection to the distribution grid. There is not electrical infrastructure on the proposed site; however, a distribution line runs along Railroad Flat Road. The closest point to the proposed project site is located north of the CCWD secondary treatment pond at the pole with the existing tap for the CCWD equipment.

Pre-Application Report

The project applicant prepared and submitted a Pre-Application Report Request to PG&E to identify the preliminary findings of this interconnection location. The Pre-Application Report Request and the Pre-Application Report are included in Appendix H.

The Pre-Application Report provides data regarding the capacity of the existing distribution grid. The report includes technical specifications regarding the station bank, breakers, and reclosers that exist on the line. Both the bank and breaker have sufficient capacity to accept electricity without overloading the bank or the breaker.

Using the minimum load data and the power flows, a facility sized above 1.266 kW will cause reverse power flow on the recloser and above 1.673 kW will cause reverse power flow at the bank and breaker. Therefore, sizing a facility above these thresholds will require equipment upgrades to be capable of recording negative power flows. These upgrades are not anticipated to exceed the \$300,000 strategically located constraint on transmission level upgrades.

For projects with export capacity less for than 50% of the minimum peak load, accelerated interconnection may be an option. For the Wilseyville project, this threshold is 785 kW. TSS believes this small size is not economical for amortizing fixed costs associated with bioenergy development and recommends that the Wilseyville project expect to follow through with the detailed interconnection study process and conduct a full System Impact Study. Without meeting the 50% threshold, there is potential for islanding, a condition when distributed generation can provide sufficient power to meet electric loads on a portion of the grid, even when the IOU has shut off power to that portion of the grid. Islanding is a serious safety concern for line workers. In PG&E territory, direct transfer trips have been used to assure worker safety. Direct transfer trips can cost a project approximately \$1,000,000.

Lastly, the distribution lines have a rating of 515 amperes for current flow, which is significantly higher than the 145 ampere maximum current rating of the facility (at 3 MW sizing).

The Pre-Application Report verified the need for the project to proceed through the System Impact Study (a portion of the detailed study process).

Interconnection Process

Potential electricity generating projects have two processes within Rule 21: Fast Track and Detailed Study Process. The Fast Track is intended to facilitate an accelerated interconnection process for projects with minimal impacts to the electric grid. Based on the Pre-Application Report, the Wilseyville bioenergy project is expected to fail Screen M in the Fast Track which requires the project to be sized less than 15% of the line section peak load (654 kW). Additionally, Screen B requires that certified equipment is used. Due to the limited deployment of small-scale synchronous generators, this screen can be challenging to meet.

Projects that fail the Fast Track process can still achieve accelerated interconnection by entering the Supplemental Review. Screen N in the Supplemental Review process requires that generating facilities must be less than 100% of the minimum load for all line sections bounded

by automatic sectionalizing devices upstream of the facility (1,368 kW). Projects that do not meet the requirements of the Fast Track and Supplemental Review are moved into the Detailed Study Process. A project may also elect to bypass the Fast Track and Supplemental screens.

Projects are placed in a queue when the initial application is submitted and are reviewed on a first-come first-served basis. Rule 21 outlines specific timeframes for each step within the interconnection process. The Fast Track process should take 30 days provided the application has been correctly submitted; however, the CHIPS project is not expected to pass Fast Track based on the minimum load data provided in the Pre-Application Report.

Detailed Study Process

The detailed study process consists of a System Impact Study and a Facilities Study (when required). The ReMAT requires only the SIS for eligibility. The SIS is the first part of the detailed study process outlined in PG&E Electric Rule 21, which governs the interconnection process. The SIS review process should take approximately 90 days provided the application is correctly submitted and PG&E does not request more time.

The SIS includes a non-binding cost estimate. The next steps include a securities posting equal to 15% of the interconnection costs and, if necessary, the Facilities Study. The Facilities Study is intended to provide additional information, when required, to better understand the costs of interconnection. The Facilities Study may be waived if the applicant agrees with written consent to pay all actual costs of interconnection. The Facilities Study is not required for eligibility within ReMAT or the SB 1122 ReMAT.

The SIS application must include an \$800 application fee and a \$10,000 deposit. The deposit is a retainer, and the applicant will have unspent money returned upon completion of the SIS or must pay additional expenses if necessary to complete the SIS.

As a part of this study, the SIS application has been completed so that the project is prepared to submit the application to PG&E to become eligible for the SB 1122 ReMAT (Appendix I).

Study Timeline

The SIS application is time-sensitive and will require communication between CHIPS, Phoenix Energy, and PG&E. Rule 21, Section E, Interconnection Request Submission Process, and Section F, Review Process for Interconnection Requests, outlines the timeline for the study process. This section is summarized below with cumulative timelines shown in parentheses.

Application Submittal

- Request Information & Documentation – Sent by PG&E within 3 business days.
- Applicant submits Interconnection Request (IR) (Business Day 0).
- Within 10 business days, PG&E will provide written notification of IR receipt. This notice will state if the IR is deemed complete and valid (Business Day 10).

- If deficiencies are identified, the written notification will state the reasons for deficiency. The applicant has 10 business days to supply PG&E with the additional requested information (Business Day 20).
- Second Notice of Deficiency may be delivered within 10 business days if necessary (Business Day 30).
- Applicant must supply requested information within 5 business days (Business Day 35).
- The applicant may request one extension for up to 20 business days (Business Day 55).
- PG&E will assign an interconnection queue position based on either the date the IR was received if there were no deficiencies or the date that PG&E determined the IR to be complete and valid.
- As of October 13, 2014, PG&E's most up-to-date public queue information shows there are 161 active IRs (includes IRs received through June 30, 2014).³²
 - 41 are pursuing the Independent Study Process (the SIS is part of this process).
 - 120 are pursuing the Fast Track Study Process.
 - 16 are pursuing the Detailed Study Process (the process for determining if the Independent Study, Distribution Group Study, or Transmission Cluster Study are appropriate).
 - 3 are pursuing the Transmission Cluster Study Process.

The application submittal process may range from less than 10 business days to 55 business days depending on the completeness of the application.

Detailed Study Process

- The IR has been deemed complete and valid and the appropriate application fee has been paid (Business Day 0).
- PG&E will apply Screens Q and R to determine which study track is appropriate (Independent Study, Distribution Group Study, or Transmission Cluster Study). This determination will occur within 20 business days (Business Day 20).
 - Applicant has 20 business days to elect to proceed if the results from Screens Q and R identify the need for a Distribution Group Study or Transmission Cluster Study (Business Day 40).
 - If Screens Q and R are both passed, the project shall follow the Independent Study Process.
- Within 5 business days after PG&E notifies the applicant that Screens Q and R were passed, PG&E shall contact the Applicant to establish a date for the Scoping Meeting (Business Day 25).

The results for the detailed study process identify the path forward. Due to the project's size and location, the project is expected to pass Screens Q and R. This process may range from less than 20 business days to 40 business days.

³² PG&E provides monthly updated Public Queue information.

Independent Study Process

- Scoping Meeting is intended to finalize the work plan and exchange additional information. The date of the Scoping Meeting is based on the availability of PG&E staff and the Applicant (Business Day 0).
- Within 15 business days, PG&E will provide an Independent Study Process Study Agreement outlining the scope of work and containing a good faith estimate of the costs (Business Day 15).
- Applicant will execute and deliver the Agreement within 30 business days (Business Day 45).
- PG&E will complete and issue a final Interconnection System Impact Study report within 60 days of the executed Agreement. Note that at any time, PG&E may determine that it will not meet the required timeframe and will notify the applicant with a reason and an updated estimated completion date (Business Day 105).
- A results meeting may be requested by the applicant. PG&E shall contact the Applicant within 5 business days of such a request to schedule the results meeting (Business Day 110).
- No later than 5 business days after the results meeting, the Applicant must submit in writing to PG&E all modifications. If a results meeting is not held, modifications must be submitted within 25 business days (Business Day 130).
- PG&E will inform the Applicant in writing whether the modification constitutes a Material Modification within 10 business days of the receipt of the proposed request for modification (Business Day 140).
 - If the modification is a Material Modification, the Applicant may either withdraw the proposed modification or proceed with a new IR. The Applicant has 10 business days to decide the appropriate direction (Business Day 150).
 - If the modification is not a Material Modification, PG&E will provide an estimate of time to complete and incremental cost with the modification assessment. The Applicant has 10 business days to withdraw the proposed modification request or proceed (Business Day 150).

The first part of the Independent Study process is the System Impact Study. The System Impact Study may take up to 150 business days (or longer if modifications are necessary). This is the documentation needed for eligibility for ReMAT.

The total SIS process as identified above may be up to 245 business days (approximately 11 months). However, with proper system documentation and prompt Applicant response times, the timeframe can be significantly reduced.

The Independent Study Process continues with the Interconnection Financial Security posting within 60 calendar days and a determination whether to conduct a Facilities Study or to waive the Facilities Study. These parts of the process are not necessary for SB 1122 eligibility; however, there are currently no mechanisms by which to pause the Independent Study process. If the process cannot be paused, a waiver for the Facilities Study and the Financial Security

posting will be the most cost effective means of concluding the Independent Study Process. The timelines for the Facilities Study are outlined in Rule 21 (Section F.3.d. vi).

Renewable Portfolio Standard

The proposed biomass gasification project at the Wilseyville site should be eligible for Renewable Portfolio Standard (RPS) credits. The Renewable Portfolio Standard is California's legislative mandate that qualifying utilities³³ must procure 33% of their electricity from renewable sources by 2020. The California Public Utilities Commission manages the RPS program; however, the California Energy Commission (CEC) manages the certification and precertification process for RPS eligible facilities. RPS credits provide additional value to the electricity produced from a bioenergy project. While RPS credits are included in the PPA under SB 1122, the precertification process allows the project to definitively meet the Qualifying Facility section of SB 1122 eligibility and provides additional security for project financing. As part of this grant, TSS has completed the application for the proposed Wilseyville project (Appendix J).

Findings

The CHIPS proposed project is not expected to be able to pass the Fast Track process due to the relatively low minimum peak load at the local distribution line identified in the Pre-Application Report. TSS therefore recommends that the project start with the Detailed Study Process to maximize interconnection timeliness and cost. TSS anticipates that the project will follow the Independent Study Process; however, this must be determined by PG&E through the Detailed Study Process.

Since the completion of the System Impact Study is part of the eligibility requirements for SB 1122 ReMAT, interconnection is critical to project development and securing financing. The SIS process is a time-sensitive process. It is critical to meet these timelines to maintain position in the queue; therefore, the CHIPS business entity (e.g., LLC) should be established soon with all roles and responsibilities agreed upon.

³³ Greater than 60,000 customers.

RECOMMENDATIONS AND NEXT STEPS

As reviewed for technical, regulatory, and environmental impacts, TSS did not identify any deficiencies at the time of this report's publication. However, there are specific challenges that must be addressed and defined next steps based on the findings from each section that will be critical to the project's successful progression. TSS recommends the following steps to move the project to the next stage.

- Formalize the business relationship between Phoenix Energy and CHIPS, and develop a detailed business plan that identifies the roles and responsibilities of both parties.
- Submit applicant provided CEQA documentation to the Planning Department to begin the CEQA process.
- Submit the Detailed Study Process application, fees, and deposit to begin the processes.
- Develop a feedstock procurement plan to identify credible entities (for the purposes of raising capital) and to develop a strategy to maximize the access to just-in-time feedstock delivery options, thereby minimizing the need for onsite feedstock storage.
- Identify financing strategy contingent on SB 1122 price point.
- Upon completion of the System Impact Study and the opening of the SB 1122 ReMAT process, apply for a position in the queue.

**Appendix A. Correspondence with Calaveras County Planning Department regarding a
Conditional Use Permit**



County of Calaveras

Department of Planning

Rebecca L. Willis, AICP ~ Planning Director

Phone (209) 754-6394 Fax (209) 754-6540

website: www.co.calaveras.ca.us

October 20, 2011

Rick Breeze-Martin
Breeze-Martin Consulting
19625 Cedar Road
Sonora, CA 95370

Re: CHIPS Biomass Product Yard
Blizzard Mine Road, Wilseyville, APN 12-011-011

Dear Mr. Breeze-Martin,

Thank you for providing a preliminary layout plan and a project description for the proposed biomass product yard in Wilseyville. The subject property is in the Public Service (PS) Zone and is owned by CCWD. The purpose of this letter is to provide an analysis and determination if the use is allowed within the Public Service Zone.

The purpose of the PS Zone is to classify lands that are used for public purposes, public utilities, and for public agencies. The subject parcel is used primarily by CCWD for its treatment pond and spray field. CCWD's facilities will remain intact and operational as part of this proposal. Calaveras Healthy Impact Products Solutions (CHIPS) would establish the biomass product yard on a portion of CCWD's parcel, which is an approximate 20 to 30 acre site east of the spray field and south of the treatment pond. CCWD would either lease the 20-30 acres to CHIPS, or would obtain a lot split to sell the surplus land to CHIPS.

Wilseyville is located in the Blue Mountain Region of Calaveras County. The region is characterized by heavily timbered foothills and low-elevation mountains interspersed with steep river gorges. There is a prevalence of fire-prone, overgrown forests in the area. Numerous public agencies are involved in forest management, fire prevention, and disposal of forest slash and wood waste. Common forest practices include open pile burning or hauling wood waste to disposal facilities that are often far away from the source. Some public and private land holdings perform less than adequate management of forest fuel due to high costs or lack of resources. The burning, hauling, or lack of maintenance is a concern affecting the public.

CHIPS would work in partnership with numerous public, quasi-public, and non-profit agencies to provide a better solution for forest fuel, also known as biomass. Many public agencies will benefit from the location of the biomass product yard in the vicinity. For example, the facility will benefit fire agencies by providing a more economical way

for land owners to remove overgrowth that now makes forests prone to catastrophic wildfire. The facility will benefit the Calaveras County Public Works Department by diverting wood waste that would otherwise be processed at the Wilseyville transfer station, which will reduce the County's operating costs for this public service. CHIPS would partner with public agencies to provide a service and cost-effective solution to forest fuel issues, including the US Forest Service, US Bureau of Land Management, CalFire, Ebbetts Pass Forest Watch, California Department of Fish and Game, and the Calaveras County Department of Public Works. Therefore, the biomass product yard would **serve a public purpose** and would be used **in partnership with** and **for public agencies**. This is consistent with the Public Service Zone.

Section 17.48.020 of the Public Service Zone allows the following as permitted uses:

- All public uses, buildings facilities, structures, offices, maintenance yards or storage facilities. The biomass product yard includes a site office/restroom and storage, chipping, sorting of wood, similar to the operation currently conducted at the County's transfer station site.
- Accepted farming practices. The biomass product yard contains components consistent with accepted farming, agricultural, and timber practices in the Blue Mountain Region, including composting, greenhouse and native plant nursery, sawmill, and conversion of small timber to marketable products (post, poles, fencing, firewood).

Based on the above information, I have determined the CHIPS biomass product storage yard would qualify as a permitted use in the Public Service Zone.

If you have any questions, please feel free to call me at (209) 764-6394.

Sincerely,



Rebecca Willis
Planning Director
Calaveras County

Cc: Joone Lopez, CCWD
Supervisor Steve Wilensky, District 2

Appendix B. Calaveras County Planning Department: Conditional Use Permit Application



**CALAVERAS COUNTY
PLANNING DEPARTMENT**

GOVERNMENT CENTER
891 MOUNTAIN RANCH RD
SAN ANDREAS, CA 95249
Phone (209)754-6394 / Fax (209)754-6540
e-mail: Plandept@co.calaveras.ca.us

APPLICATION FOR LAND USE DEVELOPMENT

- | | | | |
|--|--------|---|-------|
| ☐ General Plan Amendment | (GPA) | ☐ Conditional Use Permit | (CUP) |
| ☐ Zoning Amendment | (ZA) | ☐ Planned Development | (PD) |
| ☐ Tentative Subdivision Tract Map | (TSTM) | ☐ Accessory Dwelling | (AD) |
| ☐ Tentative Parcel Map | (TPM) | ☐ | |

NOTE: FAILURE TO ANSWER APPLICABLE QUESTIONS AND REQUIRED ATTACHMENTS COULD DELAY THE PROCESSING OF YOUR APPLICATION.

1. Applicant (s):

Name _____

Project Address _____ City _____

Mailing Address _____ City _____

Phone (Business) _____ (Home) _____

2. Landowner (s):

Name _____

Mailing Address _____ City _____

Phone (Business) _____ (Home) _____

3. Name and address of property owner's duly authorized Agent who is to be furnished with notice of hearing. (Section 65091 – Calif. Govt. Code):

Agent:

Name _____

Mailing Address _____ City _____

Phone (Business) _____ (Home) _____

Email _____

4. Assessor's Parcel Number(s): _____ Parcel Size: _____

5. Site location with directions to the project site:

GENERAL PLAN DESIGNATION

(check with Planning Department or refer to General Plan):

☐ **Natural Resource Lands:**

- ☐ Agriculture Preserve
- ☐ Wildlife Habitats/Botanical Area
- ☐ Timberlands/Mineral Resource Area 2A
- ☐ Mineral Resource Area 2B

☐ **Special Consideration Area:**

- ☐ Prime Industrial Corridor
- ☐ Dam Inundation Area/100 yr flood plain
- ☐ Over 50% slope
- ☐ Ebbetts Pass Highway Plan
- ☐ City of Angels, Sphere of Influence

☐ **Community Development Lands:**

- ☐ Future Single Family Residential
- ☐ Community Center _____
- ☐ Residential Center _____
- ☐ Community Plan: _____
- ☐ Special Plan: _____
- ☐ Specific Plan: _____
- ☐ Mixed Use / Master Project: _____

6. Existing Zoning: _____

ANSWER ONLY THE FOLLOWING QUESTIONS APPLICABLE TO YOUR APPLICATION

**GPA
ZA
TSTM
& TPM**

7. Proposed General Plan Designation: _____
8. Proposed Zoning: _____
9. Proposed Land Division:
- a. Total Acres: _____ b. Number of Lots: _____
- c. Minimum Lot Size _____ d. Average Lot Size: _____

**TSTM
& TPM**

10. Type of proposed land uses for land divisions:
- | | | | | |
|---|-------|-----------|-------|-------------|
| (a) Natural Resource: Ag/Timber/Mineral | _____ | # of lots | _____ | total acres |
| (b) Single Family Residential | _____ | # of lots | _____ | total acres |
| (c) Multi-Family Residential | _____ | # of lots | _____ | total acres |
| (d) Commercial | _____ | # of lots | _____ | total acres |
| (e) Industrial | _____ | # of lots | _____ | total acres |
| (f) Public Service | _____ | # of lots | _____ | total acres |
| (g) Recreation/Open Space | _____ | # of lots | _____ | total acres |

**CUP/PD
& ZA**

11. Describe in detail the proposed development or use. (Attach sheets if necessary)

CUP/PD

12. Is the proposed use an expansion of an existing use? ☐ Yes ☐ No.
If yes, when was it established? _____

- CUP/PD** 13. Is the proposed use part of an intended larger future project: ☐ Yes ☐ No

- CUP/PD** 14. Will all proposed uses be confined within a building? ☐ Yes ☐ No.
If no, describe what activities (including storage will that occur outdoors):

- CUP/PD** 15. Expected total number of people to be employed at the proposed uses.
Full Time _____ Part Time _____
- CUP/PD** 16. For commercial uses, indicate the number of parking spaces to be provided.

- CUP/PD** 17. Estimated number of vehicles to use the facilities daily. _____

- CUP/PD** 18. How many trees with a breast-height diameter of 12" or greater will be removed
as a result of the site development? _____

ALL APPLICATIONS ANSWER THE FOLLOWING QUESTIONS

19. Will grading be required to implement the proposed use? ☐ Yes ☐ No
If yes, estimate the total cubic yards that will be moved and explain what will be done with the
graded material _____

20. Will there be any potentially hazardous materials or toxic substances, flammables or
explosives used, stored, manufactured or disposed of at the site? ☐ Yes ☐ No
If yes, list and describe the method of disposal of these items.

21. Describe any odor, noise, smoke, or dust which will result from the proposal. _____

22. Request for Variance: ☐ Yes ☐ No
If "Yes", a written request must be submitted with the application, including reasons to support the required findings as follows:
- a) Exceptional or extraordinary circumstances apply to the property which do not apply generally to other properties in the same zone or vicinity and result from lot size or shape, topography, or other circumstances over which the owners of property have no control;
 - b) The variance is necessary for the preservation of a property right of the proponent substantially the same as owners of other property in the same one or vicinity possess;
 - c) The variance would not be materially detrimental to the purpose of this title, or to property in the same zone or vicinity in which the property is located, or otherwise conflict with the objectives of any county plan, ordinance or policy;
 - d) The variance requested is the minimum variance which would alleviate the hardship.
23. Any additional information or explanations supporting the proposal is encouraged and may be submitted on a separate sheet of paper.

EXISTING LAND USE INFORMATION

1. Describe the existing use of the property:
- | | | | |
|---------------------------------------|-------------------------------------|---|---|
| ☐ Agricultural | ☐ Commercial | ☐ Residential | ☐ Public Service |
| ☐ Timber | ☐ Industrial | ☐ Multi-family Residential | ☐ Recreational |
2. Describe the existing man-made features of the subject property, including buildings, roads, wells, septic systems, etc:
- _____
- _____
- _____
3. Describe any known archaeological, paleontological, or historical resources on the subject property. Provide Archaeological Sensitivity designation from the General Plan Map V-13. Check appropriate level. (High) ____ (Medium/Moderate) ____ (Low) _____. If sensitivity is shown as high or medium/moderate an archaeological assessment study will be required prior to completing the environmental review. If an assessment has been completed on a prior project that included the project area provide the information where the study can be found.
- _____
- _____
- _____
4. Describe the existing natural features of the subject property, including terrain or topography, vegetation, bodies of water, wetland habitat (marsh, riparian, vernal pools), etc:
- _____
- _____
- _____
- _____

5. Describe the existing land uses within 500 feet of the subject property. (Example: Five single family residences to the north, a duplex and pine forest to the west, a state highway and a gas station to the east, and grazing land to the south.) Be specific:

North: _____

South: _____

East: _____

West: _____

6. Access:

a) Name of road on which property fronts: _____

b) If property fronts on a private road, provide the name of nearest publicly maintained road: _____

c) If the subject property does not have frontage on a County road or State highway, describe the legal access to the property from the nearest public road: _____

d) Level of Service (Check with Calaveras County Public Works Department): _____

7. Public Services:

a) Domestic water source: ☐ individual well; ☐ district (specify): _____

b) Sewage disposal: ☐ onsite system ☐ district (specify): _____

c) Electric power (provider): _____

d) Telephone (provider): _____

e) Fire protection: ☐ County Fire Prevention ☐ district (specify): _____

f) School district: _____

Calaveras County Agriculture Disclosure Statement

Real property within or adjacent to areas zoned for agricultural operations or areas in zones which permit agricultural operations may be subject to inconveniences or discomfort arising from such operations. Calaveras County has determined that the use of real property for agricultural operations is a high priority and a proper and necessary use, and will not consider the inconveniences or discomforts arising from agricultural operations as a nuisance if such operations are consistent with accepted agricultural practices and standards.

Acknowledgement of this disclosure is shown by the signatures in this application and becomes, applicable as a condition of approval, upon approval by the approving body for this application.

Right of Entry

I (We) hereby acknowledge that by making this application, and under the authority of Government Code Section 65105, that in the performance of their functions, County agency personnel may enter upon the subject property and make examinations and surveys, provided that the entries, examinations and surveys do not interfere with the use of the land by those persons lawfully entitled to the possession thereof.

DECLARATION UNDER PENALTY OF PERJURY

I am (We are) the owner (s) of property involved in this application and I (We) have completed this application and all other documents required. I am (We are) the owner (s) of the property consenting to the preparation and submission of this application. I (We) declare under penalty of perjury that the foregoing is true and correct.

Property Owner(s):*

Signed: _____ Date: _____

Address: _____

Applicant (s):

Signed: _____ Date: _____

Address: _____

(Include additional owner and/or applicant signature(s) on an attached sheet.)

***NOTE:** If the deed shows the owner(s) to be a corporation, partnership, or limited liability company, a copy of a Resolution or other official document (consistent with California Corporations Code §§ 300-318, 16301-310, 17150-158) shall be provided, authorizing the signatory(ies) to approve and submit this application.

FOR OFFICIAL USE ONLY

Receipt Number _____

Date Stamp

Application Number _____

Method of Payment ☐ Cash ☐ Check # _____

Amount _____

**CALAVERAS COUNTY
PLANNING DEPARTMENT**

GOVERNMENT CENTER
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

Phone: (209) 754-6394 • Fax: (209) 754-6540
E-mail: planningdepartment@co.calaveras.ca.us

CONDITIONAL USE PERMIT
INSTRUCTIONS FOR FILING APPLICATION

This list is intended to meet the requirements of Government Code Section 65940.

1. **Application Form** shall be properly filled out and signed by owner(s) of property and applicant(s). All property owners shall sign or a Power-of-Attorney shall be submitted specifically authorizing a designated person to sign this application. If a corporation is the property owner, a resolution from the corporation authorizing this application shall be submitted.
2. **All Applications must go through a pre-application review process prior to acceptance. Applications will be reviewed by appointment only, and will not be accepted over the counter or through the mail.**
3. **Existing Land Use Information** shall be properly filled out.
4. **Reimbursement for CEQA Processing** shall be signed and submitted.
4. **Application Fee:..... \$4,764.00**

The following environmental filing fee(s) for the proposed project must be paid to the **County Clerk** within five (5) days of the approval of your project, in compliance with Fish and Game Code §711.4 and county processing requirements:

Department of Fish and Game Filing Fees

Negative Declaration -	\$2,156.25
Mitigated Negative Declaration -	\$2,156.25
Environmental Impact Report -	\$2,995.25
Certified Regulatory Program -	\$1,018.50

Calaveras County Administrative Processing Fee

Paid separately to the County - \$ 50.00

NOTE: Multiple applications submitted at the **same time** for the **same property** save the County time and money and that savings is passed on to applicants. For concurrent applications, the total fee is 100% of the highest fee and 50% of all other ***Planning Department*** application fees (***Public Works and Environmental Health application fee portions are still calculated at 100%***).

5. One copy of the current **County Assessor's Map** with the property of the proposed land use delineated shall be submitted with the application.

6. One copy of the **Current Deed** from the Official Records of the County shall be submitted with the application. If the deed shows a corporation as the owner, a copy of a resolution from the corporation authorizing this application, shall be submitted.
7. The proposed **Development Plan** shall be clearly and legibly drawn to scale on drawing sheets of at least 18" x 24" paper or larger. Use a standard engineering or architect's scale. **Three (3) folded copies** of all development plans shall be submitted with the application for preliminary review.
Once revisions are made and the application is deemed complete, **twelve (12) folded copies** of the amended standard sized plans, and one (1) set of reduced copies (11" x 17") will be required. The applicant will be notified if additional copies are needed.

8. **Development Plan Requirements:**

The Development Plan shall contain the following information in order that a complete evaluation may be made by the decision-making bodies. The Plan shall be drawn to scale with full dimensions (on sheets of 18" x 24" or larger) giving all the following required information:

- a. Title Block with the following information:
 1. Name, address, daytime phone number of the property owner.
 2. Name, address, daytime phone number of the applicant, if different from owner.
 3. Name, address, daytime phone number of person preparing the plot plan or exhibit.
 4. All assessor parcel numbers of the property being proposed for subdivision.
 5. Portion of the section (s), township (s), range (s) or town site/subdivision, block/unit and lot number.
- b. Vicinity map. This map must show how to get to the subject property from the nearest community and indicate its position in the Section that it is located.
- c. North arrow and scale.
- d. Property dimensions and acreage.
- e. Locations of all road, utility, and other easements.
- f. Existing development. All onsite structures, known wells or septic tanks, utility lines (both above and underground), and other manmade features, location and dimensions of all proposed new structures, access ways, and other features. Indicate the square footage of the new development.
- g. Parking areas. Show the location of parking lots, the configuration of the parking stalls, and all dimensions of stalls, driveways and vehicle access ways. Include a note of the number of parking spaces.
- h. Show locations and typical structure of all existing and proposed fences and walls. Indicate where solid waste will be stored.
- i. Show location of exterior lighting and the general direction of the illumination.
- j. Show topographical contours, or the general slope (with arrow and percent) of the land (indicated as a percentage, such as "12 %").
- k. Show the proposed graded contours, in the developed area and the proposed drainage.
- l. Show existing drainage courses through the property, and any alteration caused by development.
- m. Indicate existing onsite natural features, such as streams, reservoirs or their features that may affect development.
- n. Indicate where new landscaping is to be planted or existing vegetation is to remain at the conclusion of construction. Label the type of vegetation or other landscape material to be installed with common names, number to be planted, and the size at planting. Show on

the plan, the type and method of irrigation. The landscape plan may be submitted on a separate sheet.

- o. Either on the plot plan, or on a separate 8 ½" x 11" sheet of paper, submit a drawing of all proposed off-structure and on-structure signs. Indicate the proposed colors, the size of the signs, and show where on the property they will be located.
9. If new zoning is needed to match the proposed development use, a **Zoning Amendment Application** shall be submitted concurrently.
10. According to Section 65943 of the California Government Code, your application shall be reviewed within thirty days and you or your agent shall receive written notice regarding the completeness of your application. According to Section 65944 (C), additional information may be requested in order to comply with division 13 of the California Public Resources Code. The aforementioned application requirements Items 1 through 8 are necessary for a complete application. Any application which is submitted in person or by mail, lacking the required information will not be accepted.

Revised 03/08/13

**Appendix C. Calaveras County Air Pollution Control District: Authority to Construct
Application**



Calaveras County

AIR POLLUTION CONTROL DISTRICT

891 Mountain Ranch Road, San Andreas, CA 95249

(209) 754-6601 FAX (209) 754-6722

Brian S. Moss ♦ Environmental Management Agency Administrator, APCO

APPLICATION FOR AUTHORITY TO CONSTRUCT

(Applications must be type written or printed in ink)

Application Fee: \$348/ \$87 WHR

Please provide all pertinent facility information requested in the attached application checklist. This form must be received and approved by the APCO along with application fees that are to be paid prior to the start of operation. Failure to provide a complete application and submit applicable permit fees may delay or cause denial of a Permit to Operate (PTO). Please notify the District in writing when you are ready to operate so that we may verify that the facility is constructed in accordance with the plans as submitted, and observe the equipment in operation prior issuance of the PTO.

REASON FOR APPLICATION SUBMITTAL:

☐ Build/install new emissions unit/process

☐ Change in existing permit conditions

☐ Emission Reduction Credits

☐ Modify existing permitted unit/process

Nature of modification:

☐ Relocation of equipment

Previous location:

☐ Transfer of ownership

Previous business name:

☐ Other:

☐ Permit to Operate for an existing unit

☐ Change in throughput for an existing
permitted unit/process

PERMIT TO BE ISSUED TO: _____

MAILING ADDRESS: _____

LOCATION OF FACILITY: _____

SUMMARY LIST OF PROPOSED EQUIPMENT (attach checklist information):

CONSTRUCTION SCHEDULE - START: _____ COMPLETE: _____

SIGNATURE OF RESPONSIBLE OFFICIAL: _____

DATE: _____

NAME OF OFFICIAL (please print): _____

TITLE OF OFFICIAL: _____

CONTACT PERSON: _____

TELEPHONE NUMBER: (____) _____ - _____ FAX: (____) _____ - _____

PERMIT CONDITIONS (also see attachment):

In the absence of specific permit conditions, throughput, fuel, material consumption, capacities and hours of operation described in the permit application will be considered maximum allowable limits. All equipment, including process and pollution abatement equipment, must be properly maintained at all times. The approved PTO does not guarantee that the proposed equipment will comply with the air pollution control regulations.

FOR DISTRICT USE ONLY

PERMIT: Accepted Denied

PERMIT NUMBER: _____

SIGNED: _____
 Brian Moss, Air Pollution Control Officer

DATE: _____

AUTHORITY TO CONSTRUCT INFORMATION CHECKLIST

In order to meet statutory responsibilities, the District must obtain sufficient information from each project applicant to estimate pollution emission levels and determine if a project will comply with District regulations. The nature of information required varies considerably between various types of equipment and processes and between small and large projects. The information obtained is used both as a basis for issuing a permit and for developing an inventory of total emissions. Please identify all proprietary information submitted with the application. Please provide this information on a separate sheet(s) of paper.

1. Business name
2. Nature of business
3. Name, address, and phone number of person to contact regarding this application
4. Type of use (owner-lessee)
5. Facility status (new, modified, or existing)
6. Facility location (Street address, Sec/Twn/Rng)
7. General purpose of facility
8. General purpose of each process in facility (can be included in block flow diagram)
9. Integrated block flow diagram process and control equipment in facility
10. Drawing of air pollution emission points - with stack height and diameter
11. Process and control equipment descriptions and specifications
12. Include a scaled and dimensioned plot plan of facility which shows the following:
 - a. Public streets
 - b. Property lines
 - c. Existing buildings (indicate their heights)
 - d. Proposed buildings (indicate their heights)
 - e. Adjacent property owners and uses
 - f. Storage areas for fuel, materials and products
 - g. Equipment
 - h. Piping and ducts for carrying fuels, products, pollution laden air to or from equipment or buildings
13. Include one copy of the USGS topographical map of site location and surrounding terrain
14. Estimated construction and completion dates

For each separate process in the facility please answer the following:

11. Operating schedule (hours/day-days/week-weeks/year)
12. Operating mode (continuous, or intermittent)
13. Identify all raw materials used in the process
14. Normal operational production or use rates (per hour-per day-per year)
15. Maximum design production or use rates (per hour-per day)
16. All equipment model numbers
17. All exhaust gas outlet temperatures (degree F)
18. All exhaust gas flow rates (cubic feet per minute)
19. Chemical nature of air pollution emissions
20. Describe fuel and material storage sites (size, temperature, pressure)

AUTHORITY TO CONSTRUCT INFORMATION CHECKLIST
(CONTINUED)

Please provide information for any boxes checked:

- ☒ Air pollution emission estimates or existing stack test data
(examples of pollutants - NOX, SOX, VOC, CO, PM, toxic air contaminants, etc.)
- ☒ Provide calculations and assumptions for pollution estimates
- ☒ Fuel specifications (type-%sulfur-%nitrogen-%ash-%H2O-BTU-grade)
- ☒ Proposed emission reductions or tradeoffs with quantification
- ☒ All facilities owned or operated by applicant in the Mountain Counties Air Basin
- ☒ Ambient air monitoring, in-stack monitoring, or stack tests proposed
- ☒ EIS or EIR or air quality modeling impact analysis prepared

Appendix D. Calaveras County Water District: Concept Review Application and Response

CONCEPT REVIEW APPLICATION

Please provide this complete Application along with Concept/Planning Review Fee and two (2) complete sets of all plans, maps, and engineering calculations prepared in accordance with CCWD Design and Construction Standards. An incomplete Application will delay the processing of your request for Concept Review.

Concept/Planning Review Fee(non-refundable)

☒ Parcel Map

\$200

Ck# _____ Date _____

☐ Subdivision Map

\$1,000

Ck# _____ Date _____

☐ CEQA Retainer (if applicable)

\$

Attach Copy of TPM or TSTM

TPM/TSTM # _____ N/A _____ Project Name _____ CHIPS Bioenergy Facility _____

APN(s) of Project _____ New CHIPS Project _____

Zoning of APN(s) _____ Public Service _____

Property Owner(s): (Note: Attach copy of all current titles, partnership papers, etc., listing all owner[s])

Name _____ Currently CCWD _____

Address _____

Phone (Business) _____ (Home) _____

FAX _____ E-Mail _____

Authorized Agent of Property Owner(s). All correspondence and notices shall be furnished to the Authorized Agent and to the Property Owner(s).

Name _____ TSS Consultants _____

Address _____ 2724 Kilgore Rd, Rancho Cordova, CA 95670 _____

Phone (Business) _____ 650-796-6288 _____ (Home) _____

FAX _____ 916-941-7175 _____ E-Mail _____ mhart@tssconsultants.com _____

Service Requested ☒ Water ☐ Sewer

Water/Sewer Improvement District(s) Name/No. _____ Calaveras County Water District _____

Assessment District Name/No. _____

Amended Assessment Diagram Required ☐ Yes ☐ No

Description of Project _____ See Attachment _____

Commercial _____ Sq. Foot _____ Use _____

Residential _____ Lots _____ Units _____

Industrial _____ x _____ Type and Size _____ 24,000 sf bioenergy facility _____

Mobile Home Park _____ (units) Condominium/Townhouse _____ (units)

OWNER(S) DECLARATION

The undersigned, as owner(s) of property, hereby agree and understand that concept approval, as applied for in this Application, is not a guarantee of water and/or sewer service, but the basis upon which a Facilities Agreement will be prepared between Calaveras County Water District and the Property Owner(s). The undersigned also agree and understand that:

- a) CEQA retainer shall be initially applied toward CCWD review, counsel consultation, and other efforts dedicated toward environmental review of this project. Owner(s) also understand and agree to pay for costs and expenses beyond initial retainer within thirty (30) days of billing and that any balance of retainer after CCWD review shall be applied toward future billings of the project. Upon written notification from owner(s) of project cancellation, the retainer will be refunded to the owner(s).
- b) After Concept Approval, all fees, labor costs (District staff time charged at applicable hourly rate), and District expenses incurred for analysis and research of the project, communications with engineer, agent, and/or Owner(s), and development of and final execution of a Facilities Agreement will be paid by Owner(s) in a timely manner. If fees are not paid within thirty (30) days of billing, the project will be considered inactive and review will be discontinued.
- c) The District may contract with an engineering/consulting firm to provide concept review and plan checking. District shall charge direct billings plus ten percent (10%) for District's overhead. District's personnel will be charged out at a rate of direct time (based on salary) x 2.5.
- d) The District and Owner(s) agree to be governed by the requirements of California Government Code §§ 66000 et.seq. (the California Mitigation Fee Act) and the current version of the District's Improvement Standards for determination of impacts upon CCWD systems and fees to construct facilities necessary to mitigate those impacts.
- e) No detailed plan check shall take place until all parties sign a Facilities Agreement.

Date_____

Owner's Signature

Owner's Signature

Project Description

The Calaveras Healthy Impacts Products Solutions (CHIPS) group is investigating the feasibility of supplying water to a 3 MW bioenergy power plant that would be located on a parcel in Wilseyville, CA that they are investigating for purchase from the Calaveras County Water District.

The water demands for the site are delineated into two primary demands: average daily demand and fire suppression. The water is primarily used for industrial processes and for servicing the office facilities. The industrial water is largely lost to evaporation, although some blowdown water will be collected and transported to an appropriate processing facility.

Average Daily Demand

The average daily water demands include the domestic water needs for the proposed office building (2 employees per shift) and the demands of the industrial process. The maximum water demand for the industrial bioenergy gasification system is estimated at 20 gpm. The industrial water demand is based on ambient temperature and humidity and is expected to be needed during the days in the summer, but not at nights or during the winter.

There are expected to be 6 employees present per day. Using 25 gallons per day per person, this amounts to 150 gallons per day (gpd). Water may also be used onsite for dust control and equipment and building cleaning.

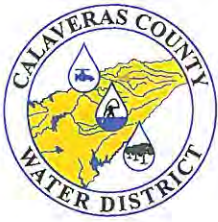
The maximum daily instantaneous water demand is expected to be 30 to 50 gpm and the daily average water demand could be as high as 25,000 gpd.

Fire Suppression

Fire suppression requirements mandate that the site can be supplied with 1,500 gallons per minute for a 2 hour period, totaling 180,000 gallons of water per fire episode. This water can be provided directly via pipeline to fire hydrants around the site or with on-site water storage. If water storage is considered, replenishment should occur within 2 days of a fire episode. To be conservative, the project is considering storage of 200,000 gallons of water onsite, resulting in a replenishment rate of 70 gpm.

The CHIPS project team desires a better understanding of the options to procure water to the site, specifically the different demands for each of the two fire suppression scenarios:

- Scenario 1: 120 gpm to service domestic water demands and replenish fire water storage
- Scenario 2: Service without storage to provide 50 gpm for domestic water and 1,500 gpm for 2 hours during a fire episode.



CALAVERAS COUNTY WATER DISTRICT

120 Toma Court • P O Box 846 • San Andreas, CA 95249 • (209) 754-3543

March 13, 2014

Matt Hart
TSS Consultants
2724 Kilgore Road
Rancho Cordova, CA 95670

Re: Water Service Concept Approval
CHIPS Bioenergy Facility
To be created from 012-011-011, West Point

Dear Mr. Hart:

Your Application for Concept/Planning Review was received December 30, 2013. The proposed development is in the West Point planning service area for water. Please be advised that concept approval for the requested new 6" water line extension as presented in the concept application filed December 30, 2013, is hereby granted. In our opinion, this project is exempt from CEQA per Title 14-California Code of Regulations, Chapter 3, Article 19, Section 15303, Subsection (d). **CONCEPT APPROVAL is valid for twelve (12) months; therefore, concept approval will expire March 13, 2015.**

Water

Water service would be provided from the West Point water system. CCWD records indicate a 6" stub at the intersection of Sandy Gulch Road and Associated Office Road which is the connection point this project will utilize. The District's water supply in this area is provided by water rights from the Mokelumne River. Your estimated average daily water demand for the proposed bienergy project is equal to 150 gpd.

Water is treated at the West Point Water Treatment Plant, which has a capacity of 1.0 mgd. There are approximately 600 Equivalent Single Family Unit (ESFU) connections to the West Point system currently. At our current standard of 750 gpd per ESFU below 3,000 feet elevation this equates to an estimated 550,000 gpd available at the plant. Due to current infrastructure constraints this is not available at your connection point. The District has an adequate water supply and infrastructure for the proposed demands indicated in Fire Suppression Scenario 1 as described in your application: 150 gpm daily domestic demand with 70 gpm additional to replenish on-site storage tanks totaling 200,000 gallons when required. Fire Suppression Scenario 2, which requires 1,500 gpm for fire flow, is not feasible at this time.

Matt Hart
TSS Consultants
March 13, 2014
Page 2

The property referred to in this letter has not, as yet, been created via Record Of Survey through County of Calaveras processes. The new property must be created and held in title by CHIPS prior to initiation of any construction.

Concept provides a general review of water supply and wastewater treatment capacity. Facilities to provide service to the development and the impact of the development to existing facilities will be addressed in the Water and Wastewater Services Facilities Agreement. Recommendation or approval of the Concept Review is not a reservation of capacity or guarantee of service.

Prior to the expiration of Concept Approval the OWNER of the parcel to which water is extended should contact Robert Creamer, Senior Engineering Technician, to negotiate the terms of a Water and Wastewater Services Facilities Agreement. Enclosed for your information are sections 2.8 to 2.15 of the CCWD Design and Construction Standards. These sections summarize the next steps that need to be taken prior to entering into a Facilities Agreement, plans submittal, project construction, and project acceptance. CCWD Ordinance No. 2006-05 regarding the establishment of an Area of Benefit is also enclosed for your information.

Please contact me if you have any questions or need additional information.

Sincerely,

CALAVERAS COUNTY WATER DISTRICT



Bill Perley
Director, Utility Services and Engineering

RC/tbk
Enclosures

cc:

SECTION 2.0

ENGINEERING PROCEDURES

2.1 GENERAL

These Standards shall govern the engineering design of water and wastewater systems that will be accepted by and dedicated to CCWD for maintenance and operation. It is the intent of these criteria to provide systems that will dependably and safely deliver the required amount of high quality water and collect wastewater for treatment and disposal.

Developer shall furnish, without cost to CCWD, all intrinsic and auxiliary components for maintenance and operation as necessary to provide a complete system.

2.2 DEVELOPER'S ENGINEER'S RESPONSIBILITY

These Standards establish minimum guidelines for the planning, design, and construction of the District's water and wastewater systems. They are not intended to be a substitute for engineering knowledge, judgment, and experience. The contained procedures shall be reviewed by the developer's engineer and shall be applied as necessary to the development. Proposed deviations to these standards shall be submitted, in writing, prior to release of plans.

All plans, specifications, reports, or documents shall be prepared by a California registered civil engineer, or under direction thereof, and shall be signed and stamped to indicate his/her responsibility and will be the property of the District upon acceptance of the project.

Plans "Released for Construction" do not in any way relieve the developer's engineer of the responsibility for the design and complying with all requirements of the District. The plans shall be revised or supplemented at any time it is determined that the District's requirements have not been met. However, generally, plans that are signed as being "Released for Construction" will not require revisions based upon subsequent revisions to these Standards unless, in the District Engineer's opinion, a change is necessary based upon a significant change in the standards or unless a developer does not proceed to construction within the time allowed in the Facilities Agreement with the District.

2.3 REFERENCE SPECIFICATIONS

References to standards such as the Standard Drawings of the District, AWWA or ASTM shall refer to the latest edition or revision of such standards unless otherwise specified.

2.4 APPROVAL FOR WATER AND/OR WASTEWATER SERVICE

Figure No. 1 is a flow chart showing the approval process to extend or expand existing District systems for service to new customers, whether it is for a single lot service or for a subdivision. For developments going through the County review process, a CCWD Application for Concept/Planning should be submitted prior to the start of an environmental review. Concept Review Approval is generally required prior to the preparation of environmental documents.

2.5 APPLICATION FOR NEW SERVICE

Service for water and/or wastewater starts with the Application for New Service Quotation. The Application form is available at the District office and on its Web site. The Application is reviewed for availability of service from existing District facilities. If there are no facilities or if the existing facilities do not have the capacity, then an extension of the facilities is required and an Application for Concept/Planning Review is to be submitted. If it is clear that an extension of the District's facilities will be needed, then the Application for New Service Quotation is not required; and an Application for Concept/Planning Review can be submitted. Application fees are described in Section 3.

2.6 APPLICATION FOR CONCEPT/PLANNING REVIEW

The District requires the submittal of An Application for Concept/Planning Review when the District's existing water and/or wastewater systems are to be expanded to serve new customers. The Application form is available at the District office and on its Web site. The purpose of the Concept Review is to evaluate the overall project concept and to determine the feasibility of service. A description of the project, the review fee and the environmental document fee are to be included with the Application. If the project is not feasible, the environmental deposit will be returned.

Depending on the complexity of the project, a Design Report prepared by and stamped by a California registered engineer may be required by the district. The purpose of the Design Report is to generate an understanding between the Owner and the District on what system improvements the Owner must construct prior to receiving service. The Report will be incorporated into the Agreement by reference. It will also help prevent misunderstandings and costly revisions from occurring when construction drawings are prepared.

The Design Report shall conform to the criteria contained in these standards. Concept Approval will not be given until the Engineering Department has approved the Design Report.

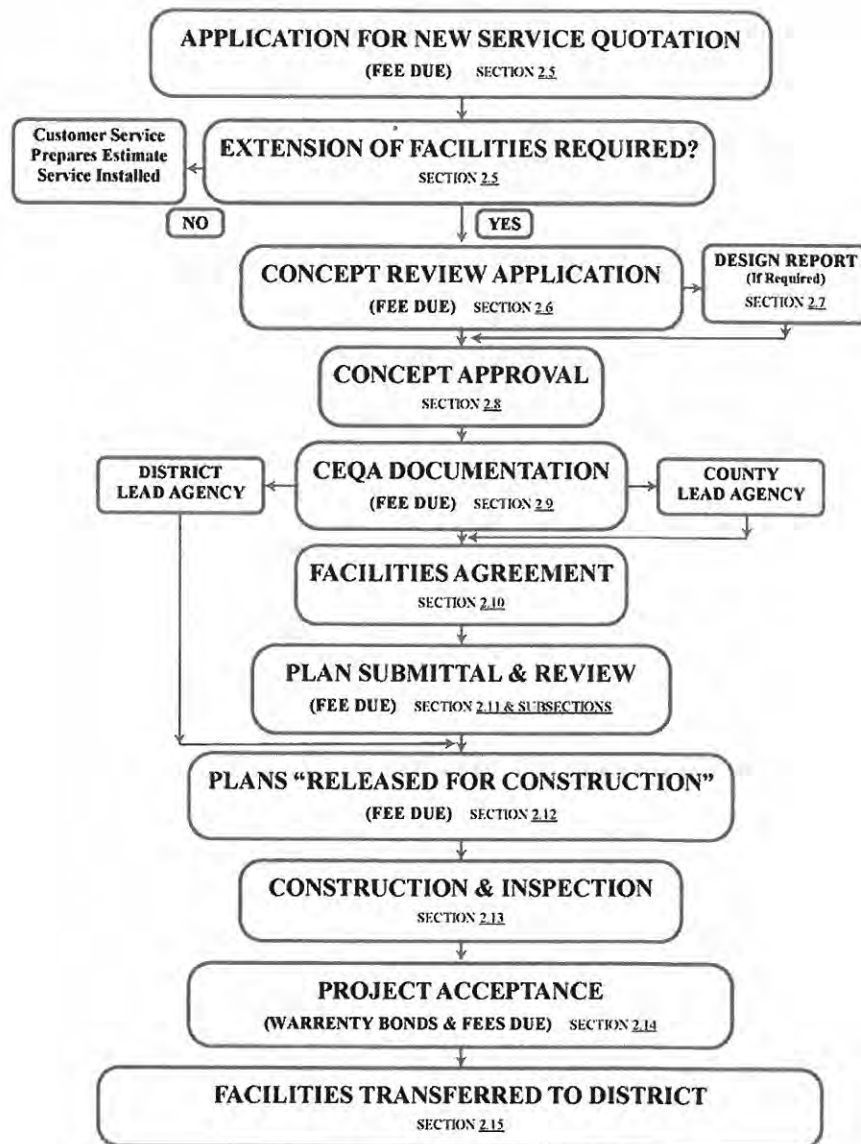


Figure 1

2.7 DESIGN REPORT

Prior to preparing the Design Report, a meeting with the developer's engineer and the Engineering Department is required to review the project and report content.

The complexity of the report will depend upon the size of the project, the number of phases, and the extent of the improvements that are required. The Report shall include, as a minimum, the following information. The District may require more than that described.

A. Cover Page

- Project Name
- Identify if for Water and/or Wastewater System
- Assessor's Parcel Number(s)
- Engineer's Stamp, signed and dated

B. Project Description.

- A Location Map identifying the which District service area service area and showing existing pipelines,
- Project Map showing Phasing (if applicable), proposed subdivision layout and adjacent developments

C. Water

- A map showing the location and size of all water facilities, including pressure reducing stations and pump stations (if applicable).
- Proposed connections to existing District system.
- Description of water demands based upon the ESFU's and maximum demand criteria and annual demand as provided in the District Standards. Landscaping requires a separate connection and is to be listed as a separate demand. .
- Description of any Master Plan facilities that will be required, such as water storage tanks.
- Preliminary design criteria for pumping and pressure reducing facilities (if applicable). Individual lots requiring booster pumps are to be identified.
- Include a demand table with average day, peak hour, and maximum day demands detailed by junction node.
- A hydraulic model, with map, showing the nodes and pipe numbering scheme.

D. Sewer

- A map showing all sewer facilities, including the size sewer mains, the location of sewage lift stations, pumped lots, and off site contributions (if applicable).
- Description of average dry weather flow (ADWF) , based upon the ESFU's and peak wet weather flow (PWWF) , based upon criteria as provided in the District Standards.
- Proposed connections to existing District system.
- Description of any Master Plan facilities that will be required, such as Lift Stations.
- Preliminary design criteria for sewage lift station facilities, including capacity and head, and identify all individual lots requiring house pump installations (if applicable).
- A table showing proposed sewer hydraulics such as capacities, flows, slopes, velocities, depth of flow, etc.
- A sewer model, with map, showing the manhole and sewers numbering scheme.

E. Temporary Facilities

- Identify temporary facilities and a schedule for the permanent facilities to be installed.

F. Appendix

- Copy of the tentative map (if applicable).
- Copy of pertinent calculations and hydraulic modeling analysis.

2.7.1 Design Report Approval

Two (2) copies of the Design Report shall be submitted to the Engineering Department. The developers engineer will receive a confirmation letter indicating the Design Report has been received. The first review will be completed within approximately four weeks with subsequent reviews adding to the time.

Any questions regarding the review should be directed to the District's Engineering Department.

An initial screening of the Design Report will be performed. If the Design Report does not meet these minimum standards, it will be returned to the developer's engineer for resubmittal.

Review comments, by the District, will be sent to the Developer's Engineer and copied to the developer. Resubmittal of the Design Report, if required, shall consist of two (2) copies of the revised Design Report and a copy of the review

letter in the appendix. Upon approval, a signed copy of the Design Report will be returned to the developer's engineer. The Design Report then becomes the basis of design and conditions to the Agreement.

If the construction plans are significantly different than the Design Report, the plan checking process will not continue until the Design Report has been revised and approved.

2.8 CONCEPT APPROVAL

A letter from the District will be sent to the Applicant notifying that the Concept for service to the project is approved. This approval is valid for twelve months (12) from the date of approval. Within the twelve month (12) period, a Water/Wastewater Facilities Agreement must be executed.

2.9 CEQA (California Environmental Quality Act) DOCUMENTATION

Projects that require new facilities to be constructed will be subject to CEQA. The Calaveras County will normally be the lead agency if the facilities are part of a development under review of the County. CCWD will be the lead agency for projects that are carried out by property owners and where the primary work is to construct water and/or wastewater facilities. All offsite and onsite water and wastewater facilities, and temporary facilities as described in the Concept Approval shall be included in the CEQA document.

Environmental documents prepared by and adopted by the County, must be submitted to the District prior to the request of an Agreement. If the document is a negative declaration, then the initial study must also be included. Costs to review the Environmental Documents will be subject to fees as described in Section 3.0.

The Engineering Department will determine the appropriate type of environmental document where the District is the lead agency. The owner or developer will be provided with a cost estimate and schedule for preparing the document. A public comment period and/or Board approval may be required, depending on the type of environmental document required. Typically, line extensions will be exempt from CEQA and only a statement filed with the County will be required.

2.10 WATER AND WASTEWATER SERVICE FACILITIES AGREEMENT

The District provides a standard Agreement that is to be executed by the Owner. The Board has authorized the General Manager to execute the Agreement on behalf of the District. Conditions, other than those contained in the standard Agreement, may need Board approval. Generally, the Agreement states that the Owner shall provide for the design, engineering and installation of a complete water/sewer system at the expense of the Owner; and thereafter, the system will be operated, maintained and dedicated to CCWD.

The Agreement will provide for, but not be limited to, provisions for the Owner to prepare and submit to CCWD for review all engineering calculations, plans, specifications, cost estimates, property descriptions, pay all fees, deliver all bonds, construct and pay for all facilities and do all other work as required to provide a complete Improvement System within the development or to the property. The Improvement System is to be constructed in compliance with these Standards, together with any and all amendments thereto and all other requirements of each and every governmental authority having any jurisdiction with development.

The agreement provides that at the time of completion, the system shall be granted, in its entirety, free and clear of any and all encumbrances, to CCWD. Upon acceptance of the system, CCWD will charge expansion fees, monthly fees to the users and may impose or raise fees in order to operate, maintain and improve the system.

The standard agreement provides for a two (2) year term to submit plans. If plans are not submitted within the two year period then a new agreement will be required.

2.11 CONSTRUCTION PLAN SUBMITAL AND REVIEW

2.11.1 General - The Engineering Department has established criteria, which shall be followed in the preparation of plans. The Department will perform a cursory review of the plans for content and if the plans do not meet these minimum standards, they will be returned to the Engineer. The Engineer who is preparing the plans is responsible for preparing neat, accurate and comprehensive plans in keeping with the standards of the profession. All engineers preparing plans should have in their possession a complete set of these Standards.

The following administrative items are required to be completed prior to or included with the submittal of the Plans:

- Executed Agreement
- Cost estimate
- Payment of Plan Check Fees

It should be understood that the responsibility for accuracy and completeness of the drawings rests with the Engineer. By signing the drawings, the Engineering Department attests to the fact that they have been reviewed and conforms to the standards of the District.

The District may require the preparation of separate drawings for the construction of system improvements if the review of the plans can not be reasonably performed due to the lack of distinction with the other development improvements.

2.11.2 Plan Submittal - Standard Drawing No. G 02 describes the general requirements for the preparation of the plans. Two (2) sets of ANSI D-size plans are to be submitted for review. For subdivisions, all of the improvements drawings are to be included.

2.11.3 Plan Review - Approximately four (4) weeks will be required for the first review. One set of plans, with comments, along with a review letter will be returned to the Engineer. Subsequent reviews are intended to ensure that the original comments have been addressed.

2.11.4 Easements - Pipelines shall be installed within a paved road right-of-way, unless there are physical limitations or extreme economic penalties. When easements are required, there shall be careful consideration of access and how the pipeline is to be maintained and/or replaced. Easements define and establish the rights of CCWD to construct, reconstruct and maintain facilities in the location designated by the Engineer. All easements are to be shown on the plans. The Engineer, for all installations in off-site private property shall provide Grant of Easements to CCWD. No construction work will be permitted to proceed in off-site private property until CCWD receives and accepts all Right-of-Way easements.

A. Easement Width – The minimum width of easements shall be fifteen (15) feet for lines less than twelve (12) inches in diameter and twenty (20) feet for lines twelve (12) inches or greater in diameter or the width shall be three (3) times the depth of the line which ever is greater. The pipeline shall be offset from the edge of the easement line by five (5) feet whenever possible, leaving a minimum of ten (10) feet clearances from the opposite easement line. Additional widths may be required in special conditions.

B. Descriptions and Exhibits – Descriptions or exhibits for easements to be acquired shall be prepared by a licensed Surveyor. The parcel number shall appear on the description or exhibit. The correct name of the grantor (individual(s), partnership or corporation) shall appear

on the description or exhibit. Two (2) copies of each description or exhibit shall be submitted with plans prior to being "Released for Construction".

- C. Grant of Easement – After the Engineer has submitted the descriptions and drawings for checking, CCWD will prepare the Grant of Easements forms for the respective easement. The original Grant of Easement form together with its description or exhibit shall be returned to the Engineer to secure the proper signature(s) and notarization(s). The properly executed Grant of Easement shall be submitted to CCWD for acceptance and recording.
- D. Final Map – Easements may be shown on Final Maps and shall include a dedication describing the easement as an all-weather, unobstructed surface for the purposes of constructing, reconstruction, laying and maintaining and operating the improvements and appurtenances. A copy of the proposed Final Map or other evidence shall be submitted prior to the plans being "Released for Construction" to substantiate the easements and dedications.
- E. Easements for Future Extensions – Easements shall be dedicated or granted to CCWD in all cases where future extensions of lines will be required on property being served. Such easements will be included on the parcel or subdivision map and shown on the construction plans when there is any doubt as to the ability to properly serve the ultimate service area.
- F. Fee Title – Fee title for treatment plant sites, pumping and lift station sites, major transmission mains, storage tank sites and sites for similar major facilities shall be granted to CCWD and recorded in CCWD's name. CCWD shall accept all sites and descriptions prior to the plans being "Released for Construction" and recording must be completed prior to CCWD acceptance of the improvements
- G. Easement Conditions – Easements shall have unobstructed access and have all-weather surface for heavy equipment. Easements with slopes greater than 7% shall be paved. Provisions shall be made to have a turn-around if the easement results in a dead end situation. Easement monuments and/utility paddles will be required to physically delineate the easement boundaries.

Where easement slopes are such that access will be limited and pavement is not able to be installed, special considerations for slope protection will be required. At a minimum, check dams shall

be installed across the top of the trench at twenty (20) feet intervals.

2.11.5 Release for Construction - The plans will be "Released for Construction" upon the following:

- All revisions have been made and all signatures have been obtained.
- All fees owing have been paid.
- Payment of the construction inspection fee deposit.
- Proof of an insurance policy naming the District as an additional insured during construction.

Once the above have been completed, the Department will notify the developer's engineer that the plans can be picked up. The developer's engineer will then provide the Engineering Department with four (4) signed sets of plans.

No construction shall occur before the plans are signed and before the proper notifications have been given. These notifications will allow time for a pre-construction meeting of all interested parties.

Plans "Released for Construction" imply that CCWD has reviewed the plans, calculations, etc. and the field area in which the work is proposed and that the plans, calculations, etc. and field conditions seem to meet the requirements of CCWD and construction may begin. Significant office or field change from plans "Released for Construction" which will affect the project nullifies any prior approval of the plans and will require that revisions and/or new plans be submitted and reviewed prior to construction. If field conditions are encountered during construction that necessitate significant deviation from the plans "Released for Construction", construction shall be halted until plans are revised by the Consulting Engineer, re-submitted to CCWD and again "Released for Construction". Minor utility relocations are not considered significant. Stoppage of work would only affect the area or significant change. Work in unaffected areas may continue.

"Released for Construction" for any portion of the work may be withdrawn at any time it is determined that any portion of the plans, calculations, etc. and/or construction work fails to meet CCWD requirements. **"Released for Construction" shall become void six (6) months from date of release, unless construction of the project, as detailed on the plans, has begun.**

- A. Permits and Licenses – Where permits and/or licenses, other than those issued by CCWD are required, the Engineer shall prepare and provide to CCWD all necessary permit or license requirements prior to the plans being "Released for Construction".

2.12 CONSTRUCTION AND INSPECTION

Technical Specification 01000 - Construction Requirements describes the requirements for construction of the water and sewer improvement systems. A pre-construction meeting is to be scheduled with the District inspector prior to the start of construction. A set of the signed plans and a copy of the Construction Standards are to be onsite during construction. Any Improvement System facilities installed without being inspected by the District will be automatically rejected and will be required to be re-installed in the presence of a District inspector, at the developer's expense.

The Owner will pay all costs directly related to the construction inspection of the system. Copies of inspection reports, which shall include the number of hours on the job for that project, will be provided to the owner.

2.13 PROJECT ACCEPTANCE

2.13.1 General

Project Acceptance consists of final inspection by the District, submission of record drawings and project costs, payment of any outstanding monies, and submission of bonds.

2.13.2 Record Drawings

Upon completion of the work and subsequent to the final inspection, two (2) sets of accurate project drawings are to be submitted for review and approval by the District Engineer. Upon approval, the following shall be submitted:

- One (1) complete set of the Improvement Plans in reproducible format (ANSI D-size),
- Six (6) hardcopies of the overall Utility Plan,
- A CD/DVD in AutoCAD format of the Utility Plan. An updated GPS survey shall be performed to verify the location of appurtenances of the Utility Plan

AutoCAD shall be the current version in use by the District. Generally, CAD submissions shall consist of all project drawings; including any and all cross-reference drawings, integrated graphics, plot files, font styles if not standard AutoCAD files, and any GIS information used to prepare the plans. GIS information shall be in ESRI Arcview format, current version in use by the District, NAD 83 basis. Call the Engineering Department for the latest requirements for "AS-Built" drawings.

Record drawing submissions shall consist of signature pages photo-mylars showing all signatures required, with subsequent pages plotted in ink on Mylar or vellum. Sepia mylars of any kind or Xerox mylars will not be accepted. Record drawings shall reflect the actual improvements made and shall give the accurate location of all new/or relocated facilities. The project will not be "finalized" until the record drawings and CAD submissions are approved.

To the extent feasible, CCWD will cooperate in compiling necessary field data to aid in the preparation of "As-built" plans. The following certificate shall be signed and shall appear on the appropriate sheet of the plans:

Water/Wastewater Record Drawing Certificate

This set of plans, having been reviewed by me, reflect all approved revisions to the water/wastewater improvements plans known to me, and all field deviations to the planned improvements by the construction contractor, as reported to me as of _____ (Date) _____. It does not represent field verification of planned improvements by me.

Registered Engineer	RCE No.	Date
---------------------	---------	------

It should be emphasized that the responsibility for accurate record drawings must involve active participation by the developer's engineer during the project. All changes, whether done through formal change order or revision process or whether done as a field adjustment, should be reflected on the record drawings.

The Inspection Fee Deposit shall be held by CCWD until after the receipt of the Record Drawings.

2.13.3 Project Costs

The developer or developer's engineer shall submit an itemized list of costs that were incurred to have the water and/or sewer system facilities constructed for the project. The costs shall include a prorated share of engineering, administration, and legal costs that can be attributed to the water and/or sewer system and the total construction cost for the water and/or sewer system, including all change orders. The information will be used by the District to determine total "asset value" for maintaining a replacement reserve fund for system depreciation and to determine the correct value of the warranty bond.

2.14 2-YEAR WARRANTY BOND

As a condition precedent to the acceptance of the complete improvement system, the Owner shall furnish either a corporate surety maintenance bond of an acceptable surety company, authorized to do business in the State of California, or an irrevocable letter of credit issued by a banking firm acceptable to CCWD. Alternative methods of bonding may be utilized upon the approval of the CCWD. The bond shall protect CCWD against the results of faulty materials, poor workmanship, or defective equipment. The bond shall be for a period of **two (2) years** after acceptance of the project.

During the two-year warranty period following acceptance of the System, the District or its designated agent will perform a closed circuit television inspection of the sewer system. The inspection will be scheduled eighteen (18) months from the date of the District acceptance of the system. The cost of the 18-month inspection shall be paid by the owner and is due at the time of the warranty bond.

2.15 CONVEYANCE OF FACILITIES TO DISTRICT

Upon acceptance completion of the improvement system as designated in the Agreement the Owner shall file a "Notice of Completion" with the County Recorder; and shall grant, transfer, and assign the entire Improvement system to the District free and clear of any and all encumbrance, liability, or obligations.

In consideration of the performance by the Owner and said transfer, CCWD agrees to accept said improvement system and facilities so transferred to it and to thereafter operate and maintain said improvement system and to provide system services to the owners of real property in the subdivision served by the improvement system in accordance with its then current rate schedule and thereafter as said schedule is amended from time to time. It is understood, however, that the cost of operation and maintenance may exceed the charges made to the current customers of the improvement system. In such case, it may be necessary to impose a fee for vacant lots or parcels within the development, pursuant to applicable provisions of law, until such time when the number of customers can support the operation and maintenance cost of the improvement system.

END OF SECTION

Appendix E. Hazardous Materials Release Response Plan (Business Plan) Forms

HAZARDOUS MATERIALS BUSINESS PLAN

For use by Unidocs Member Agencies or where approved by your Local Jurisdiction

Authority Cited: Ch. 6.95 HSC; Title 19, Div. 2, CCR; Title 22, Div. 4.5, CCR

All facilities that handle virgin or waste hazardous materials in quantities subject to the State Hazardous Materials Business Plan (HMBP) reporting requirements described below are required to prepare and submit a HMBP to the local Unified Program Agency that administers the HMBP Program. If that local agency does not routinely forward first-responder HMBP copies to the local first-responder fire agency, you must also submit a copy of the HMBP to the local fire agency (see www.unidocs.org for details).

This **One-Chemical-Per-Page Inventory Format Hazardous Materials Business Plan** may be used for HMBP reporting. However, the Matrix Inventory Format is preferred. *[This form was developed by the Certified Unified Program Agency (CUPA) as an alternative version of the Unified Program Consolidated Form (UPCF). Businesses have the option to use the UPCF adopted in state regulations. The CUPA may require businesses to provide additional information.]* Adobe PDF and Microsoft Word template versions of this HMBP and a HMBP which includes the Matrix Inventory Format are available at www.unidocs.org. You may complete your HMBP on-line using the Unidocs Online Hazardous Materials Reporting Database at www.unidocs.org. If you wish to use forms other than those included in this document or the Matrix Inventory Format Hazardous Materials Business Plan, please contact your local agency for guidance. Depending upon the nature of storage/handling of hazardous materials at the facility and whether or not this is a first-time submittal, other documents may be required to be submitted in addition to the HMBP [e.g., Onsite Hazardous Waste Treatment Forms, Underground Storage Tank (UST) Operating Permit Application pages, etc.].

What is a Hazardous Materials Business Plan?

A HMBP is a document containing detailed information on the storage of hazardous materials at a facility. Chapter 6.95 of California Health and Safety Code (HSC) and Title 19, Division 2, of the California Code of Regulations (CCR) require that facilities which use or store such materials at or above reporting thresholds submit this information.

What is the purpose of the Hazardous Materials Business Plan?

The intent of the HMBP is to satisfy federal and state Community Right-To-Know laws and provide detailed information for use by emergency responders. All persons at the facility qualified to serve as emergency coordinators must be thoroughly familiar with the contents and use of the HMBP, with the operations and activities of the facility, and with the locations of hazardous materials records maintained by the facility.

This HMBP has been developed to assist you in complying with the State requirements and to provide the fire department with adequate information about the type, quantity of—and management practices regarding—hazardous materials that are stored at your facility. It is intended to additionally satisfy some or all of the reporting requirements for the following programs: CalARP Program Registration; Hazardous Waste Generator Registration; and Hazardous Waste Contingency Plan.

Who must complete a Hazardous Materials Business Plan?

The owner/operator of a facility must complete and submit a HMBP for each site where any individual hazardous material or mixture containing a hazardous material is present at or above its reporting threshold at any time during the reporting year. Reporting thresholds are:

1. 500 pounds or more of any **solid hazardous material**. [HSC §25503.5(a)]
2. For **liquid hazardous materials**:
 - a. More than 55 gallons of any type **or** 275 gallons aggregate quantity on site for lubricating oils as defined by HSC §25503.5(b)(2)(B). [HSC §25503.5(b)(2)(A)]
 - b. 55 gallons or more of any other liquid, including waste oil. [HSC §25503.5(a)]
3. For **hazardous material gases**:
 - a. More than 1,000 cubic feet (at standard temperature and pressure) of Oxygen, Nitrogen, or Nitrous Oxide stored/handled at a physician, dentist, podiatrist, veterinarian, or pharmacist's place of business. [HSC §25503.5(b)(1)]
 - b. More than 300 gallons of Propane used for the sole purpose of heating the employee working areas within the facility. [HSC §25503.5(d)]
 - c. 200 cubic feet or more of any other gas. [HSC §25503.5(a)]
4. Amounts of **radioactive materials** requiring an emergency plan under Parts 30, 40, or 70 of Title 10 Code of Federal Regulations or applicable quantities specified in items 1, 2, or 3, above, whichever amount is smaller. [HSC §25503.5(a)]

Hazardous Materials Business Plan *(continued)*

5. Applicable federal threshold planning quantities for **extremely hazardous substances** listed in 40 CFR Part 355, Appendix A.

Note: **Retail (Consumer) Products** packaged for direct distribution to, and use by, the general public are exempt from HMBP requirements except where the local agency determines otherwise pursuant to HSC §25503.5(c)(1). *[Unidocs member agency interpretation is that materials qualify for this exemption only if the following requirements are met: (1) The product is not dispensed from containers at the storage facility; (2) The product is stored in a "retail display area" as defined in Section 2802.1 of the California Fire Code (e.g., Quarts of oil sitting in a display area for sale at a service station are exempt, but oil used by a mechanic in the service bay is not exempt.); (3) containers are no larger than 5 gallons (liquids) or 100 pounds (solids); and (4) Handling of the product does not present unacceptable risk to public health, safety, or the environment.]*

What if I don't handle any hazardous materials in amounts requiring a HMBP?

Facilities that are not required to complete a HMBP may still be required to register their hazardous materials with the local agency. See www.unidocs.org for details. *(Note: The local agencies reserve the right to require a HMBP for any facility upon determination that the manner of use or storage of hazardous materials is such that additional information is necessary for emergency response purposes.)*

What information is required to be submitted with the Hazardous Materials Business Plan?

The HMBP must contain the following elements:

- **Business Activities page** *(Form and instructions attached)*
- **Business Owner/Operator Identification page** *(Form and instructions attached)*
- **Hazardous Materials Inventory Statement page(s)** *(Form and instructions attached)*
- **Facility Map(s)** *(Sample form and instructions attached)*
- **Emergency Response/Contingency Plan** *(Sample forms and instructions attached)*
- **Employee Training Plan** *(Sample form and instructions attached)*

How often do I have to update or recertify my Hazardous Materials Business Plan?

Within 30 days of the occurrence of any of the following events, the HMBP must be revised and the revisions submitted to the local agency: (1) There is a 100% or more increase in the quantity of a previously disclosed material; (2) The facility begins handling a previously undisclosed material at or above HMBP reporting thresholds; (3) The facility changes address; (4) Ownership of the facility changes; or (5) There is a change of business name. [HSC §25510]

Additionally, if the local agency determines that the HMBP is deficient in any way, the plan must be revised and the revisions submitted to the local agency within 30 days of the notice to submit a corrected plan. [HSC §25505(a)(2)]

Without regard to the above events, the owner, operator, or designated representative of the facility must complete and submit to the local agency a Hazardous Materials Business Plan Certification Form [or a copy of the current hazardous materials inventory and an updated certification signature and date at the bottom of the Business Owner/Operator Identification page] annually on or before March 1. [HSC §25503.3(c) and 19 CCR §2729.4(b)]

Facilities subject to Federal Emergency Planning and Community Right to Know Act (EPCRA) reporting requirements must submit the following to satisfy annual inventory certification requirements: A Business Activities Page; Business Owner/Operator Identification Page with current signature and date; and Hazardous Materials Inventory Statement page(s) with an original signature, photocopy of an original signature, or signature stamp on each page which lists an Extremely Hazardous Substance (EHS) handled at or above its Federal Threshold Planning Quantity (TPQ) or 500 pounds, whichever is less. [19 CCR §2729.5(c)]

The entire HMBP must be reviewed every three years to determine whether revision is needed. The facility owner, operator, or designated representative must certify that the review was performed and any needed changes were made. This certification is accomplished by completing and submitting to the local agency a Hazardous Materials Business Plan Certification Form if no changes have been made to the HMBP, or a copy of the complete HMBP with an updated certification signature and date at the bottom of the Business Owner/Operator Identification page. [HSC §25505(c)]

The **Hazardous Materials Business Plan Certification Form** is available at www.unidocs.org.

If all of the following conditions are met, facilities with an approved HMBP on file with the local agency are exempt from the requirements for annual inventory certification/submittal and triennial review/certification unless required by federal law or local ordinance. The site must: be an unstaffed remote facility located in an isolated sparsely populated area; be secured and inaccessible to the public; be marked with warning signs in accordance with California Fire Code requirements; and handle no more than: [HSC §25503.5(c)(6)]

- 500 gallons of combustible liquid fuel (e.g., diesel);
- 1,200 gallons of flammable gas fuel (e.g., propane);
- 200 gallons of corrosive battery electrolytes (liquid- or gel-type);
- 500 standard cubic feet of compressed inert gases (e.g., nitrogen); or
- 500 gallons of lubricating and/or hydraulic fluids.

Who is my local agency?

Unidocs member agency contact information is available on-line at www.unidocs.org/members.html.

UNIDOCs
FACILITY INFORMATION
BUSINESS ACTIVITIES

Page 1 of

I. FACILITY IDENTIFICATION

FACILITY ID # (Agency Use Only)		1. EPA ID # (Hazardous Waste Only)	2.		
BUSINESS NAME (Same as Facility Name or DBA - Doing Business As)				3.	
BUSINESS SITE ADDRESS				103.	
BUSINESS SITE CITY		104.	CA	ZIP CODE	105.

II. ACTIVITIES DECLARATION

**NOTE: If you check YES to any part of this list,
please submit the Business Owner/Operator Identification page.**

Does your facility...		If Yes, please complete these pages of the UPCF...
A. HAZARDOUS MATERIALS Have on site (for any purpose) at any one time, hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☐ YES ☐ NO 4.	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION
B. REGULATED SUBSTANCES Have Regulated Substances stored onsite in quantities greater than the threshold quantities established by the California Accidental Release Prevention Program (CalARP)?	☐ YES ☐ NO 4a.	Coordinate with your local agency responsible for CalARP.
C. UNDERGROUND STORAGE TANKS (USTs) Own or operate underground storage tanks?	☐ YES ☐ NO 5.	UST OPERATING PERMIT APPLICATION – FACILITY INFORMATION UST OPERATING PERMIT APPLICATION – TANK INFORMATION
D. ABOVE GROUND PETROLEUM STORAGE Own or operate ASTs above these thresholds: Store greater than 1,320 gallons of petroleum products (new or used) in aboveground tanks or containers?	☐ YES ☐ NO 8.	No form required to CUPAs
E. HAZARDOUS WASTE Generate hazardous waste? Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC §25143.2)? Treat hazardous waste onsite? Perform treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)? Consolidate hazardous waste generated at a remote site? Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned onsite? Generate in any single calendar month 1,000 kilograms (kg) (2,200 pounds) or more of federal RCRA hazardous waste, or generate in any single calendar month, or accumulate at any time, 1 kg (2.2 pounds) of RCRA acute hazardous waste; or generate or accumulate at any time more than 100 kg (220 pounds) of spill cleanup materials contaminated with RCRA acute hazardous waste? Serve as a Household Hazardous Waste (HHW) Collection site?	☐ YES ☐ NO 9. ☐ YES ☐ NO 10. ☐ YES ☐ NO 11. ☐ YES ☐ NO 12. ☐ YES ☐ NO 13. ☐ YES ☐ NO 14. ☐ YES ☐ NO 14a. ☐ YES ☐ NO 14b.	EPA ID NUMBER – provide at top of this page RECYCLABLE MATERIALS REPORT (one per recycler) ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – FACILITY PAGE ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – UNIT PAGE (one page per unit) CERTIFICATION OF FINANCIAL ASSURANCE REMOTE WASTE CONSOLIDATION SITE ANNUAL NOTIFICATION HAZARDOUS WASTE TANK CLOSURE CERTIFICATION Obtain federal EPA ID Number, file Biennial Report (EPA Form 8700-13A/B), and satisfy requirements for RCRA Large Quantity Generator. See CUPA for required forms.
F. LOCAL REQUIREMENTS (You may also be required to provide additional information by your CUPA or local agency.)		15.

Business Activities Page Instructions

You must include the Business Activities Page with all HMBP submittals where the Business Owner/Operator Identification Page and/or hazardous materials inventory page(s) are submitted. [Note: Numbering of the following instructions follows the Unified Program Consolidated Form (UPCF) Data Element numbers on the form. These data element numbers are used for electronic submittal and are the same as the numbering used in the Unified Program Data Dictionary in 27 CCR, Division 3.] Please number all pages of your submittal.

1. FACILITY ID NUMBER - This number is for agency use only. Leave this space blank.
2. EPA ID NUMBER - If you generate, recycle, or treat hazardous waste, enter your facility's 12-character U.S. Environmental Protection Agency (USEPA) or California Identification number. If your facility generates more than 100 kilograms (kg) of a RCRA (i.e., federally regulated) hazardous waste per year, obtain a federal EPA ID Number by submitting EPA FORM 8700-12 to the USEPA. Otherwise, obtain a California EPA ID Number by submitting DTSC FORM 1358 to the Department of Toxic Substances Control (DTSC). Forms are available at www.dtsc.ca.gov.
3. BUSINESS NAME - Enter the complete Facility Name.
103. BUSINESS SITE ADDRESS - Enter the street address where the facility is located, including building number, if applicable. Post office box numbers are not acceptable. This information must provide a means to locate the facility geographically.
104. BUSINESS SITE CITY - Enter the city or unincorporated area in which the facility is located.
105. ZIP CODE - Enter the 5 or 9 digit zip code for the facility.
4. HAZARDOUS MATERIALS - Check the appropriate box to indicate whether you have any hazardous material on site in a quantity subject to Hazardous Materials Business Plan (HMBP) reporting requirements. (Refer to the HMBP instructions available on the Internet at www.unidocs.org/hazmat/business-plan/index.html). If "YES," you must submit a HMBP.
- 4a. REGULATED SUBSTANCES - Check the appropriate box to indicate whether you have any CalARP regulated substance on site. (Refer to www.oes.ca.gov for CalARP guidance documents regarding regulated substances.)
5. UNDERGROUND STORAGE TANKS (UST) - Check the appropriate box to indicate whether you own or operate USTs containing hazardous substances as defined in Health and Safety Code (HSC) §25316. If "YES," and you do not already have on file with your local agency a current UST Operating Permit Application - Facility page, UST Operating Permit Application - Tank page for each tank, UST Monitoring Plan, and UST Response Plan, then you must submit those documents. (Note: There is no UPCF page for the UST Response Plan.)
8. ABOVEGROUND PETROLEUM STORAGE - Check the appropriate box to indicate whether your facility has aggregate aboveground petroleum storage (including used oil) greater than 1,320 gallons in tanks or containers 55 gallons or larger. (There is no UPCF page for ASTs.) The following are exempt from this requirement: 1.) pressure vessels or boilers subject to Division 5 of the Labor Code; 2.) tanks containing hazardous waste if a hazardous waste facility permit has been issued by DTSC; 3.) aboveground oil production tanks regulated by the Division of Oil and Gas; and 4.) certain oil-filled electrical equipment, including, but not limited to, transformers, circuit breakers, and capacitors.
9. HAZARDOUS WASTE GENERATOR - Check the appropriate box to indicate whether your facility generates a waste that meets any of the hazardous waste criteria adopted pursuant to HSC §25141.
10. RECYCLE - Check the appropriate box to indicate whether your facility recycles more than 100 kg (approximately 220 pounds or 27 gallons) per month of recyclable material under a claim that the material is excluded or exempt per HSC §25143.2. If you check "YES," and you do not already have a current Recyclable Materials Report on file with the appropriate local Unified Program Agency (UPA), then you must also submit that report to the UPA. Check "NO" if you only send recyclable materials to an offsite recycler.
11. ONSITE HAZARDOUS WASTE TREATMENT - Check the appropriate box to indicate whether your facility engages in regulated onsite treatment of hazardous waste. If you check "YES," and you do not already have current Onsite Hazardous Waste Treatment Notification - Facility and Onsite Hazardous Waste Treatment Notification - Unit pages on file with the appropriate local UPA, then you must also submit those forms to the UPA.
12. FINANCIAL ASSURANCE - Check the appropriate box to indicate whether your facility has Permit by Rule (PBR) and/or Conditionally Authorized (CA) operations subject to financial assurance requirements for closure of an onsite treatment unit. If you check "YES," and you do not already have current "Certification of Financial Assurance" on file with the appropriate local UPA, then you must submit that form to the UPA.
13. HAZARDOUS WASTE REMOTE CONSOLIDATION SITE - Check the appropriate box to indicate whether your facility consolidates hazardous waste generated at a remote site. By answering "YES," you are indicating that you are a hazardous waste generator that collects hazardous waste initially at a remote site and subsequently transports the hazardous waste to a consolidation site you also operate. If you check "YES," and you do not already have current "Remote Waste Consolidation Site Annual Notification" page on file with the appropriate local UPA, then you must submit that form to the UPA.
14. HAZARDOUS WASTE TANK CLEANING - Check the appropriate box if any tank has been cleaned onsite per Title 22, Div. 4.5, Ch. 32, CCR with the intention of rendering it non-hazardous. If you check "YES," then you must submit a Hazardous Waste Tank Closure Certification to the appropriate local UPA.
- 14a. RCRA LARGE QUANTITY GENERATOR - Check the appropriate box to indicate whether your facility is a LQG.
- 14b. HHW COLLECTION SITE - Check the appropriate box to indicate whether your facility is a HHW Collection Site.
15. LOCAL REQUIREMENTS - Check with your local UPA before submitting this document to determine if any supplemental information is required.

UNIDOCs
FACILITY INFORMATION
BUSINESS OWNER/OPERATOR IDENTIFICATION

Page ____ of ____

I. IDENTIFICATION

FACILITY ID # <i>(Agency Use Only)</i>															1.	BEGINNING DATE	100.	ENDING DATE	101.								
BUSINESS NAME <i>(Same as Facility Name or DBA – Doing Business As)</i>																3.	BUSINESS PHONE				102.						
																	()										
BUSINESS SITE ADDRESS																103.	BUSINESS FAX				102a.						
																	()										
BUSINESS SITE CITY												104.		ZIP CODE				105.	COUNTY				108.				
													CA														
DUN & BRADSTREET												106.		PRIMARY SIC				107.	PRIMARY NAICS				107a.				
BUSINESS MAILING ADDRESS																				108a.							
BUSINESS MAILING CITY																108b.		STATE				108c.	ZIP CODE				108d.
BUSINESS OPERATOR NAME																109.	BUSINESS OPERATOR PHONE				110.						
																	()										

II. BUSINESS OWNER

OWNER NAME	111.	OWNER PHONE		112.					
OWNER MAILING ADDRESS									
OWNER MAILING CITY		114.		STATE		115.	ZIP CODE		116.

III. ENVIRONMENTAL CONTACT

CONTACT NAME	117.	CONTACT PHONE		118.					
CONTACT MAILING ADDRESS		119.	CONTACT EMAIL		119a.				
CONTACT MAILING CITY		120.		STATE		121.	ZIP CODE		122.

-PRIMARY-

IV. EMERGENCY CONTACTS

-SECONDARY-

NAME	123.	NAME	125.
TITLE	124.	TITLE	129.
BUSINESS PHONE	125.	BUSINESS PHONE	130.
()		()	
24-HOUR PHONE	126.	24-HOUR PHONE	131.
()		()	
PAGER #	127.	PAGER #	132.
()		()	

ADDITIONAL LOCALLY COLLECTED INFORMATION:

Billing Address: _____

Property Owner: _____ Phone No.: () _____

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE	134.	NAME OF DOCUMENT PREPARER	135.
NAME OF SIGNER (print)	136.	TITLE OF SIGNER		137.

Business Owner/Operator Identification Page Instructions

You must include the Business Owner/Operator Identification Page with all HMBP submittals where the Business Activities Page and/or hazardous materials inventory page(s) are submitted. [Note: Numbering of the following instructions follows the Unified Program Consolidated Form (UPCF) Data Element numbers on the form. These data element numbers are used for electronic submittal and are the same as the numbering used in the Unified Program Data Dictionary in 27 CCR, Division 3.] Please number all pages of your submittal.

1. FACILITY ID NUMBER - This number is for agency use only. Leave this space blank.
3. BUSINESS NAME - Enter the complete Facility Name.
100. BEGINNING DATE - Enter the beginning year and date of the report.
101. ENDING DATE - Enter the ending year and date of the report.
102. BUSINESS PHONE - Enter the phone number, including area code and any extension.
- 102a. BUSINESS FAX - Enter the fax number, including area code.
103. BUSINESS SITE ADDRESS - Enter the street address where the facility is located, including building number, if applicable. Post office box numbers are not acceptable. This information must provide a means to locate the facility geographically.
104. CITY - Enter the city or unincorporated area in which the facility is located.
105. ZIP CODE - Enter the 5 or 9 digit zip code for the facility.
106. DUN & BRADSTREET - If the business has a D&B number, enter it here.
107. SIC CODE - Enter the 4 digit Standard Industrial Classification Code number for the facility's primary business activity.
- 107a. NAICS NUMBER - Enter the primary North American Industrial Classification System number.
108. COUNTY - Enter the name of the county in which the facility is located.
- 108a. BUSINESS MAILING ADDRESS - Enter the facility's street or P.O. box mailing address, if different from the site address.
- 108b. BUSINESS MAILING CITY - Enter the name of the city for the facility's mailing address.
- 108c. BUSINESS MAILING STATE - Enter the 2 character state abbreviation for the facility's mailing address.
- 108d. BUSINESS MAILING ZIP CODE - Enter the 5 or 9 digit zip code for the facility's mailing address.
109. BUSINESS OPERATOR NAME - Enter the name of the facility operator.
110. BUSINESS OPERATOR PHONE - Enter the operator's phone number, including area code and any extension.
111. OWNER NAME - Enter the name of the facility owner, if different from the operator.
112. OWNER PHONE - Enter the owner's phone number, including area code and any extension.
113. OWNER MAILING ADDRESS - Enter the owner's street or P.O. box mailing address, if different from the site address.
114. OWNER MAILING CITY - Enter the name of the city for the owner's mailing address.
115. OWNER MAILING STATE - Enter the 2 character state abbreviation for the owner's mailing address.
116. OWNER MAILING ZIP CODE - Enter the 5 or 9 digit zip code for the owner's mailing address.
117. ENVIRONMENTAL CONTACT NAME - Enter the name of the person, if different from the Business Owner or Operator, who will receive all environmental correspondence and will respond to enforcement activity.
118. CONTACT PHONE - Enter the environmental contact's phone number, including area code and any extension.
- 119a. CONTACT EMAIL ADDRESS - Enter the Environmental Contact's eMail address.
119. CONTACT MAILING ADDRESS - Enter the street or P.O. box mailing address where all environmental contact correspondence should be sent, if different from the site address.
120. CONTACT MAILING CITY - Enter the name of the city for the environmental contact's mailing address.
121. CONTACT MAILING STATE - Enter the 2 character state abbreviation for the environmental contact's mailing address.
122. CONTACT MAILING ZIP CODE - Enter the 5 or 9 digit zip code for the environmental contact's mailing address.
123. PRIMARY EMERGENCY CONTACT NAME - Enter the name of a representative (i.e. Emergency Coordinator) who can be contacted in case of an emergency involving hazardous materials at the facility. This person shall have full facility access, site familiarity, and authority to make decisions for the business regarding incident mitigation.
124. TITLE - Enter the title of the primary Emergency Coordinator.
125. BUSINESS PHONE - Enter primary Emergency Coordinator's business phone number, including area code and any extension.
126. 24-HOUR PHONE - Enter a phone number that will be answered 24 hours a day. If not the primary Emergency Coordinator's home phone number, then the number of an answering service able to immediately contact the primary Emergency Coordinator must be provided. Please note that this is a public document, so any telephone number provided is available to the general public any time a review of your facility's records is conducted.
127. PAGER NUMBER - Enter the pager number for the primary Emergency Coordinator, if available.
128. SECONDARY EMERGENCY CONTACT NAME - Enter the name of a secondary Emergency Coordinator who can be contacted in the event that the primary Emergency Coordinator is not available. The contact shall have full facility access, site familiarity, and authority to make decisions for the business regarding incident mitigation.
129. TITLE - Enter the title of the secondary Emergency Coordinator.
130. BUSINESS PHONE - Enter secondary Emergency Coordinator's business phone number, including area code and any extension.
131. 24-HOUR PHONE - Enter a phone number for the secondary Emergency Coordinator. See instructions for item 126, above.
132. PAGER NUMBER - Enter the pager number for the secondary Emergency Coordinator, if available.
133. ADDITIONAL LOCALLY COLLECTED INFORMATION - Enter the complete mailing address to which bills for permit fees should be sent, if different from items 119-122, above. Enter the name and phone number for the property owner.
- SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE - The Business Owner/Operator, or officially designated representative of the Owner/Operator, shall sign in the space provided. This signature certifies that the signer is familiar with the information submitted, and that based on the signer's inquiry of those individuals responsible for obtaining the information, it is the signer's belief that the submitted information is true, accurate, and complete.
134. DATE - Enter the date that the document was signed.
135. NAME OF DOCUMENT PREPARER - Type or print the full name of the person who prepared the Business Plan information.
136. NAME OF SIGNER - Type or print the full name of the person signing this document.
137. TITLE OF SIGNER - Enter the title of the person signing this document.

UNIDOCs
HAZARDOUS MATERIALS
HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION
(One page per material per building or area)

☐ ADD

☐ DELETE

☐ REVISE

200.

Page ____ of ____

I. FACILITY INFORMATION

BUSINESS NAME (Same as Facility Name or DBA – Doing Business As)

3.

CHEMICAL LOCATION

201.

CHEMICAL LOCATION CONFIDENTIAL EPCRA

202.

☐ YES ☐ NO

FACILITY ID #
(Agency Use Only)

1.

MAP # (Optional)

203.

GRID # (Optional)

204.

II. CHEMICAL INFORMATION

CHEMICAL NAME

205.

TRADE SECRET

206.

If subject to EPCRA, refer to instructions

☐ Yes ☐ No

COMMON NAME

207.

EHS*

208.

☐ Yes ☐ No

CAS#

209.

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA)

210.

HAZARDOUS MATERIAL

211.

TYPE (Check one item only)

☐ a. PURE

☐ b. MIXTURE

☐ c. WASTE

RADIOACTIVE

212.

CURIES

213.

☐ Yes ☐ No

PHYSICAL STATE

214.

(Check one item only)

☐ a. SOLID

☐ b. LIQUID

☐ c. GAS

LARGEST CONTAINER

215.

FED HAZARD CATEGORIES

(Check all that apply)

☐ a. FIRE

☐ b. REACTIVE

☐ c. PRESSURE RELEASE

☐ d. ACUTE HEALTH

☐ e. CHRONIC HEALTH

216.

AVERAGE DAILY AMOUNT

217.

MAXIMUM DAILY AMOUNT

218.

ANNUAL WASTE AMOUNT

219.

STATE WASTE CODE

220.

UNITS*

(Check one item only)

☐ a. GALLONS

☐ b. CUBIC FEET

☐ c. POUNDS

☐ d. TONS

DAYS ON SITE

222.

* If EHS, amount must be in pounds.

STORAGE

☐ a. ABOVEGROUND TANK

☐ f. CAN

☐ k. BOX

☐ p. TANK WAGON

CONTAINER

☐ b. UNDERGROUND TANK

☐ g. CARBOY

☐ l. CYLINDER

☐ q. RAIL CAR

☐ c. TANK INSIDE BUILDING

☐ h. SILO

☐ m. GLASS BOTTLE

☐ r. OTHER

☐ d. STEEL DRUM

☐ i. FIBER DRUM

☐ n. PLASTIC BOTTLE

☐ e. PLASTIC/NONMETALLIC DRUM

☐ j. BAG

☐ o. TOTE BIN

223.

STORAGE PRESSURE

☐ a. AMBIENT

☐ b. ABOVE AMBIENT

☐ c. BELOW AMBIENT

224.

STORAGE TEMPERATURE

☐ a. AMBIENT

☐ b. ABOVE AMBIENT

☐ c. BELOW AMBIENT

☐ d. CRYOGENIC

225.

% WT

HAZARDOUS COMPONENT (For mixture or waste only)

EHS

CAS #

1.

226.

227.

☐ Yes ☐ No

228.

229.

2.

230.

231.

☐ Yes ☐ No

232.

233.

3.

234.

235.

☐ Yes ☐ No

236.

237.

4.

238.

239.

☐ Yes ☐ No

240.

241.

5.

242.

243.

☐ Yes ☐ No

244.

245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION

246.

DOT Hazard Class:

If EPCRA, Please Sign Here.

If this facility is subject to Federal Emergency Planning and Community Right to Know Act (EPCRA) reporting requirements, a signature is required at the bottom of the form if the page lists an Extremely Hazardous Substance (EHS) handled at or above its Federal Threshold Planning Quantity (TPQ) or 500 pounds, whichever is less.

Hazardous Materials Inventory - Chemical Description Page Instructions

You must complete a separate inventory page for each individual hazardous material and hazardous waste that you handle at your facility in an aggregate quantity subject to Hazardous Materials Business Plan (HMBP) reporting requirements. (Refer to the HMBP instructions available on the Internet at www.unidocs.org/hazmat/business-plan/index.html.) The completed inventory must reflect all hazardous materials at your facility, reported **separately** for each building or outside storage area, with **separate** pages for unique occurrences of physical state, storage temperature, or storage pressure. Where the aggregate quantities of some hazardous materials are below the HMBP threshold reporting quantity, report the general hazard class of the materials (e.g., "Misc. Flammable Liquids"), rather than the Common Name, and the aggregate quantity of all hazardous materials having this hazard class which individually are below the threshold reporting quantity. [Note: Numbering of the following instructions follows the Unified Program Consolidated Form (UPCF) data element numbers on the form. These data element numbers are used for electronic submittal and are the same as the numbering used in the Unified Program Data Dictionary in 27 CCR, Division 3.] Please number all pages of your submittal.

1. FACILITY ID NUMBER - This number is for agency use only. Leave this space blank.
3. BUSINESS NAME - Enter the complete Facility Name.
200. ADD/DELETE/REVISE - Indicate whether the material is being added to the inventory, deleted from the inventory, or if information previously submitted is being revised. (Note: You may leave this blank if you resubmit your entire inventory annually.)
201. CHEMICAL LOCATION - Enter the building or outside area where the hazardous material is handled. A chemical stored at the same pressure and temperature in multiple locations in one building may be reported on a single page.
202. CHEMICAL LOCATION CONFIDENTIAL - EPCRA - You must check "Yes" to keep chemical location information confidential. If you do not wish to keep chemical location information confidential check "No."
203. MAP NUMBER - Enter the page number of the Business Plan Storage Map where the location of the hazardous material is shown.
204. GRID NUMBER - Enter the grid coordinates from your Business Plan Storage Map that correspond to the location of the hazardous material. If applicable, multiple grid coordinates can be listed.
205. CHEMICAL NAME - Enter the proper chemical name of the hazardous material. If the chemical is a mixture or waste, do not complete this field; complete the "Common Name" field instead.
206. TRADE SECRET - Check "Yes" if the information in this section is declared a trade secret, "No" if it is not. If "Yes," and the business is subject to EPCRA, disclosure of designated Trade Secret information is bound by 40 CFR and the business must submit a "Substantiation to Accompany Claims of Trade Secrecy" form to the United States Environmental Protection Agency.
207. COMMON NAME - Enter the common name or trade name of the hazardous material or mixture (e.g. gasoline).
208. EHS - Check "Yes" if the hazardous material is an Extremely Hazardous Substance (EHS) as defined in 40 CFR, Part 355, Appendix A. If the material is a mixture containing an EHS, leave this section blank and complete the section on hazardous components, below.
209. CAS # - Enter the Chemical Abstract Service (CAS) number for the hazardous material. For mixtures, enter the CAS number of the mixture if it has been assigned a number distinct from its components. If the mixture has no CAS number, leave this column blank and report the CAS numbers of the individual hazardous components in the appropriate section, below.
210. FIRE CODE HAZARD CLASSES - Provide this information if required by your local agency. A list of hazard classes and instructions on how to determine which class a material falls under are included in the appendices of Article 80 of the Uniform Fire Code. If a material has more than one applicable hazard class, include all. Contact your local agency for guidance.
211. HAZARDOUS MATERIAL TYPE - Check the one box that best describes the type of hazardous material: pure, mixture or waste. If the material is a waste, check only the "Waste" box.
212. RADIOACTIVE - Check "Yes" if the hazardous material is radioactive or "No" if it is not.
213. CURIES - If the hazardous material is radioactive, use this area to report the activity in curies.
214. PHYSICAL STATE - Check the one box that best describes the physical state of the hazardous material.
215. LARGEST CONTAINER - Enter the total capacity of the largest container in which the material is stored.
216. FEDERAL HAZARD CATEGORIES - Check all categories that describe the physical and health hazards associated with the hazardous material.

PHYSICAL HAZARDS	HEALTH HAZARDS
Fire: Flammable Liquids and Solids, Combustible Liquids, Pyrophorics, Oxidizers	Acute Health (Immediate): Toxics, Highly Toxics, Irritants, Sensitizers, Corrosives, other hazardous chemicals with an adverse effect with short-term exposure
Reactive: Unstable Reactives, Organic Peroxides, Water Reactives, Radioactives	
Pressure Release: Explosives, Compressed Gases, Blasting Agents	Chronic Health (Delayed): Carcinogens, other chemicals with an adverse effect with long-term exposure

217. AVERAGE DAILY AMOUNT - Calculate the average daily amount of the hazardous material or mixture in this building or outside area. If this is a material that is new to this location, the amount shall be the average daily amount you project to be on hand during the course of the year. This amount must be consistent with the units reported in box 221 and must not exceed that of maximum daily amount.
218. MAXIMUM DAILY AMOUNT - Enter the maximum amount of each hazardous material or mixture handled in this building or outside area at any one time over the course of the year. This amount must contain, at a minimum, last year's reported inventory with the reflection of additions, deletions, or revisions projected for the current year. This amount must be consistent with the units reported in box 221.
219. ANNUAL WASTE AMOUNT - If the material is a hazardous waste, enter the estimated annual amount handled.
220. STATE WASTE CODE - If the material is a hazardous waste, enter the appropriate California 3-digit hazardous waste code as listed on the Uniform Hazardous Waste Manifest.
221. UNITS - Check the unit of measure most appropriate for the material. [Note: If the material is a federally defined Extremely Hazardous Substance (EHS) and the Maximum Daily Amount is equal to or greater than the EPCRA reporting threshold, and is not a mixture, all amounts must be reported in pounds.]
222. DAYS ON SITE - List the total number of days during the year that the material is on site.
223. STORAGE CONTAINER - Check the boxes that describe the types of containers in which the material is stored.
224. STORAGE PRESSURE - Check the box that best describes the pressure at which the material is stored.
225. STORAGE TEMPERATURE - Check the box that best describes the temperature at which the material is stored.
226. HAZARDOUS COMPONENT (% BY WEIGHT) - If the material is a mixture, enter the percentage weight of the hazardous component(s). If a range of percentages is available, report the highest percentage in that range. (Repeat for components 2-5.)
227. HAZARDOUS COMPONENTS 1-5 NAME - If the material is a mixture, list the chemical name of each hazardous component in the mixture ranked by percent weight (refer to the MSDS or manufacturer). All hazardous components present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, must be reported. If more than five hazardous components exceed these percentages, you may attach an additional sheet of paper to report the required information. When reporting wastes, mineral and chemical composition must be listed. (Repeat for components 2-5.)
228. HAZARDOUS COMPONENTS 1-5 EHS - Check "Yes" if the component of the mixture is considered an Extremely Hazardous Substance as defined in 40 CFR, Part 355, or "No" if it is not. (Repeat for components 2-5.)
229. HAZARDOUS COMPONENTS 1-5 CAS - List the Chemical Abstract Service (CAS) numbers as related to the hazardous components in the mixture. (Repeat for components 2-5.)
246. LOCALLY COLLECTED INFORMATION - Provide the primary U.S. Department of Transportation numerical Hazard Class if required by your local agency. Contact your local agency for guidance.

Emergency Response/Contingency Plan

(Hazardous Materials Business Plan Module)

Authority Cited: HSC§ 25504(b); 19 CCR §2731; 22 CCR §66262.34(a)(4)

Page ____ of ____

All facilities that handle hazardous materials in HMBP quantities must have a written emergency response plan. In addition, facilities that generate 1,000 kilograms or more of hazardous waste (or more than 1 kilogram of acutely hazardous waste or 100 kilograms of debris resulting from the spill of an acutely hazardous waste) per month, or accumulate more than 6,000 kilograms of hazardous waste on-site at any one time, must prepare a hazardous waste contingency plan. Because the requirements are similar, they have been combined in a single document, provided below, for your convenience. This plan is a required module of the Hazardous Materials Business Plan (HMBP). **If you already have a plan that meets these requirements, you should not complete the blank plan, below, but you must include a copy of your existing plan as part of your HMBP.**

This site-specific Emergency Response/Contingency Plan is the facility's plan for dealing with emergencies and shall be implemented immediately whenever there is a fire, explosion, or release of hazardous materials that could threaten human health and/or the environment. **At least one copy of the plan shall be maintained at the facility for use in the event of an emergency and for inspection by the local agency.** A copy of the plan and any revisions must be provided to any contractor, hospital, or agency with whom special (i.e., contractual) emergency services arrangements have been made (see section 3, below).

1. Evacuation Plan:

- a. The following alarm signal(s) will be used to begin evacuation of the facility (check all that apply):

☐ Bells; ☐ Horns/Sirens; ☐ Verbal (i.e., shouting); ☐ Other (specify) _____

- b. ☐ Evacuation map is prominently displayed throughout the facility.

Note: A properly completed HMBP Site Plan satisfies contingency plan map requirements. This drawing (or any other drawing that shows primary and alternate evacuation routes, emergency exits, and primary and alternate staging areas) must be prominently posted throughout the facility in locations where it will be visible to employees and visitors.

2. a. Emergency Contacts*:

Fire/Police/Ambulance _____ Phone No.: **911**

State Office of Emergency Services _____ Phone No.: **(800) 852-7550**

b. Post-Incident Contacts*:

Certified Unified Program Agency (CUPA) _____ Phone No.: ()

Local Hazardous Materials Program _____ Phone No.: ()

California EPA Department of Toxic Substances Control _____ Phone No.: ()

Cal-OSHA Division of Occupational Safety and Health _____ Phone No.: ()

Air Quality Management District _____ Phone No.: ()

Regional Water Quality Control Board _____ Phone No.: ()

* Phone numbers for agencies in Unidocs Member Agency geographic jurisdictions are available at www.unidocs.org.

c. Emergency Resources:

Poison Control Center* _____ Phone No.: **(800) 876-4766**

Nearest Hospital: Name: _____ Phone No.: ()

Address: _____ City: _____

3. Arrangements With Emergency Responders:

If you have made special (i.e., contractual) arrangements with any police department, fire department, hospital, contractor, or State or local emergency response team to coordinate emergency services, describe those arrangements below:

4. Emergency Procedures:Emergency Coordinator Responsibilities:

- a. Whenever there is an imminent or actual emergency situation such as a explosion, fire, or release, the emergency coordinator (*or his/her designee when the emergency coordinator is on call*) shall:
 - i. Identify the character, exact source, amount, and areal extent of any released hazardous materials.
 - ii. Assess possible hazards to human health or the environment that may result from the explosion, fire, or release. This assessment must consider both direct and indirect effects (*e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, the effects of any hazardous surface water run-off from water or chemical agents used to control fire, etc.*).
 - iii. Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
 - iv. Notify appropriate local authorities (*i.e., call 911*).
 - v. Notify the State Office of Emergency Services at 1-800-852-7550.
 - vi. Monitor for leaks, pressure build-up, gas generation, or ruptures in valves, pipes, or other equipment shut down in response to the incident.
 - vii. Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials at the facility.
- b. Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall:
 - i. Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from a explosion, fire, or release at the facility.
 - ii. Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.
 - iii. Ensure that all emergency equipment is cleaned, fit for its intended use, and available for use.
 - iv. Notify the California Environmental Protection Agency's Department of Toxic Substances Control, the local CUPA, and the local fire department's hazardous materials program that the facility is in compliance with requirements b-i and b-ii, above.

Responsibilities of Other Personnel:

On a separate page, list any emergency response functions not covered in the "Emergency Coordinator Responsibilities" section, above. Next to each function, list the job title or name of each person responsible for performing the function. Number the page(s) appropriately.

5. Post-Incident Reporting/Recording:

The time, date, and details of any hazardous materials incident that requires implementation of this plan shall be noted in the facility's operating record.

Within 15 days of any hazardous materials emergency incident or threatened hazardous materials emergency incident that triggers implementation of this plan, a written Emergency Incident Report, including, but not limited to a description of the incident and the facility's response to the incident, must be submitted to the California Environmental Protection Agency's Department of Toxic Substances Control, the local CUPA, and the local fire department's hazardous materials program. The report shall include:

- a. Name, address, and telephone number of the facility's owner/operator;
- b. Name, address, and telephone number of the facility;
- c. Date, time, and type of incident (*e.g., fire, explosion, etc.*);
- d. Name and quantity of material(s) involved;
- e. The extent of injuries, if any;
- f. An assessment of actual or potential hazards to human health or the environment, where this is applicable;
- g. Estimated quantity and disposition of recovered material that resulted from the incident;
- h. Cause(es) of the incident;
- i. Actions taken in response to the incident;
- j. Administrative or engineering controls designed to prevent such incidents in the future.

6. Earthquake Vulnerability: [19 CCR §2731(e)]

As an attachment to this plan, you must identify any areas of the facility and mechanical or other systems that require immediate inspection or isolation because of their vulnerability to earthquake-related ground motion.

7. Hazard Mitigation/Prevention/Abatement [19 CCR §2731(c)]

As an attachment to this plan, you must include procedures that provide for mitigation, prevention, or abatement of hazards to persons, property, or the environment. These procedures must be scaled appropriately for the size and nature of the business, the nature of the damage potential of the hazardous materials handled, and the proximity of the business to residential areas and other populations.

8. Emergency Equipment:

22 CCR §66265.52(e) [as referenced by 22 CCR §66262.34(a)(4)] requires that emergency equipment at the facility be listed. Completion of the following Emergency Equipment Inventory Table meets this requirement.

EMERGENCY EQUIPMENT INVENTORY TABLE

1. Equipment Category	2. Equipment Type	3. Locations *	4. Description**
Personal Protective Equipment, Safety Equipment, and First Aid Equipment	☐ Cartridge Respirators		
	☐ Chemical Monitoring Equipment (<i>describe</i>)		
	☐ Chemical Protective Aprons/Coats		
	☐ Chemical Protective Boots		
	☐ Chemical Protective Gloves		
	☐ Chemical Protective Suits (<i>describe</i>)		
	☐ Face Shields		
	☐ First Aid Kits/Stations (<i>describe</i>)		
	☐ Hard Hats		
	☐ Plumbed Eye Wash Stations		
	☐ Portable Eye Wash Kits (<i>i.e., bottle type</i>)		
	☐ Respirator Cartridges (<i>describe</i>)		
	☐ Safety Glasses/Splash Goggles		
	☐ Safety Showers		
	☐ Self-Contained Breathing Apparatuses (SCBA)		
Fire Extinguishing Systems	☐ Other (<i>describe</i>)		
	☐ Automatic Fire Sprinkler Systems		
	☐ Fire Alarm Boxes/Stations		
	☐ Fire Extinguisher Systems (<i>describe</i>)		
	☐ Fire Extinguishers (<i>describe</i>)		
Spill Control Equipment and Decontamination Equipment	☐ Other (<i>describe</i>)		
	☐ Absorbents (<i>describe</i>)		
	☐ Berms/Dikes (<i>describe</i>)		
	☐ Decontamination Equipment (<i>describe</i>)		
	☐ Emergency Tanks (<i>describe</i>)		
	☐ Exhaust Hoods		
	☐ Gas Cylinder Leak Repair Kits (<i>describe</i>)		
	☐ Neutralizers (<i>describe</i>)		
	☐ Overpack Drums		
	☐ Sumps (<i>describe</i>)		
Communications and Alarm Systems	☐ Other (<i>describe</i>)		
	☐ Chemical Alarms (<i>describe</i>)		
	☐ Intercoms/ PA Systems		
	☐ Portable Radios		
	☐ Telephones		
	☐ Tank Leak Detection Systems		
Additional Equipment (Use Additional Pages if Needed.)	☐ Other (<i>describe</i>)		
	☐		
	☐		
	☐		
	☐		
	☐		

* Use the map and grid numbers from the Storage Map prepared earlier for your HMBP.

** Describe the equipment and its capabilities. If applicable, specify any testing/maintenance procedures/intervals. Attach additional pages, numbered appropriately, if needed.

Employee Training Plan

(Hazardous Materials Business Plan Module)

Authority Cited: HSC, Section 25504(c); 22 CCR §66262.34(a)(4)

Page ____ of ____

All facilities that handle hazardous materials in HMBP quantities must have a written employee training plan. This plan is a required module of the Hazardous Materials Business Plan (HMBP). A blank plan has been provided below for you to complete and submit if you do not already have such a plan. **If you already have a brief written description of your training program that addresses all subjects covered below, you are not required to complete the blank plan, below, but you must include a copy of your existing document as part of your HMBP.**

Check all boxes that apply. [Note: Items marked with an asterisk (*) are required.]:

1. Personnel are trained in the following procedures:

☐	Internal alarm/notification *
☐	Evacuation/re-entry procedures & assembly point locations*
☐	Emergency incident reporting
☐	External emergency response organization notification
☐	Location(s) and contents of Emergency Response/Contingency Plan
☐	Facility evacuation drills, that are conducted at least (specify): (e.g., "Quarterly", etc.)

2. Chemical Handlers are additionally trained in the following:

☐	Safe methods for handling and storage of hazardous materials *
☐	Location(s) and proper use of fire and spill control equipment
☐	Spill procedures/emergency procedures
☐	Proper use of personal protective equipment *
☐	Specific hazard(s) of each chemical to which they may be exposed, including routes of exposure (i.e., inhalation, ingestion, absorption) *
☐	Hazardous Waste Handlers/Managers are trained in all aspects of hazardous waste management specific to their job duties (e.g., container accumulation time requirements, labeling requirements, storage area inspection requirements, manifesting requirements, etc.) *

3. Emergency Response Team Members are capable of and engaged in the following:

Complete this section only if you have an in-house emergency response team

☐	Personnel rescue procedures
☐	Shutdown of operations
☐	Liaison with responding agencies
☐	Use, maintenance, and replacement of emergency response equipment
☐	Refresher training, which is provided at least annually *
☐	Emergency response drills, which are conducted at least (specify): (e.g., "Quarterly", etc.)

Record Keeping

(Hazardous Materials Business Plan Module)

Page ____ of ____

All facilities that handle hazardous materials must maintain records associated with their management. A summary of your record keeping procedures is a required module of the Unidocs Hazardous Materials Business Plan (HMBP). A blank summary has been provided below for you to complete and submit if you do not already have such a document. **If you already have a brief written description of your hazardous materials record keeping systems that addresses all subjects covered below, you are not required to complete this page, but you must include a copy of your existing document as part of your HMBP.**

Check all boxes that apply. The following records are maintained at the facility. *[Note: Items marked with an asterisk (*) are required.]*:

☐	Current employees' training records <i>(to be retained until closure of the facility)</i> *
☐	Former employees' training records <i>(to be retained at least three years after termination of employment)</i> *
☐	Training Program(s) <i>(i.e., written description of introductory and continuing training)</i> *
☐	Current copy of this Emergency Response/Contingency Plan *
☐	Record of recordable/reportable hazardous material/waste releases *
☐	Record of hazardous material/waste storage area inspections *
☐	Record of hazardous waste tank daily inspections *
☐	Description and documentation of facility emergency response drills

Note: The above list of records does not necessarily identify every type of record required to be maintained by the facility.

Note: The following section applies where local agencies require facility owners/operators to perform and document routine facility self-inspections:

A copy of the Inspection Check Sheet(s) or Log(s) used in conjunction with required routine self-inspections of your facility must be submitted with your HMBP. *[Exception: Unidocs provides a Hazardous Materials/Waste Storage Area Inspection Form that you may use if you do not already have your own form. If you use the Unidocs form (available at www.unidocs.org), you do not need to attach a copy.]*

Check the appropriate box:

☐	We will use the Unidocs "Hazardous Materials/Waste Storage Area Inspection Form" to document inspections.
☐	We will use our own documents to record inspections. <i>(A blank copy of each document used must be attached to this HMBP.)</i>

Facility Site Plan/Storage Map
(Hazardous Materials Business Plan Module)

Site Address: _____

Date Map Drawn: _____ Map Scale: _____ Page ____ of ____

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2																										
3																										
4																										
5																										
6																										
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Instructions are printed on the following page.

Facility Site Plan and Storage Map Instructions

(Hazardous Materials Business Plan Module)

A Site Plan (public document) and Storage Map (confidential document) must be included with your HMBP. For relatively small facilities, these documents may be combined into one drawing. However, if combined, the combined Site Plan/Storage Map will become a public document. If you are concerned about displaying the storage locations of hazardous materials to the public, you must provide a separate facility Storage Map. Since these drawings are intended for use in emergency response situations, larger facilities (*generally those with complex and/or multiple buildings*) should provide an overall site plan and a separate storage map for each building/storage area. A blank Facility Site Plan/Storage Map sheet has been provided on the previous page. You may complete that page or attach any other drawing(s) that contain(s) the information required below:

1. Site Plan (public document): This drawing shall contain, at a minimum, the following information:

- a. An indication of North Direction;
- b. Approximate scale (*e.g.*, "1 inch = 10 feet".);
- c. Date the map was drawn;
- d. All streets bordering the facility;
- e. Locations of all buildings and other structures;
- f. Parking lots and internal roads;
- g. Hazardous materials loading/unloading areas;
- h. Outside hazardous materials storage or use areas;
- i. Storm drain and sanitary sewer drain inlets;
- j. Wells for monitoring of underground tank systems;
- k. Primary and alternate evacuation routes, emergency exits, and primary and alternate staging areas.

2. Storage Map (confidential): The map(s) shall contain, at a minimum, the following information:

- a. General purpose of each section/area within each building (*e.g.*, "Office Area", "Manufacturing Area", *etc.*);
- b. Location of each hazardous material/waste storage, dispensing, use, or handling area (*e.g.*, *individual underground tanks, aboveground tanks, storage rooms, paint booths, etc.*). Each area shall be identifiable by a Grid Number, to be used in item 204 on the Hazardous Materials Inventory - Chemical Description pages of the Business Plan;
- c. For tanks, the capacity limit in gallons and common name of the hazardous material contained in each tank;
- d. Entrances to and exits from each building and hazardous material/waste room/area;
- e. Location of each utility emergency shut-off point (*i.e.*, *gas, water, electric.*);
- f. Location of each monitoring system control panel (*e.g.*, *underground tank monitoring, toxic gas monitoring, etc.*).

Appendix F. Calaveras County Department of Public Works: Grading Permit Application

**CALAVERAS COUNTY
PUBLIC WORKS**

891 Mountain Ranch Road, San Andreas, CA 95249-9709

Customer Service (209) 754-6402 ♦ Fax (209) 754-6664

Web: http://www.co.calaveras.ca.us/departments/public_works.asp ♦ Email: pubworks@co.calaveras.ca.usTransit
Land Division
Roads and Bridges
Transportation Planning
Integrated Waste Management
Grading, Drainage & Erosion Control**Grading Permit Application**

(All non-shaded boxes to be completed by Applicant)

Date of Application:	APN(s):	TSTM / TPM / CUP No. (if applicable):
Project Address:	Owner's Name / Address:	
	Phone:	
	Fax:	
	Email:	
Engineer Name / Address:	Agent / Address (if different from owner):	
Phone:	Fax:	Phone:
		Fax:
Email:		Email:

Project Information

Purpose of Grading:			Zoning:
Estimated Cut (CY):	Estimated Fill (CY):	Total Volume (CY):	Disturbed Area (acres):
Hours / Days of Work:		Truck Trips per Day (max):	
Grading Plan Attached? ☐ Yes ☐ No		Off-Site Disposal Location for Excess Excavation:	
Building Permit Application: ☐ Residential ☐ Commercial ☐ None		Building Permit Number(s) (if applicable):	
Under penalty of law, I hereby certify that the information submitted in support of this Application is, to the best of my knowledge, accurate and complete:			
Signature of Owner or Designated Agent authorized in writing			Date

FOR OFFICE USE ONLY	Project #5413:	Permit Plus No.
☐ Notification Approved _____ Date _____ ☐ Minor ☐ Engineered		
Application Deposit (\$):	Date:	Receipt No.
Plan Check Fee (\$):	Date:	Receipt No.
Inspection Fee (\$):	Date:	Receipt No.

Project Permitting Requirements	
Does the Grading Permit need to be circulated for Inter-Agency Review?	☐ Yes ☐ No
Does the Applicant need to file for coverage under the RWQCB Storm Water Discharge Permit?	☐ Yes ☐ No
Does the project design require certification by a California registered engineer?	☐ Yes ☐ No

Information to Be Completed by Applicant Prior to Permit Issuance			
Contractor / Address:		License #:	
		Phone:	
		Fax:	
		Email:	
Encroachment Permit ☐ Yes ☐ No		Issue Date: _____	
Est. Start Date:	Est. Completion Date:	WDID # (if applicable):	Has a SWPPP been prepared? ☐ Yes ☐ No ☐ n/a
Contact person for permit compliance issues during construction: ☐ Owner ☐ Engineer ☐ Contractor ☐ Agent ☐ Other _____		Contact person for additional funds request: ☐ Owner ☐ Engineer ☐ Contractor ☐ Agent ☐ Other _____	

Compliance Certification	
I hereby certify that all work will be done in accordance with all applicable local, state and federal requirements and in conformance with the approved grading plan and associated erosion and sediment control plans. I indemnify the County and all its officers, employees, and agents against any claims of liability proximately caused by any violation of local, State, and federal law, ordinance, or regulation. I agree to provide notifications to Public Works as required in the Design Manual and allow access to the property for inspection by Public Works employees or agents.	
☐ Owner ☐ Agent Signature:	Date:
Printed Name:	

Permit Issuance by Public Works	
<i>The Applicant is hereby authorized to perform grading and related earthwork as shown on the approved Grading Plan. This permit issuance shall not be construed as approval for any violation of local, State or federal requirements and shall not preclude the County from requiring any correction of errors or omissions in the grading plan or specifications.</i>	
Grading Plan Reviewed By:	Date:
Permit Issued By:	Date:
Permit Finaled By:	Date:

Appendix G. Calaveras County Building Department: Building Permit Application



Calaveras County

Building Department

(209) 754-6390

(209) 754-6396 fax

Website: www.co.calaveras.ca.us

Code Compliance

(209) 754-6326

(209) 754-6328 fax

~~~~~Procedure for Obtaining a Building Permit~~~~~

Do I Need A Building Permit?

2010 CBC Section 1.8 and 2010 CRC Section 1.8 and provisions of the Health and Safety Code, known as "State Housing Law", mandates permits and inspections be enforced by either the state or county office. Calaveras County enforces the 2010 California Residential Building, Plumbing, Mechanical, Electrical, Green, and Fire Codes, and the 2008 Energy Standards.

How Do I Get A Permit?

Come into the Building Department between 8 - 4 and fill out the appropriate applications. Please arrive early enough to allow a minimum of 1 hour for first time submittals and make sure that you have everything required for submittal. Phones are answered until 5.

Submit two complete sets of building plans including two copies of the plot plan (drawn to County specifications), Title 24 (energy calcs.), truss specs, and any required engineering. Also include 1 extra floor plan and plot plan for various County Offices.

Pay a non-refundable plan check deposit applied towards total fees. There is a waiting period of two to four weeks generally for plan check and energy review. Please note: during busy summer months the waiting period may be longer. If any corrections or additions to plans are required, one set of "Red-Line Plans" will be returned to you for revisions.

The balance of permit fees due are payable when the permit is issued.

Can I Draw My Own Plans?

Yes, you may, using proper sized paper (18" x 24" min.). Plans for houses with post & pier construction, basements with over 4 foot high block or concrete walls, domes, specialized construction, 3 stories or structures of unusual design must have lateral analysis (engineering) calculations with the plans wet or dry stamped and signed by a California Registered Licensed Engineer or Architect. Plans requiring engineering will not be issued without this stamp and will not be accepted without accompanying calculations.

How Complete Must My Plans Be?

Complete enough and clear enough for anyone to build the structure from your plans. The scale for the structure must be $1/4" = 1'$. Solve your problems on paper large enough to provide blank space around the drawings for stamping approved and making required notations for the project.

Show foundation plan with construction detail for size and piers. Floor plan showing room layout and sizes; identify rooms, doors and windows including size and type; show location of electrical outlets, switches and plumbing fixtures; show water heater and furnace location(s); show porches and decks.

Procedure for Obtaining a Building Permit, continued

Draw a complete cross section (framing plan) showing size of girders, floor, deck and ceiling joists, rafters and roof sheathing. Indicate the grade and species of lumber. Show the insulation by "R" value in floor, walls and ceiling. (Note: more than one cross section may be required.)

Elevations of four views are required marked as to compass direction. Show window sizes, type: sky light, slide-bys, single hung, etc. Show earth grade.

A bird's eye view of the roof and a floor framing layout are required showing load bearing points and walls at $1/4" = 1'$ scale. One set of approved plans will be returned to you with plan check corrections noted in red. If you don't understand, you need to ask questions to save a lot of extra work.

ANY PLANS DRAWN IN PENCIL WILL NOT BE ACCEPTED!

YOUR PLAN SUBMITTAL PACKAGE SHOULD INCLUDE:

2 COPIES:

- PLOT PLAN (ON TOP OF PACKAGE). ALL CONDITIONS ON THE SAMPLE PLOT PLAN **MUST BE MET**
- FLOOR PLAN (MARK ROOM USE, WINDOW & SKY LIGHT SIZES & TYPE OF OPENING ACTION)
- FOUNDATION PLAN
- FIRE SPRINKLER PLAN & CALCULATIONS (DEFERRED SUBMITTAL OK)
- COMPLETE CROSS SECTION
- 4 ELEVATIONS SHOWING COMPASS DIRECTION (EAST / WEST / NORTH / SOUTH)
- DECK DETAILS - IF APPLICABLE
- BIRD'S EYE VIEW OF ROOF
- TRUSS SPECS WITH LAYOUT - IF APPLICABLE
- ENGINEERING WITH CALIFORNIA STAMP - IF APPLICABLE
- TITLE 24 ENERGY CALCULATIONS IN BOOKLET FORM
- ELECTRICAL PLAN
- DEPOSIT OF PLAN CHECK FEES

1 ADDITIONAL:

- FLOOR PLAN (SINGLE SHEET ONLY FOR ASSESSOR)
- PLOT PLAN (FOR PUBLIC WORKS)

REQUIRED PAPERWORK:

- APPLICATION
- OWNER/BUILDER FORM - FILLED OUT BY THE OWNER
- LETTER OF AUTHORIZATION FOR AGENT
- CONTRACTOR FORM - IF SUBMITTED BY CONTRACTOR

ADDITIONAL DOCUMENTS THAT MAY BE REQUIRED:

- GRANT DEED
- PROOF OF LEGAL ACCESS (RECORDED EASEMENT, COURT ADJUDICATION, TITLE INSURANCE INSURING ACCESS OR RECORDED SUBDIVISION)
- LETTER OF AUTHORIZATION FOR ANY AGENT
- "WILL SERVE" LETTERS FROM SEWER / WATER COMPANY

No "Certificate of Occupancy or Final Completion" will be issued until the Septic or Sewer connection, Well or Water connection, Grading, Encroachment, and Drainage issues are **ALL FINAL**. Plan check takes between 5 and 10 working days.



Calaveras County

Building Department

(209) 754-6390

(209) 754-6396 fax

Website: www.co.calaveras.ca.us

Code Compliance

(209) 754-6326

(209) 754-6328 fax

MASTER PLAN SETUP

SUBMIT ONE SET OF BUILDING PLANS

ALL FOUR ORIENTATIONS OF TITLE 24 ENERGY DOCUMENTS

TRUSS CALCS / ENGINEERING WITH ORIGINAL WETSTAMPS, IF APPLICABLE

FIRE SPRINKLER LAYOUT / HYDRAULIC CALCS / MANUFACTURER'S INFO

INCLUDE ALL OPTIONS (FLIPPED FLOOR PLAN / GARAGE SIZES & LOCATION / BEDROOMS / DEN)

NON-REFUNDABLE PLAN CHECK DEPOSIT OF \$1,000

PLANS GO INTO PLAN CHECK LINE

PLANS ARE CHECKED AND RED-LINED SET SENT BACK FOR CORRECTIONS

RETURN RED-LINED SET + TWO SETS OF CORRECTED PLANS AND SECOND SET OF ENERGY, ENGINEERING, AND TRUSS DOCUMENTS THAT APPLY TO THE PROJECT FOR RE-CHECKING. THIS HAPPENS UNTIL TWO CORRECTED, UN-MARKED SETS OF PLANS ARE APPROVED. THE DEPARTMENT KEEPS ONE AND THE SECOND APPROVED SET WILL GO TO THE CLIENT

TO BUILD FROM YOUR APPROVED MASTER

SUBMIT 3 PLOT PLANS TO SCALE

SUBMIT FULL SET OF PLANS WITH OPTIONS TO BE BUILT (IDENTICAL TO PLANS ON FILE) WITH TRUSS SPECS & ORIGINAL SIGNED WETSTAMP

ALL FOUR ELEVATION DRAWINGS REDRAWN TO FIT THE SITE TOPOGRAPHY - INCLUDE FLOOR & ROOF ELEVATIONS ABOVE GRADE PER SITE PLAN REQUIREMENTS

OPTION SHEET WITH ALL AVAILABLE OPTIONS NOTING ONLY OPTIONS TO BE BUILT

APPLICATION WITH MASTER MODEL NUMBER AT THE TOP + CONTRACTOR FORM

EXTRA FLOOR PLAN FOR ASSESSOR

SEVEN TO TEN DAY TURN AROUND TIME

NON-REFUNDABLE PLAN CHECK DEPOSIT OF \$239 (COVERS FIRE INSPECTION, PLAN CHECK & PROCESSING)

ADDITIONAL FEES ARE DUE UPON ISSUANCE OF THE PERMIT (COVERS STRUCTURAL INSPECTIONS, FIRE DEPARTMENT, WATER ENHANCEMENT, & SCHOOL FEES. ENVIRONMENTAL HEALTH & PUBLIC WORKS FEES WILL ALSO BE DUE)

Appendix H. PG&E Pre-Application Report Request and Pre-Application Report

RULE 21 PRE-APPLICATION REPORT REQUEST

Upon receipt of a completed Pre-Application Report Request and a non-refundable processing fee of \$300, the Distribution Provider shall provide pre-application data described below within ten (10) business days of receipt.

The Pre-Application Report will include the following information if available:

- a. Total Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
- b. Allocated Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
- c. Queued Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
- d. Available Capacity (MW) of substation/area bus or bank and circuit most likely to serve proposed site.
- e. Substation nominal distribution voltage or transmission nominal voltage if applicable.
- f. Nominal distribution circuit voltage at the proposed site.
- g. Approximate circuit distance between the proposed site and the substation.
- h. Relevant Line Section(s) peak line load estimate, and minimum load data, when available.
- i. Number of protective devices and number of voltage regulating devices between the proposed site and the substation/area.
- j. Whether or not three-phase power is available at the site.
- k. Limiting conductor rating from proposed Point of Interconnection to distribution substation.
- l. Based on proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints or secondary networks.

The Pre-Application Report need only include pre-existing data. A Pre-Application Report request does not obligate Distribution Provider to conduct a study or other analysis of the proposed project in the event that data is not available. If Distribution Provider cannot complete all or some of a Pre-Application Report due to lack of available data, Distribution Provider will provide applicant with a Pre-Application Report that includes the information that is available.

In requesting a Pre-Application Report, applicant understands that 1) the existence of “Available Capacity” in no way implies that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, 2) the distribution system is dynamic and subject to change and 3) data provided in the Pre-Application Report may become outdated and not useful at the time of submission of the complete Interconnection Request. Notwithstanding any of the provisions of this Section, Distribution Provider shall, in good faith, provide Pre-Application Report data that represents the best available information at the time of reporting.

1. This Pre-Application Report Request is for (check only one):

- ☐ A proposed new Generating Facility.
☐ An increase in the generating capacity or a Material Modification of an existing Generating Facility.

This Pre-Application Report Request is for (check only one):

- ☐ A project that **will export** power to the SCE/PG&E/SDG&E system.
☐ A project that **will not export** power to the SCE/PG&E/SDG&E system.

2. Applicant provides the following information (if available):

- a. Approximate proposed Point of Interconnection. The proposed Point of Interconnection shall be defined by latitude and longitude, site map, street address, utility equipment number (e.g. pole number), meter number, account number or some combination of the above sufficient to clearly identify the location of the Point of Interconnection. In the case of an existing Generating Facility, the name and specific location, including the county, of the existing Generating Facility;

Project Name:

Project Location:

Street Address:

City:

County:

Zip Code:

Latitude (in degrees/minutes/seconds OR 6 decimal places):

Longitude (in degrees/minutes/seconds OR 6 decimal places):

Utility Equipment Number [nearest one (ex. pole number 1234567E, transformer number T12345)]:

Meter Badge Number (Old meter #'s are 6 characters – one alpha numeric interspersed. New Smart Meters start with 100, followed by 7 digits – 10 characters total.):

Account Number (ex. 012345678-9):

Proposed Nominal Service Voltage (ex. 480V, 12kV, etc.):

- b. **Attach copy of site map for proposed project.** Site map should show:

- True north
- Proposed project location, including general area of project
- Proposed service point location

-
- Major roads, streets and/or highways

c. Generation Technology, Fuel Source (i.e., gas turbine, hydro turbine, wind turbine, etc.) and optionally MW;

☐ Cogeneration	_____ MW	Fuel Source: _____
☐ Reciprocating Engine	_____ MW	Fuel Source: _____
☐ Biomass	_____ MW	Fuel Source: _____
☐ Steam Turbine	_____ MW	
☐ Gas Turbine	_____ MW	Fuel Source: _____
☐ Wind Turbine	_____ MW	
☐ Hydro Turbine	_____ MW	
☐ Inverter Based: (e.g., Photovoltaic, Fuel Cell)	_____ MW	
If Fuel Cell, please describe primary fuel source: _____		
☐ Combined Cycle	_____ MW	Fuel Source: _____
☐ Advanced Energy Storage (please describe):	_____	
☐ Other (please describe):	_____	

d. Name, address, telephone number, and e-mail address of applicant (primary person who will be contacted);

Name:

Title:

Company Name:

Street Address:

City, State:

Zip Code:

Phone Number:

Fax Number:

Email Address:

3. Non-Refundable processing fee of \$300 as specified in Rule 21 is required to complete this Pre-Application Report Request.
4. This Pre-Application Report Request shall be submitted with attachments to:

Note to Parties- Each IOU will include the mailing address and/or email of where/how the request and fee should be submitted.

5. I understand that the contents of the Pre-Application Report are confidential and shall not be disclosed to anyone who is not an employee or other representative (including consultants) of the company or corporation I am employed with.

6. This Pre-Application Report Request is submitted by:

Legal name of applicant: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

Phone Number: _____



Rule 21 Pre-Application

Project Name	Wilseyville Biomass
Date Studied	09-Sep-13
Substation	West Point Bank 3
Feeder	163201102
Address	13 Blizzard Mine Road, Bwilseyville, California 95257
GPS	38.377353, -120.523883

Table 1

Device	A (MW)	B (MW)	C (MW)	D (MW)
Bank	10.395	0.102	0.000	10.293
Breaker	5.770	0.102	0.000	5.668

Table 2

Device	Peak (kW)	Min. (kW)
Bank	4,360	1,775
Breaker	4,360	1,775
Recloser	3,378	1,368

- L.** Based on proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

1. Bank 3 protection is 70kV fuses
2. Close POI is about 1500 feet
3. Three-phase symmetrical fault at POI is 1304 Amps

- A.** Total Capacity (MW) of substation bank and circuit likely to serve proposed site.
[See Table 1](#)
- B.** Allocated Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
[See Table 1](#)
- C.** Queued Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.
[See Table 1](#)
- D.** Available Capacity (MW) of substation/area bus or bank and circuit most likely to serve proposed site.
[See Table 1](#)
- E.** Substation nominal distribution voltage or transmission nominal voltage if applicable.
[12 kV](#)
- F.** Nominal distribution circuit Primary voltage at the proposed site.
[12 kV](#)
- G.** Approximate circuit distance between the proposed site and the substation.
[25,905 ft.](#)
- H.** Relevant Line Section(s) peak load estimate, and minimum load data, when available.
[See Table 2](#)
- I.** Number of protective devices and voltage regulating devices between the proposed site and the substation/area.
[2 Protective Devices](#)
[1 Regulating Devices](#)
- J.** Whether or not three-phase power is available at the site.
[Yes](#)
- K.** Limiting conductor rating from proposed Point of Interconnection to distribution substation.
Conductor [397_AAC_2F/S_I](#)
Rating: [515 Amps](#)
Length: [21943 ft.](#)

The Pre-Application Report need only include pre-existing data. A Pre-Application Report request does not obligate Distribution Provider to conduct a study or other analysis of the proposed project in the event that data is not available. If Distribution Provider cannot complete all or some of a Pre-Application Report due to lack of available data, Distribution Provider will provide Applicant with a Pre-Application Report that includes the information that is available. In requesting a Pre-Application Report, Applicant understands that 1) the existence of "Available Capacity" in no way implies that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, 2) the distribution system is dynamic and subject to change and 3) data provided in the Pre-Application Report may become outdated and not useful at the time of submission of the complete Interconnection Request. Notwithstanding any of the provisions of this Section, Distribution Provider shall, in good faith, provide Pre- Application Report data that represents the best available information at the time of reporting.

Appendix I. PG&E System Impact Study Application



Pacific Gas and Electric Company
San Francisco, California
U 39

Revised
Cancelling Original

Cal. P.U.C. Sheet No. 32724-E
Cal. P.U.C. Sheet No. 32052-E*

ELECTRIC SAMPLE FORM 79-1145
Rule 21 Exporting Generator
Interconnection Request

Sheet 1

Advice Letter No: 4233-E
Decision No.

Issued by
Brian K. Cherry
Vice President
Regulatory Relations

Date Filed May 31, 2013
Effective June 30, 2013
Resolution No. _____

**RULE 21
EXPORTING GENERATOR
INTERCONNECTION REQUEST**

1. The undersigned Applicant submits this request to interconnect its Generating Facility with the Pacific Gas and Electric Company (PG&E or Distribution Provider) Distribution System pursuant to Rule 21 (check only one):

☐ Detailed Study Process
☒ Fast Track Process

2. This Interconnection Request is for (check only one):

☒ A proposed new Generating Facility.
☐ An increase in the generating capacity or a Material Modification of an existing Generating Facility.

3. Applicant provides the following information:

- a. Address (to the extent known) or location, including the county, of the proposed new Generating Facility site or, in the case of an existing Generating Facility, the name and specific location, including the county, of the existing Generating Facility;

Project Name: Wilseyville Community Power

Project Location:

Street Address: 13 Blizzard Mine Road

City, State: Wilseyville, CA

County: Calaveras

Zip Code: 95257

GPS Coordinates: 38°37'73.53"N/120°52'38.83"W

- b. Maximum net megawatt electrical output (as defined by section 2.c. of Attachment A to this appendix) of the proposed new Generating Facility or the amount of net megawatt increase in the generating capacity of an existing Generating Facility;

Maximum net megawatt electrical output (MW): 3.0 or

Net Megawatt increase (MW): _____

- c. Type of project (i.e., gas turbine, hydro, wind, etc.) and general description of the equipment configuration (if more than one type is chosen, include net MW for each); Biomass gasification with IC synchronus gensets

PG&E'S RULE 21
EXPORTING GENERATOR INTERCONNECTION REQUEST

___ Cogeneration ___ MW
___ Reciprocating Engine ___ MW
 x Biomass 3.0 MW
___ Steam Turbine ___ MW
___ Gas Turbine ___ MW
___ Wind ___ MW
___ Hydro ___ MW
___ Inverter Based: (e.g., Photovoltaic, Fuel Cell) ___ MW
 If Fuel Cell, please describe primary fuel source:
___ Combined Cycle ___ MW
___ Other (please describe): _____

- d. Proposed In-Service Date, and Other Key Dates (Day/Month/Year) (Dates must be sequential)

Proposed In-Service Date: 5 / 1 / 16
Proposed Trial Operation Date: 5 / 1 / 16
Proposed Commercial Operation Date: 6 / 1 / 16
Proposed Term of Service (years): 20

- e. Name, address, telephone number, and e-mail address of Applicant (primary person who will be contacted);

Name: Steve Wilensky
Title: President
Company Name: Calaveras Healthy Impact Product Solutions ("CHIPS")
Street Address: 291 Main St, #A
City, State: West Point, CA
Zip Code: 95255
Phone Number: 209.293.2333
Fax Number: n/a
Email Address: stevedwilensky@gmail.com

- f. Approximate location of the proposed Point of Interconnection (i.e., specify distribution facility interconnection point name, voltage level, and the location of interconnection);

12kV; POI at GPS Coord listed above

- g. Applicant Data (set forth in Attachment A)

The Applicant shall provide to the Distribution Provider the technical data called for in Attachment A.

PG&E'S RULE 21
EXPORTING GENERATOR INTERCONNECTION REQUEST

- h. AC Disconnect Switch. List the AC disconnect switch that will be used at this Generating Facility (enter "N/A" if not applicable)

Disconnect Switch Manufacturer: Cooper
Disconnect Switch Model Number: TBD per PGE manufacturing code 341575
Disconnect Switch Rating (amps): 900A

4. Application Fee and Detailed Study Deposit as specified in Rule 21 is required to complete this application. Upon receipt of this Interconnection Request and Attachment A, PG&E will send a separate invoice for the applicable fee or deposit. **PLEASE DO NOT INCLUDE ANY CHECKS/MONIES WITH THIS INTERCONNECTION REQUEST.** (Any checks/monies submitted with this IR will be returned to the sender and may result in a delay in the application process.)
5. Attach evidence of Site Exclusivity as specified in Rule 21 Section E.2.d as applicable, and name(s), address(es) and contact information of site owner(s).
6. **Interconnection Request Instructions:** Complete this interconnection request and enter this information into PG&E's web-based form. (PG&E strongly recommends preparing all information and materials before starting the online interconnection request.) The online web-based form can be found at:

<http://www.pge.com/mybusiness/customerservice/nonpgeutility/generateownpower/distributedgeneration/generationrule21/>

Questions concerning PG&E's online interconnection request process can be directed to the Electric Generation Interconnection Department at **rule21gen@pge.com..**

- 7 Representative of Applicant to contact:

[To be completed by Applicant]

Name: Gregory John Stangl
Title: CEO
Company Name: Phoenix Energy
Street Address: PO Box 29166
City, State: San Francisco, CA
Zip Code: 94129
Phone Number: 415.286.7822
Fax Number: 415.367.2531
Email Address: stangl@phoenixenergy.net

PG&E'S RULE 21
EXPORTING GENERATOR INTERCONNECTION REQUEST

8. If the Applicant also requires new Distribution Service, the Distribution Provider will coordinate these efforts with this application. The Applicant must also complete a PG&E Application for Service. Additional fees may be required if a service or line extension is required (in accordance with PG&E Electric Rules 15 and 16). Please contact PG&E's Building and Renovation Services Center (BRSC): 1-800-743-7782 to initiate the application for the new Distribution Service. Additional information will be required in conjunction with an application for new Distribution Service.
9. Applicant should be aware that if Applicant has not yet received Rule 21 Screen Q results from PG&E by March 15 following submittal of this IR, Applicant will need to submit, if Applicant voluntarily chooses to do so, an Interconnection Request under PG&E's FERC Wholesale Distribution Tariff (WDT) by the close of the CAISO cluster application window (refer to <http://www.caiso.com/docs/2002/06/11/2002061110300427214.html> for the exact date) in order to participate in the Transmission Cluster Study for the year. An application under WDT will not impact the results of this Rule 21 study.
10. This Interconnection Request is submitted by:

Legal name of Applicant: **Calaveras Healthy Impact Product Solutions**

By (signature): _____

Name (type or print): **Steve D. Wilensky**

Title: **President**

Date: _____

PG&E'S RULE 21

EXPORTING GENERATOR INTERCONNECTION REQUEST

Attachment A to PG&E Rule 21 Exporting Generator Interconnection Request

GENERATING FACILITY DATA

Each Applicant will complete Sections 1 and 2 of this Attachment A.

Each Applicant will complete the applicable data in Sections 3 through 6 of this Attachment A based on the type of generating facility(ies) requesting interconnection. (Section 3 for synchronous generators, Section 4 for induction generators, Section 5 for wind turbine generators, and Section 6 for inverter-based generators).

Each Applicant will complete Sections 7 through 10, as applicable.

At any time, Distribution Provider may require Applicant to provide additional technical data, or additional documentation supporting the technical data provided, as deemed necessary by the Distribution Provider to perform Interconnection Studies, other studies, or evaluations as set forth under Rule 21.

1. Provide electronic copies of the following:

- A. Site drawing to scale, showing generator location and Point of Interconnection with the Distribution Provider's Distribution System.
- B. Single-line diagram showing applicable equipment such as generating units, step-up transformers, auxiliary transformers, switches/disconnects of the proposed interconnection, including the required protection devices and circuit breakers. For wind and photovoltaic generator projects, the one line diagram should include the distribution lines connecting the various groups of generating units, the generator capacitor banks, the step up transformers, the distribution lines, and the substation transformers and capacitor banks at the Point of Interconnection with the Distribution Provider's Distribution System. This one-line drawing must be signed and stamped by a licensed Professional Engineer if the Generating Facility is larger than 50 kW.
- C. AC and DC schematics if available. Required for detailed study process.
- D. Description of operations.

Note: Electronic processing is preferred, however, if submitting via U.S. mail, provide one original print of items in A through D, above.

2. Generating Facility General Information:

- A. Total Generating Facility rated output (MW): 3.5
- B. Generating Facility auxiliary Load (MW): 0.5
- C. Project net capacity (MW): 3.0
- D. Standby Load when Generating Facility is off-line (MW): 0.0
- E. Number of Generating Units: 3
(Please repeat the following items for each generator)
- F. Individual generator rated output (MW for each unit): 1.172
- G. Type (induction, synchronous, D.C. with inverter): synchronous
- H. Phase (3 phase or single phase): 3 phase

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EXPORTING GENERATOR INTERCONNECTION REQUEST

3. Synchronous Generator –Information:

3A

Generator Information: **INFORMATION IS THE SAME FOR ALL 3 GENERATORS**
(Please repeat the following for each generator)

- A. Manufacturer: Stamford
- B. Year Manufactured: 2015
- C. Rated Generator speed (rpm): 1800
- D. Rated MVA: 1.454*
- E. Rated Terminal Voltage (kV): 480v
- F. Rated Generator Power Factor Range: 0.8-1.0
- G. Generator Efficiency at Rated Load (%): 96.9 @ 1.0pf
- H. Moment of Inertia (including prime mover): 1775.3*
- I. Inertia Time Constant (on machine base) H: 0.46 sec or MJ/MVA
- J. SCR (Short-Circuit Ratio - the ratio of the field current required for rated open-circuit voltage to the field current required for rated short-circuit current): 1/Xd is 1/1.915 = 0.522*
- K. Please attach generator reactive capability curves.
- L. Rated Hydrogen Cooling Pressure in psig (Steam Units only):
NA
- M. Please attach a plot of generator terminal voltage versus field current that shows the air gap line, the open-circuit saturation curve, and the saturation curve at full load and rated power factor.

3B

Excitation System Information: **INFORMATION IS THE SAME FOR ALL 3 GENERATORS**
(Please repeat the following for each generator)

- A. Indicate the Manufacturer Stamford and Type 5 of excitation system used for the generator. For exciter type, please choose from 1 to 9 below or describe the specific excitation system.
 - (1) Rotating DC commutator exciter with continuously acting regulator. The regulator power source is independent of the generator terminal voltage and current.
 - (2) Rotating DC commentator exciter with continuously acting regulator. The regulator power source is bus fed from the generator terminal voltage.
 - (3) Rotating DC commutator exciter with non-continuously acting regulator (i.e., regulator adjustments are made in discrete increments).
 - (4) Rotating AC Alternator Exciter with non-controlled (diode) rectifiers. The regulator power source is independent of the

PG&E'S RULE 21

EXPORTING GENERATOR INTERCONNECTION REQUEST

- (5) generator terminal voltage and current (not bus-fed).
Rotating AC Alternator Exciter with controlled (thyristor) rectifiers. The regulator power source is fed from the exciter output voltage.
- (6) Rotating AC Alternator Exciter with controlled (thyristor) rectifiers.
- (7) Static Exciter with controlled (thyristor) rectifiers. The regulator power source is bus-fed from the generator terminal voltage.
- (8) Static Exciter with controlled (thyristor) rectifiers. The regulator power source is bus-fed from a combination of generator terminal voltage and current (compound-source controlled rectifiers system).
- (9) Other (specify): NA
- B. Attach a copy of the block diagram of the excitation system from its instruction manual. The diagram should show the input, output, and all feedback loops of the excitation system.
- C. Excitation system response ratio (ASA): see Appendix 3
- D. Full load rated exciter output voltage: 63v
- E. Maximum exciter output voltage (ceiling voltage): see Appendix 3
- F. Other comments regarding the excitation system? NA
-

3C Turbine-Governor Information:

(Please repeat the following for each generator)

Please complete Part A for steam, gas or combined-cycle turbines, Part B for hydro turbines, and Part C for both.

A. Steam, gas or combined-cycle turbines:

- (1) List type of unit (Steam, Gas, or Combined-cycle): _____
- (2) If steam or combined-cycle, does the turbine system have a reheat process (i.e., both high and low pressure turbines)? _____
- (3) If steam with reheat process, or if combined-cycle, indicate in the space provided, the percent of full load power produced by each turbine:
Low pressure turbine or gas turbine: _____%
High pressure turbine or steam turbine: _____%
- (4) For combined cycle plants, specify the plant net output capacity (MW) for an outage of the steam turbine or an outage of a single combustion turbine: _____

B. Hydro turbines:

- (1) Turbine efficiency at rated load: _____%

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EXPORTING GENERATOR INTERCONNECTION REQUEST

- (2) Length of penstock: _____ ft
- (3) Average cross-sectional area of the penstock: _____ ft²
- (4) Typical maximum head (vertical distance from the bottom of the penstock, at the gate, to the water level): _____ ft
- (5) Is the water supply run-of-the-river or reservoir: _____
- (6) Water flow rate at the typical maximum head: _____ ft³/sec
- (7) Average energy rate: _____ kW-hrs/acre-ft
- (8) Estimated yearly energy production: _____ kW-hrs

C. Complete this section for each machine, independent of the turbine type.

- (1) Turbine manufacturer: _____
- (2) Maximum turbine power output: _____ MW
- (3) Minimum turbine power output (while on line): _____ MW
- (4) Governor information:
 - (a) Droop setting (speed regulation): _____
 - (b) Is the governor mechanical-hydraulic or electro-hydraulic (Electro-hydraulic governors have an electronic speed sensor and transducer.)? _____
 - (c) Other comments regarding the turbine governor system?

3D

Short Circuit Duty Information: from J612 LVSI 804 R 480V 2750KVA.pdf

For each generator, provide the following reactances expressed in p.u. on the generator base:

INFORMATION IS THE SAME FOR ALL 3 GENERATORS

- X_d – Direct Axis Synchronous Reactance: 1.915 p.u.
- X'_d – Direct Axis Transient Reactance: 0.152 p.u.
- X''_d – Direct Axis Subtransient Reactance: 0.113 p.u.
- X₂ – Negative Sequence Reactance: 0.162 p.u.
- X₀ – Zero Sequence Reactance: 0.024 p.u.

Generator Grounding (select one for each model):

- A. X Solidly grounded
- B. _____ Grounded through an impedance
(Impedance value in p.u. on generator base. R: _____ p.u.
X: _____ p.u.)
- C. _____ Ungrounded

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EXPORTING GENERATOR INTERCONNECTION REQUEST

4. Induction Generator Information:

(Please repeat the following for each generator)

- A. Motoring Power (kW): _____
- B. $I_2^2 t$ or K (Heating Time Constant): _____
- C. Rotor Resistance, R_r : _____
- D. Stator Resistance, R_s : _____
- E. Stator Reactance, X_s : _____
- F. Rotor Reactance, X_r : _____
- G. Magnetizing Reactance, X_m : _____
- H. Short Circuit Reactance, X_d'' : _____
- I. Exciting Current: _____
- J. Temperature Rise: _____
- K. Frame Size: _____
- L. Design Letter: _____
- M. Reactive Power Required In Vars (No Load): _____
- N. Reactive Power Required In Vars (Full Load): _____
- O. Total Rotating Inertia, H: _____ Per Unit on kVA Base

5. Wind Turbine Generator (WTG) Information:

(Proposed projects may include one or more WTG types. Please repeat the following for each type of WTG).

- A. WTG Manufacturer and Model: _____
- B. Number of WTGs: _____
- C. WTG Type (check one):
 - _____ Type 1 (Squirrel-cage induction generator)
 - _____ Type 2 (Wound rotor induction machine with variable rotor resistance)
 - _____ Type 3 (Doubly-fed asynchronous generator)
 - _____ Type 4 (Full converter interface)
- D. Nameplate Rating (each WTG): _____ / _____ kW/kVA
- E. Rated Terminal Voltage: _____ kV
- F. For Type 1 or Type 2 WTGs:
 - (1) uncompensated power factor at full load: _____
 - (2) power factor correction capacitors at full load: _____ MVAR
 - (3) number of shunt stages and size: _____
 - (4) Please attach capability curve describing reactive power or power factor range from no output to full rated output, including the effect of shunt compensation
- G. For Type 3 or Type 4 WTGs:
 - (1) Maximum under-excited power factor at full load: _____
 - (2) Maximum over-excited power factor at full load: _____
 - (3) Control mode: _____ (voltage control, fixed power factor)
 - (4) Please attach capability curve describing reactive power or power factor range from no output to full rated output

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EXPORTING GENERATOR INTERCONNECTION REQUEST

- H. Short Circuit Characteristics: Applicant to provide technical data related to the short circuit characteristics of proposed WTGs for short circuit duty study modeling purposes. For example, the applicant can provide manufacturer short circuit test data showing faulted condition for three phase and single-line-to-ground fault.

Distribution Provider may require testing verification of voltage and harmonic performance during commissioning test of WTG based generation projects.

6. Inverter Based Generation Systems Information:

Proposed inverter based generation projects may include one or more types of inverters. Please provide answers to the following for each type of inverter.

- A. Inverter Manufacturer and Model: _____
- B. Number of Inverters: _____
- C. Nameplate Rating (AC, each inverter): _____ / _____ kW
- D. Nameplate Voltage Rating (AC): _____ kV
- E. Maximum AC line current: _____ Amps
- F. Nameplate Power Factor Rating (AC): _____
- G. Please attach capability curve describing reactive power or power factor range from no output to full rated output
- H. Inverter control mode (e.g. voltage, power factor, reactive power): _____
- I. Short Circuit Characteristics: Applicant to provide technical data related to the short circuit characteristics of proposed inverter based generation systems. For example, the applicant can provide a sinusoidal waveform test data showing faulted condition at the AC side of the inverter for a three phase and single-line-to-ground fault.
- J. Harmonics Characteristics:
- (1) Inverter switching frequency: _____
- (2) Harmonic characteristics for each unit up to switching frequency: _____
- (3) Harmonic characteristics for aggregate generation facility: _____
- K. Inverter disconnection characteristics: Applicant to provide voltage sinusoidal waveform test data which shows the voltage characteristics during disconnection of inverter system from distribution system at 100% and at 50% of rated output.

Distribution Provider may require testing verification of voltage and harmonic performance during commissioning test of the inverter based generation systems.

7. Step-Up Transformer Data:

For each step-up transformer (e.g. main step-up transformers, padmount transformers), fill out the data form provided in Table 1.

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EXPORTING GENERATOR INTERCONNECTION REQUEST

8. Plant-Level Reactive Power Compensation Data:

Provide the following information for plant-level reactive power compensation, if applicable:

0

- A. Number of individual shunt capacitor banks: _____
- B. Individual shunt capacitor bank rated voltage (kV): _____
- C. Individual shunt capacitor bank size (kVAR at rated voltage): _____
- D. Planned dynamic reactive control devices (SVC, STATCOM): _____
- E. Control range: _____ kVAR (lead) _____ kVAR (lag)
- F. Control mode (e.g. voltage, power factor, reactive power): _____
- G. Please provide the overall plant reactive power control strategy

9. Load Flow and Dynamic Models:

Only provide data in this section when requested by the Distribution Provider.

The WECC Data Preparation Manual for Power Flow Base Cases and Dynamic Stability Data has established power flow and dynamic modeling requirements for generation projects in WECC base cases. In general, if the aggregate sum of generation on a bus exceeds 10 MVA, it should not be netted. Furthermore, the total netted generation in an area should not exceed five percent of the area's total generation. Based on current WECC modeling requirements, the following information will be required for all generation projects whose net capacity is greater than 10 MVA. The following information may also be required for generation projects less than 10 MVA on a case-by-case basis, based on the amount of generation in the area of the requested Point of Interconnection.

- A. Provide load flow model for the generating plant and its interconnection facilities in GE PSLF *.epc format, including new buses, generators, transformers, interconnection facilities. An equivalent model is required for the plant with generation collector systems. This data should reflect the technical data provided in this Attachment A.
- B. For each generator, governor, exciter, power system stabilizer, WTG, or inverter based generator, select the appropriate dynamic models from the General Electric PSLF Program Manual and provide the required input data. Include any user written *.p EPCL files to simulate inverter based plants' dynamic responses (typically needed for inverter based PV/wind plants). Provide a completed *.dyd file that contains the information specified in this section.

The GE PSLF manual is available upon request from GE. There are links within the GE PSLF User's Manual to detailed descriptions of specific models, a definition of each parameter, a list of the output channels, explanatory notes, and a control system block diagram. In addition, GE PSLF modeling information and various modeling guidelines

PG&E'S RULE 21 EXPORTING GENERATOR INTERCONNECTION REQUEST

documents have been prepared by the WECC Modeling and Validation Work Group. This information is available on the WECC website (www.wecc.biz).

If you require assistance in developing the models, we suggest you contact General Electric. Accurate models are important to obtain accurate study results. Costs associated with any changes in facility requirements that are due to differences between model data provided by the generation developer and the actual generator test data, may be the responsibility of the generation developer.

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EXPORTING GENERATOR INTERCONNECTION REQUEST

TABLE 1

TRANSFORMER DATA
(Provide for each level of transformation)

UNIT 1

NUMBER OF TRANSFORMERS 1 PHASE 3

RATING	H Winding	X Winding	Y Winding
Rated MVA	<u>3.5</u>	<u>3.5</u>	<u>N/A</u>
Connection (Delta, Wye, Gnd.)	<u>WYE-GND</u>	<u>Delta</u>	<u>N/A</u>
Cooling Type (OA,OA/FA, etc.) :	<u>OA</u>	<u>OA</u>	<u>N/A</u>
Temperature Rise Rating	<u>65°C</u>	<u>65°C</u>	<u>N/A</u>
Rated Voltage	<u>12000</u>	<u>480</u>	<u>N/A</u>
BIL	<u>95kV</u>	<u>35kV</u>	<u>N/A</u>
Available Taps (% of rating)	<u>2@ 2.5%BN 2@2.5%AN</u>	<u>N/A</u>	<u>N/A</u>
Load Tap Changer? (Y or N)	<u>N</u>	<u>N/A</u>	<u>N/A</u>
Tap Settings	<u>12000V</u>	<u>N/A</u>	<u>N/A</u>
IMPEDANCE	H-X	H-Y	X-Y
Percent	<u>7%</u>	<u>N/A</u>	<u>N/A</u>
MVA Base	<u>3.5</u>	<u>N/A</u>	<u>N/A</u>
Tested Taps	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
WINDING RESISTANCE	H	X	Y
Ohms	<u>unknown</u>	<u>unknown</u>	<u>N/A</u>

CURRENT TRANSFORMER RATIOS

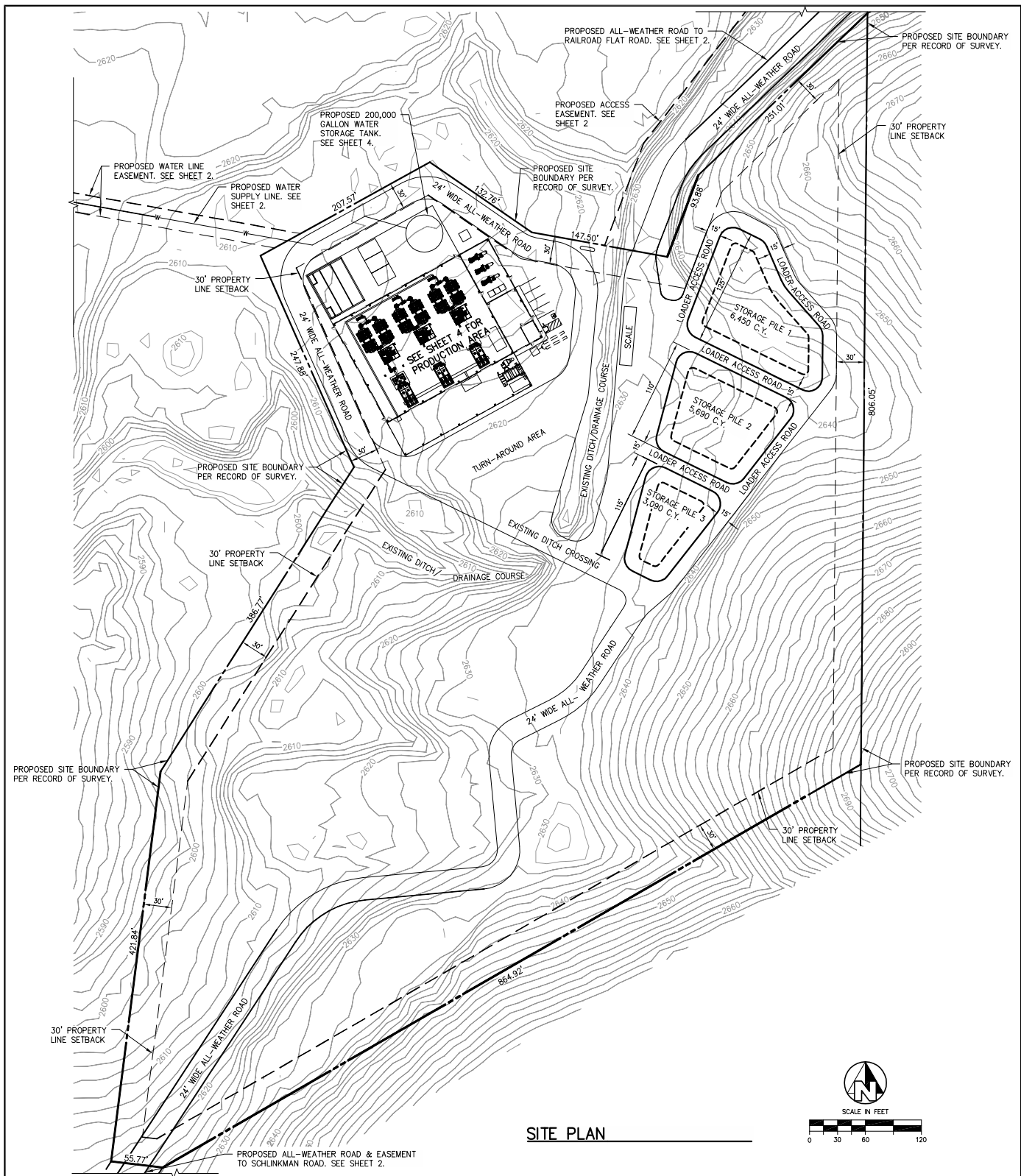
H unknown X unknown Y unknown N unknown

PERCENT EXCITING CURRENT 100 % Voltage; unknown 110% Voltage unknown

Supply copy of nameplate and manufacturer's test report when available.

Appendix 1A

Site Drawings



SITE PLAN

PROVOST & PRITCHARD
An Employee Owned Company
209/809-2300 FAX 209/809-2296
www.ppeng.com

DESIGN ENGINEER:
R. McNEELY

LICENSE NO:
RCE 58337

DRAFTED BY:
JT

CHECKED BY:
RWM

DATE:
5-15-2014

JOB NO:
2272-1301

ORIGINAL SCALE SHOWN IS IN INCHES. ADJUST SCALE FOR REDUCED OR ENLARGED PLANS.

SHEET
3 OF **6**

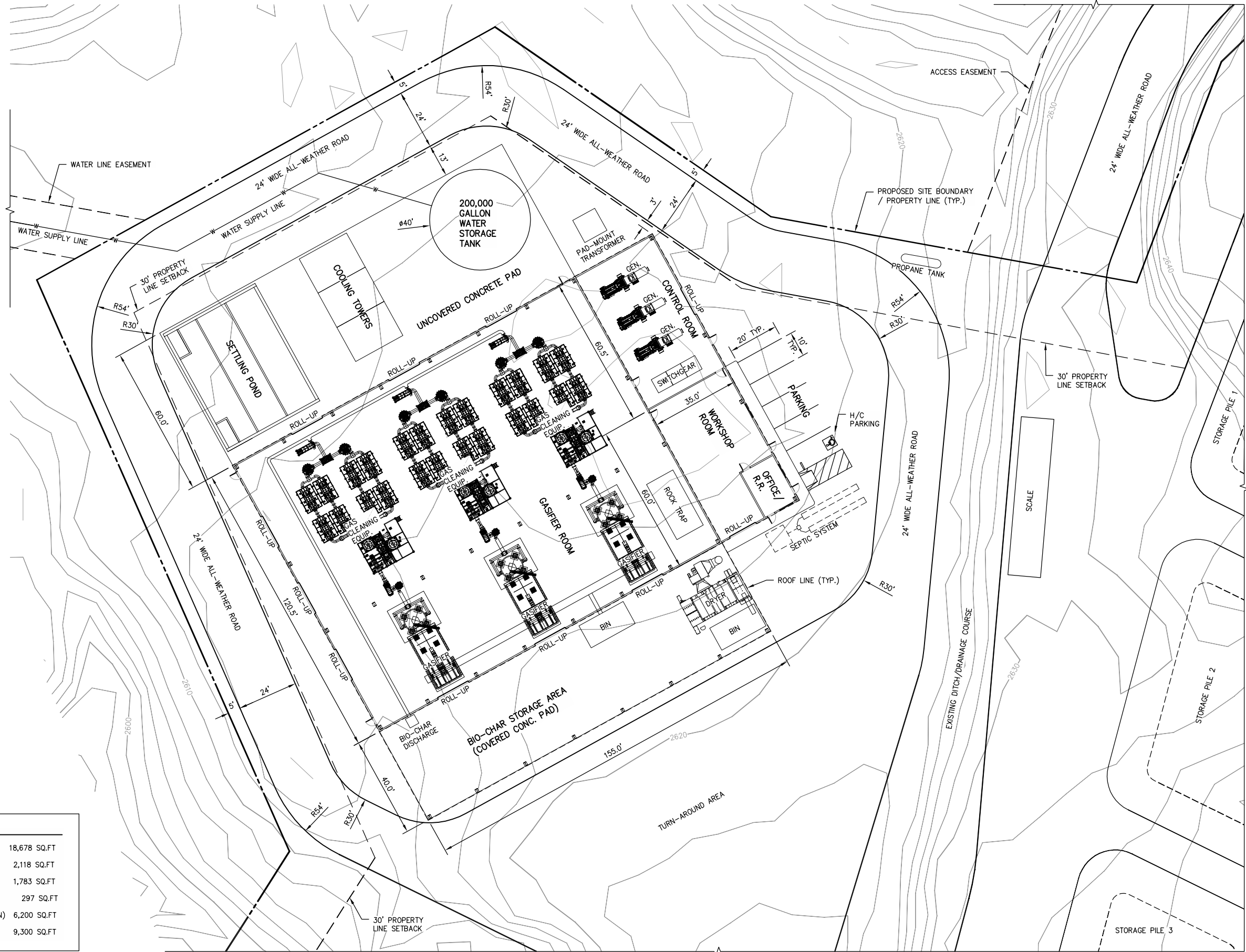
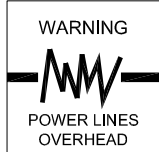
CH.I.P.S. SITE
CALAVERAS HEALTHY IMPACT
PRODUCT SOLUTIONS
CALAVERAS COUNTY, CALIFORNIA
BIOMASS PLANT

SITE PLAN

PRELIMINARY
NOT FOR CONSTRUCTION
7/1/14

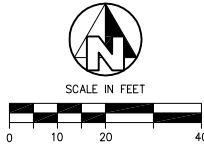
No. _____ BY _____ DATE _____

REVISION _____



SQUARE FOOTAGE	
GASIFIER ROOM (ENCLOSED)	18,678 SQ.FT
CONTROL ROOM (ENCLOSED)	2,118 SQ.FT
WORKSHOP ROOM (ENCLOSED)	1,783 SQ.FT
OFFICE/RESTROOM (ENCLOSED)	297 SQ.FT
DRYER/BIO-CHAR STORAGE (OPEN)	6,200 SQ.FT
CONCRETE PAD (UNCOVERED)	9,300 SQ.FT

PRODUCTION AREA



811

Know what's below.
Call before you dig.

WARNING

POWER LINES
OVERHEAD

SQUARE FOOTAGE	
GASIFIER ROOM (ENCLOSED)	18,678 SQ.FT
CONTROL ROOM (ENCLOSED)	2,118 SQ.FT
WORKSHOP ROOM (ENCLOSED)	1,783 SQ.FT
OFFICE/RESTROOM (ENCLOSED)	297 SQ.FT
DRYER/BIO-CHAR STORAGE (OPEN)	6,200 SQ.FT
CONCRETE PAD (UNCOVERED)	9,300 SQ.FT

PRODUCTION AREA

PROVOST & PRITCHARD

CONSULTING GROUP

An Employee Owned Company

4701 SISK ROAD, SUITE 102

MODESTO, CALIFORNIA 95356

209/809-2300 FAX 209/809-2290

www.ppeng.com

DESIGN ENGINEER:

R. McNEELY

LICENSE NO:

RCE 58337

DRAFTED BY:

JT

CHECKED BY:

RWM

DATE:

5-15-2014

JOB NO:

2272-1301

ORIGINAL SCALE SHOWN IS IN INCHES. ADJUST SCALE FOR REDUCED OR ENLARGED PLANS. SHEET

4

OF

6

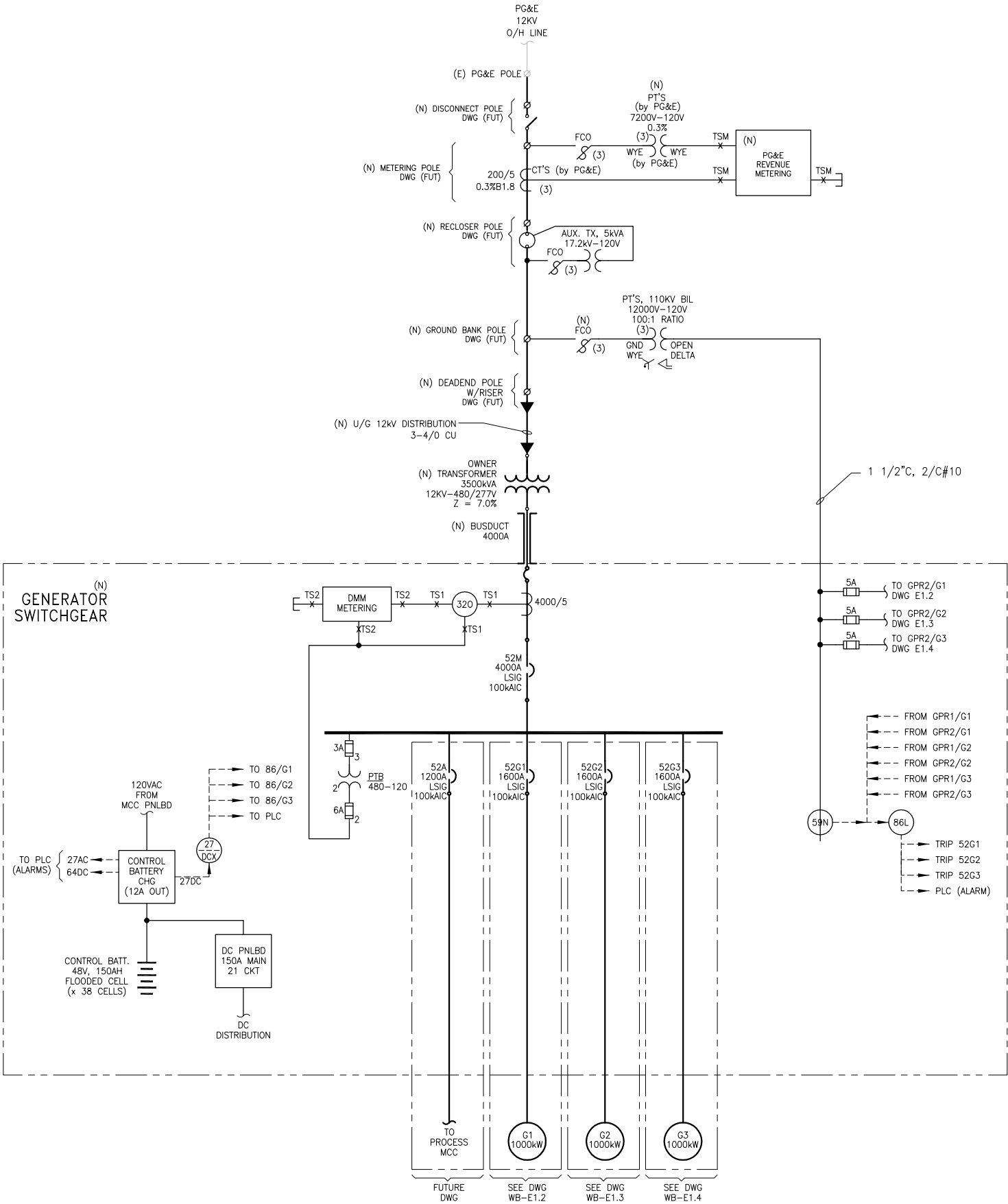
PRELIMINARY
NOT FOR CONSTRUCTION
7/1/14

C.H.I.P.S. SITE
CALAVERAS HEALTHY IMPACT
PRODUCT SOLUTIONS
CALAVERAS COUNTY, CALIFORNIA
BIOMASS PLANT
PRODUCTION AREA

7/1/2014 10:15 PM G:\Clients\TSS Consultants-2772\2772\1301-Missville Biomass PFD\DWG\SHEET14 PRODUCTION AREA.dwg -Jason Toste

Appendix 1B

Single-line diagram



0	10/13	INITIAL ISSUE	WRP		
NO	DATE	REVISION DESCRIPTION	DRAWN	CHKD	APP'VD

DEVICES & ABBREVIATIONS		
DEVICE	DESCRIPTION	TYPE
(E)	EXISTING	
(N)	NEW	
DMM	DIGITAL MULTIFUNCTION METER	BITRONICS
FCO	FUSED CUTOUT	by PG&E, ABB
PT	POTENTIAL TRANSFORMER	by PG&E, GE
LSIG	LONG TIME, SHORT TIME, INST & GROUND TRIPPING FUNCTIONS	ABB, CUTLER-HAMMER
PG&E	PACIFIC GAS & ELECTRIC COMPANY	
27DC	BATT. SYSTEM DC UNDERVOLTAGE DEVICE	ALCAD
27DCX	AUXILIARY RELAY	SQUARE D
27AC	BATT. SYSTEM AC UNDERVOLTAGE DEVICE	ALCAD
320	OVERPOWER RELAY	SEL-351R
64DC	BATT. SYSTEM DC GROUND ALM DEVICE	ALCAD
59N	GROUND FAULT RELAY	GE IAV51D1A
86G	GENERATOR LOCKOUT RELAY	ELECTROSW 7808
86L	LINE LOCKOUT RELAY	ELECTROSW 7808
GPR1	GENERATOR PROTECTION RELAY	BECKWITH 3425
GPR2	GENERATOR PROTECTION RELAY	BECKWITH 3520
52	CIRCUIT BREAKER	
PLC	PROGRAMMABLE LOGIC CONTROLLER	ALLEN BRADLEY L35E

PHOENIX ENERGY
P.O. Box 29166
San Francisco, CA 94129
(415) 285-7822
info@phoenixenergy.net

1-LINE DIAGRAM
OVERVIEW

PROPOSED 3MW
WILSEYVILLE, CA
BIOENERGY PLANT

PRELIMINARY
NOT FOR
CONSTRUCTION

PROJECT #:	12-047
DESIGN:	WRP WRP
DRAWN:	WRP
REVIEW:	GS
DATE:	10/21/13
SCALE:	NONE
DWG NAME:	1-LINE OVERVIEW
SHEET	E1.1



0	10/13	INITIAL ISSUE	WRP		
NO	DATE	REVISION DESCRIPTION	DRAWN	CHKD	APP'D

PHOENIX ENERGY
P.O. Box 29166
San Francisco, CA 94129
(415) 286-7822
info@phoenixenergy.net

1-LINE DIAGRAM GENERATOR No. 1

PROPOSED 3MW
WILSEYVILLE, CA
BIOENERGY PLANT

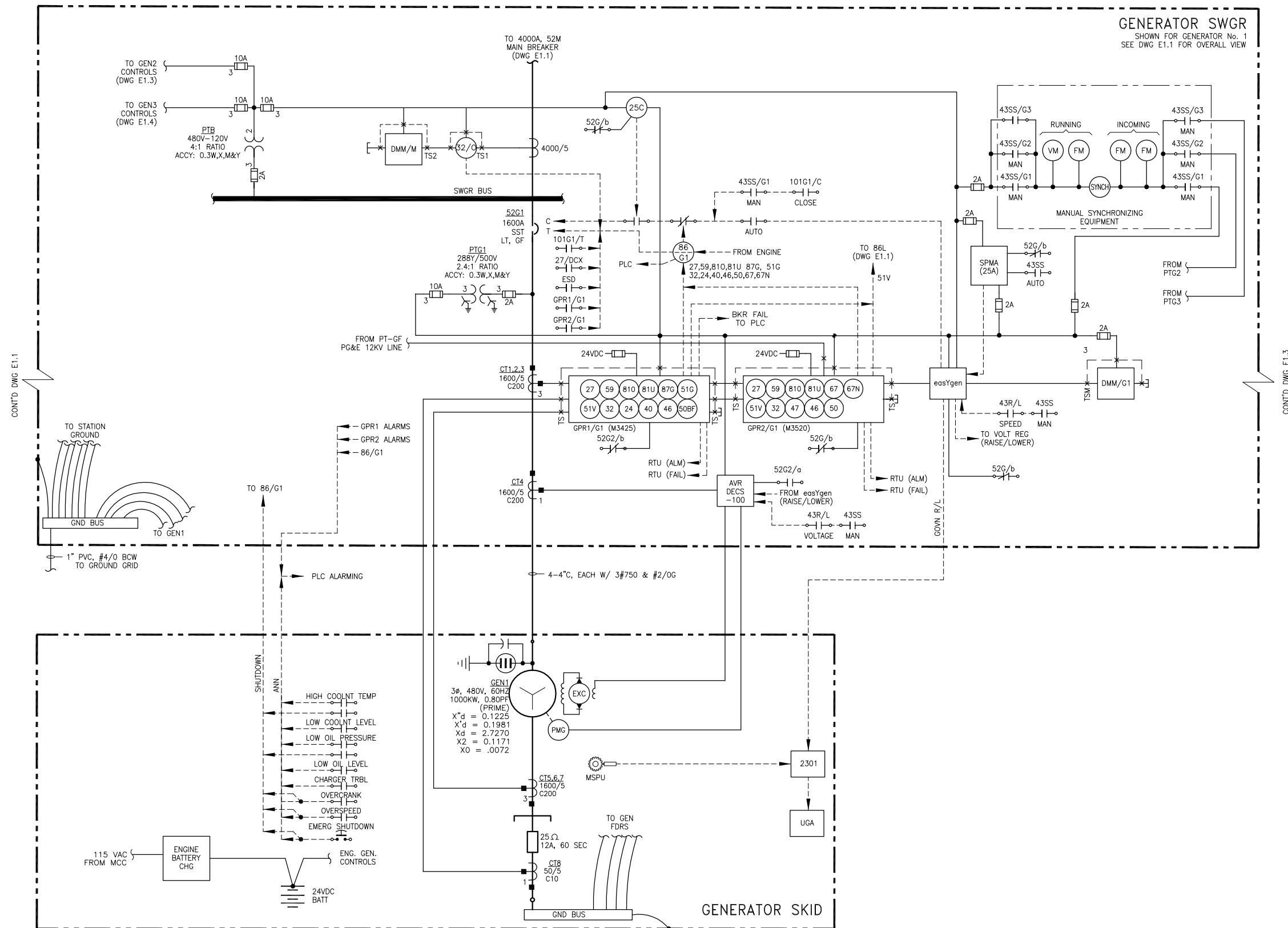
PRELIMINARY
NOT FOR
CONSTRUCTION

PROJECT #:	12-047
DESIGN:	WRP
DRAWN:	WRP
REVIEW:	GS
DATE:	10/21/13
SCALE:	NONE
DWG NAME:	1-LINE GR

SHEET

E1.2

OF 4 SHEETS



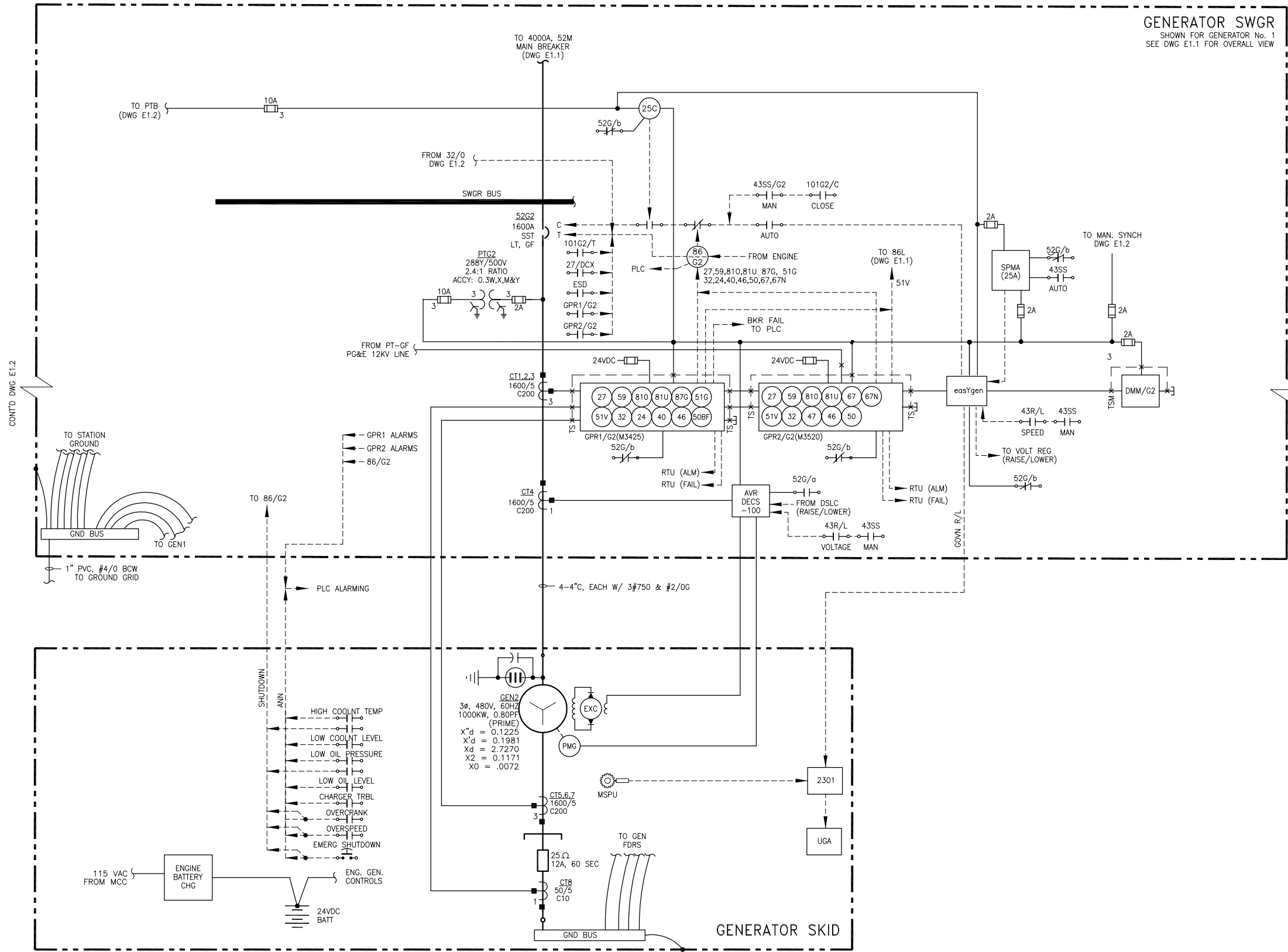
LIST of DEVICES

DEVICE	DESCRIPTION	TYPE
ANN	ANNUNCIATOR	AMETEK
AVR	AUTO VOLTAGE REGULATOR	BE DECS-100
CT#	CURRENT TRANSFORMER (RELAY)	ABB TYPE RLC
GF	GROUND FAULT ADJUSTABLE ELEMENT	
SPMA	AUTOMATIC SYNCHRONIZER	WOODWARD
GPR	GENERATOR PROTECTION RELAY	BW M-3425, M-3520
LT	LONG-TIME OVERCURRENT ELEMENT	
DMM	MULTIFUNCTION DIGITAL METER	BITRONICS
MSPU	MAGNETIC SPEED PICKUP	
PFC	POWER FACTOR CONTROLLER	
PMG	PERMANENT MAGNET GENERATOR	
PT_	POTENTIAL TRANSFORMER	ABB TYPE PPM
SST	SOLID STATE TRIP	
TS	TEST SWITCH	AVO TYPE MTS
UGA	ENGINE FUEL ACTUATOR	WOODWARD
24	GENERATOR VOLTS/HZ TRIP	BW M-3425
25C	SYNCH CHECK RELAY	BASLER BE1-25
27	UNDERVOLTAGE RELAY	BW M-3425, M-3520
32	GENERATOR REVERSE POWER TRIP	BW M-3425, M-3520
40	GENERATOR LOSS OF FIELD TRIP	BW M-3425
67	GENERATOR NEGATIVE SEQUENCE TRIP	BW M-3425, M-3520
67	DIRECTIONAL OVERCURRENT RELAY	BW M-3520
59	OVERVOLTAGE RELAY	BW M-3425
25A	AUTO SYNCHRONIZER, WOODWARD	DSL
25C	SYNCH CHECK RELAY, BASLER BE1-25	BE1-25
27AC	24VDC BATTERY CHG AC LOSS	BATT CHG
32/O	OVER POWER RELAY	BE1-32
43M	MODE SW (OFF-NORMAL-STANDBY)	(ES) MAINTAINED
43OP	OPERATION SW (STOP-><-START)	(ES) SPRING RTN
43SS	SYNCHRONIZING SWITCH (OFF-AUTO-MAN)	(ES) MAINTAINED
27DC	24VDC BATTERY UNDERVOLTAGE	BATT CHG
50	INSTANTANEOUS OVERCURRENT RELAY	BW M-3520
50BF	BREAKER FAILURE TRIP	BW M-3425
51G	GENERATOR GROUND CURRENT TRIP	BW M-3425
51V	VOLT RESTRAINED OVERCURRENT RELAY	BW M-3425, M-3520
52G	GENERATOR BREAKER	
59DC	24VDC BATTERY OVERVOLTAGE	BATT CHG
64DC	24VDC BATTERY GROUNDED	BATT CHG
810	OVER FREQUENCY RELAY	BW M-3425, M-3520
81U	UNDER FREQUENCY RELAY	BW M-3425
86G	GENERATOR LOCKOUT RELAY	(ES)7808D
86L	LINE LOCKOUT RELAY	(ES)7808D
87G	GENERATOR DIFFERENTIAL CURRENT TRIP	BW M-3425
2301	ENGINE SPEED CONTROLLER	WOODWARD

MANUFACTURER'S PREFIX INDEX:

ABB:	ABB
AVO:	BIDDLE
BE:	BASLER ELECTRIC
ES:	ELECTROSWITCH
BW:	BECKWITH ELECTRIC
SC	AMETEK - SCIENTIFIC COLUMBUS
RIS:	ROCHESTER INSTRUMENTS





0	10/13	INITIAL ISSUE	WRP		
NO	DATE	REVISION DESCRIPTION	DRAWN	CHKD	APP'VD

LIST of DEVICES		
DEVICE	DESCRIPTION	TYPE
ANN	ANNUNCIATOR	AMETEK
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CT#	CURRENT TRANSFORMER (RELAY)	ABB TYPE RLC
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SPMA	AUTOMATIC SYNCHRONIZER	WOODWARD
GPR	GENERATOR PROTECTION RELAY	BW M-3425, M-3520
LT	LONG-TIME OVERCURRENT ELEMENT	
DM	MULTIFUNCTION DIGITAL METER	BITRONICS
MSPU	MAGNETIC SPEED PICKUP	
PFC	POWER FACTOR CONTROLLER	
PMG	PERMANENT MAGNET GENERATOR	
PT_	POTENTIAL TRANSFORMER	ABB TYPE PPM
SST	SOLID STATE TRIP	
TS	TEST SWITCH	AVO TYPE MTS
UGA	ENGINE FUEL ACTUATOR	WOODWARD
24	GENERATOR VOLTS/HZ TRIP	BW M-3425
25C	SYNCH CHECK RELAY	BASLER BE1-25
27	UNDERVOLTAGE RELAY	BW M-3425, M-3520
32	GENERATOR REVERSE POWER TRIP	BW M-3425, M-3520
40	GENERATOR LOSS OF FIELD TRIP	BW M-3425
46	GENERATOR NEGATIVE SEQUENCE TRIP	BW M-3425, M-3520
67	DIRECTIONAL OVERCURRENT RELAY	BW M-3520
59	OVERVOLTAGE RELAY	BW M-3425
25A	AUTO SYNCHRONIZER, WOODWARD	DSLC
25C	SYNCH CHECK RELAY, BASLER BE1-25	BE1-25
27AC	24VDC BATTERY CHG AC LOSS	BATT CHG
32/0	OVER POWER RELAY	BE1-32
43M	MODE SW (OFF-NORMAL-STANDBY)	(ES) MAINTAINED
43OP	OPERATION SW (STOP-><-START)	(ES) SPRING RTN
43SS	SYNCHRONIZING SWITCH (OFF-AUTO-MAN)	(ES) MAINTAINED
27DC	24VDC BATTERY UNDERVOLTAGE	BATT CHG
50	INSTANTANEOUS OVERCURRENT RELAY	BW M-3520
50BF	BREAKER FAILURE TRIP	BW M-3425
51G	GENERATOR GROUND CURRENT TRIP	BW M-3425
51V	VOLT RESTRAINED OVERCURRENT RELAY	BW M-3425, M-3520
52G	GENERATOR BREAKER	
59DC	24VDC BATTERY OVERVOLTAGE	BATT CHG
64DC	24VDC BATTERY GROUNDED	BATT CHG
810	OVER FREQUENCY RELAY	BW M-3425, M-3520
81U	UNDER FREQUENCY RELAY	BW M-3425
86G	GENERATOR LOCKOUT RELAY	(ES)7808D
86L	LINE LOCKOUT RELAY	(ES)7808D
87G	GENERATOR DIFFERENTIAL CURRENT TRIP	BW M-3425
2301	ENGINE SPEED CONTROLLER	WOODWARD

MANUFACTURER'S PREFIX INDEX:

ABB: ABB

AVO: BIDDLE

BE: BASLER ELECTRIC

ES: ELECTROSWITCH

BW: BECKWITH ELECTRIC

SC: AMETEK - SCIENTIFIC COLUMBUS

RIS: ROCHESTER INSTRUMENTS



PHOENIX ENERGY
P.O. Box 29166
San Francisco, CA 94129
(415) 286-7822
info@phoenixenergy.net

1-LINE DIAGRAM
GENERATOR No. 2

PROPOSED 3MW
WILSEYVILLE, CA
BIOENERGY PLANT

PRELIMINARY
NOT FOR
CONSTRUCTION

PROJECT #: 12-047

DESIGN: WRP

DRAWN: WRP

REVIEW: GS

DATE: 10/21/13

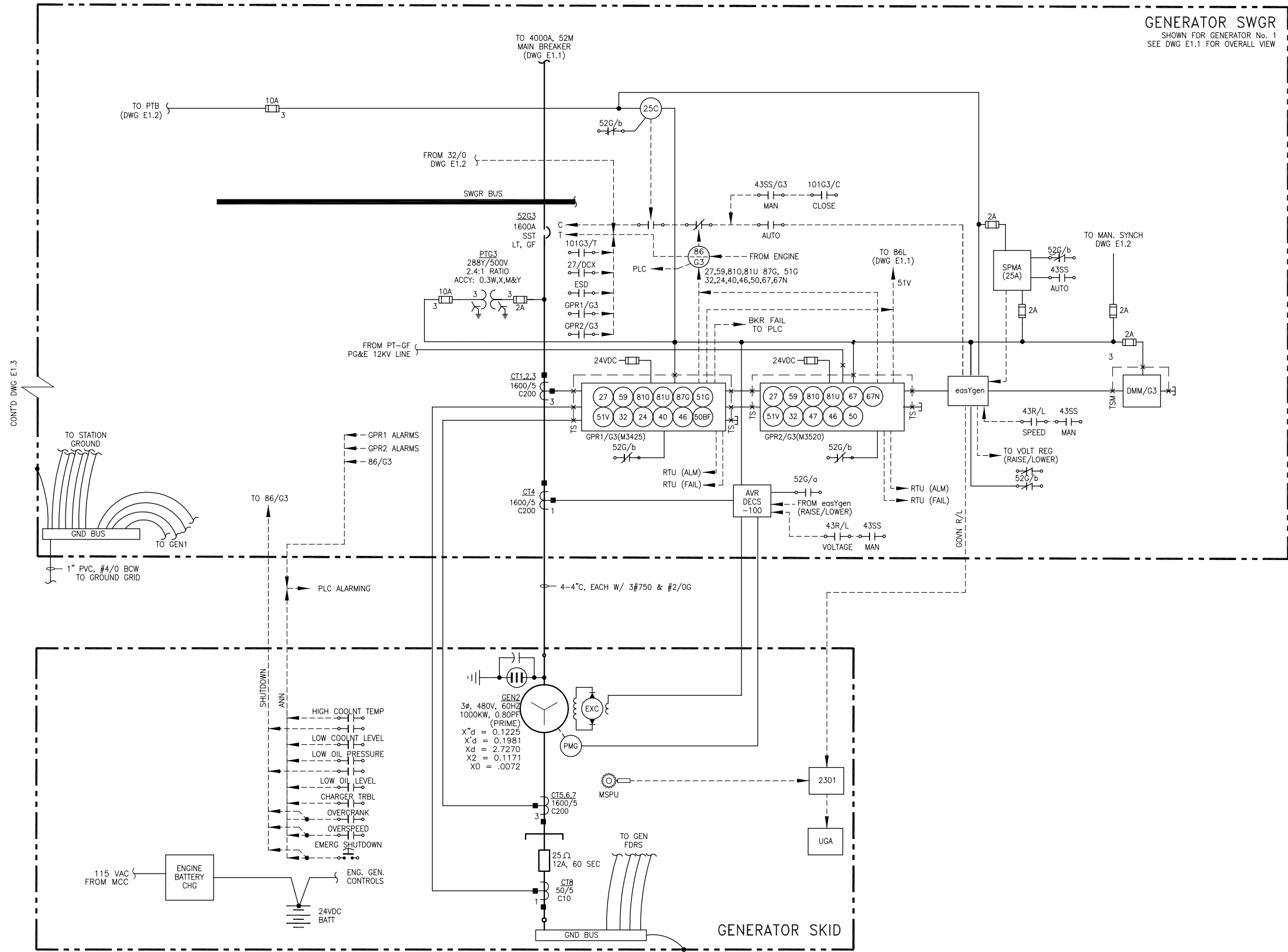
SCALE: NONE

DWG NAME: 1-LINE GEN 2

SHEET

E1.3

OF 4 SHEETS



GENERATOR SWGR

SHOWN FOR GENERATOR No. 1
SEE DWG E1.1 FOR OVERALL VIEW

LIST of DEVICES

DEVICE	DESCRIPTION	TYPE
ANN	ANNUNCIATOR	AMETEK
AVR	AUTO VOLTAGE REGULATOR	BE DECS-100
CT#	CURRENT TRANSFORMER (RELAY)	ABB TYPE RLC
GF	GROUND FAULT ADJUSTABLE ELEMENT	
SPMA	AUTOMATIC SYNCHRONIZER	WOODWARD
GPR	GENERATOR PROTECTION RELAY	BW M-3425, M-3520
LT	LONG-TIME OVERCURRENT ELEMENT	
DMM	MULTIFUNCTION DIGITAL METER	BITRONICS
MSPU	MAGNETIC SPEED PICKUP	
PFC	POWER FACTOR CONTROLLER	
PMG	PERMANENT MAGNET GENERATOR	
PT_	POTENTIAL TRANSFORMER	ABB TYPE PPM
SST	SOLID STATE TRIP	
TS	TEST SWITCH	AVO TYPE MTS
UGA	ENGINE FUEL ACTUATOR	WOODWARD
24	GENERATOR VOLTS/HZ TRIP	BW M-3425
25C	SYNCH CHECK RELAY	BASLER BE1-25
27	UNDERVOLTAGE RELAY	BW M-3425, M-3520
32	GENERATOR REVERSE POWER TRIP	BW M-3425, M-3520
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67	DIRECTIONAL OVERCURRENT RELAY	BW M-3520
59	OVERVOLTAGE RELAY	BW M-3425
25A	AUTO SYNCHRONIZER, WOODWARD	DSLC
25C	SYNCH CHECK RELAY, BASLER BE1-25	BE1-25
27AC	24VDC BATTERY CHG AC LOSS	BATT CHG
32/0	OVER POWER RELAY	BE1-32
43M	MODE SW (OFF-NORMAL-STANDBY)	(ES) MAINTAINED
430P	OPERATION SW (STOP-><-START)	(ES) SPRING RTN
43SS	SYNCHRONIZING SWITCH (OFF-AUTO-MAN)	(ES) MAINTAINED
27DC	24VDC BATTERY UNDERVOLTAGE	BATT CHG
50	INSTANTANEOUS OVERCURRENT RELAY	BW M-3520
50BF	BREAKER FAILURE TRIP	BW M-3425
51G	GENERATOR GROUND CURRENT TRIP	BW M-3425
51V	VOLT RESTRAINED OVERCURRENT RELAY	BW M-3425, M-3520
52G	GENERATOR BREAKER	
59DC	24VDC BATTERY OVERVOLTAGE	BATT CHG
64DC	24VDC BATTERY GROUNDED	BATT CHG
810	OVER FREQUENCY RELAY	BW M-3425, M-3520
81U	UNDER FREQUENCY RELAY	BW M-3425
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86L	LINE LOCKOUT RELAY	(ES)7808D
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MANUFACTURER'S PREFIX INDEX:

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BW: BECKWITH ELECTRIC

SC: AMETEK - SCIENTIFIC COLUMBUS

RIS: ROCHESTER INSTRUMENTS

PHOENIX ENERGY
P.O. Box 29166
San Francisco, CA 94129
(415) 286-7822
info@phoenixenergy.net

1-LINE DIAGRAM
GENERATOR No. 3

PROPOSED 3MW
WILSEYVILLE, CA
BIOENERGY PLANT

PRELIMINARY
NOT FOR
CONSTRUCTION

PROJECT #:
12-047

DESIGN:
WRP

DRAWN:
WRP

REVIEW:
GS

DATE:
10/21/13

SCALE:
NONE

DWG NAME:
1-LINE GEN 3

SHEET

E1.4

OF 4 SHEETS



Appendix 2

Evidence of Site Control

2014 5032



RECORDING REQUESTED BY

Calaveras Title Company

AND WHEN RECORDED MAIL DOCUMENT AND
TAX STATEMENT TO:

NAME Calaveras Healthy
STREET ADDRESS Impact Product Solutions
PO Box 611
CITY, STATE & ZIP CODE 291 Main Street, #A
West Point, CA 95255

CALAVERAS TITLE COMPANY

#95584 PC

TITLE ORDER NO.

ESCROW NO.

SPACE ABOVE THIS LINE FOR RECORDER'S USE ONLY

GRANT DEED

APN: Portion of 012-011-011

\$64.35

The undersigned grantor(s) declare(s)
DOCUMENTARY TRANSFER TAX \$

- ☒ computed on full value of property conveyed, or
☐ computed on full value less liens and encumbrances remaining at time of sale.
☒ Unincorporated Area City of _____

FOR VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, I (We)

Calaveras County Water District a political subdivision of the State of California
hereby remise, release and grant to Calaveras Healthy Impact Product Solutions, a California Corporation

the following described real property in the ~~City of~~ Unincorporated area, County of Calaveras
State of California, with the following legal description:

For legal description see Exhibit A attached hereto

For reservation by Grantor of easement across real property see Exhibit "B" attached
hereto

February 13, 2014

Date

Mitchell S. Dion, General Manager
Calaveras County Water District

STATE OF California

COUNTY OF Calaveras

On February 13, 2014 before me, Ramona L. Walker, Notary Public
(Date) (Name and title of the officer)

personally appeared Mitchell S. Dion, who proved to me on the basis of
(Name of person signing)

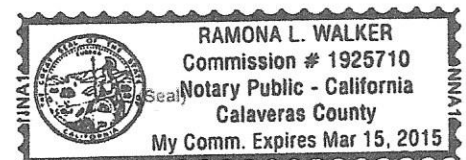
satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that
he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of officer

MAIL TAX STATEMENT AS DIRECTED ABOVE





2014 5032

EXHIBIT "A"

LEGAL DESCRIPTION

All that certain Real Property situated in the County of Calaveras, State of California, being portions of Sections 14 and 15, Township 6 North, Range 13 East, Mount Diablo Meridian described as follows:

This described parcel is that certain Parcel 1, as shown on that certain Record-of-Survey Map, filed for record on:

MAY 23, 2014, 2014, in Book 22, of Records-of-Survey, at Page 153, Calaveras County Official Records.

Russ Lenhart 2-19-14
Russ Lenhart, L.S. 8944 Date

END OF DOCUMENT



Page 1 of 1



2014 5032

EXHIBIT B TO GRANT DEED

For the benefit of Calaveras County Water District, as owner of that certain real property more particularly described in that certain Grant Deed recorded in the Official Records of Calaveras County, California, on November 22, 1993, as Instrument No. 993-018914 (the "Benefited Property"), a non-exclusive easement is reserved in, over, across and under the real property, as referenced in "Exhibit A to Grant Deed - Legal Description," for vehicular access and construction of a road (whether made of asphalt, gravel, aggregate or compacted dirt) to allow for such access (the "Reserved Easement"). The road shall be located in an area determined by the owner of the Benefited Property. The Reserved Easement may be used by the owner of the Benefited Property and its officials, employees, agents and contractors to access the Benefited Property to and from any public road, rights-of-way, or from any other real property then owned by the owner of the Benefited Property. The Reserved Easement shall run with the Benefited Property.

Appendix 3

Supplemental Generator Information



Engineering Department

Applications Section

Generator & AVR Data for modelling

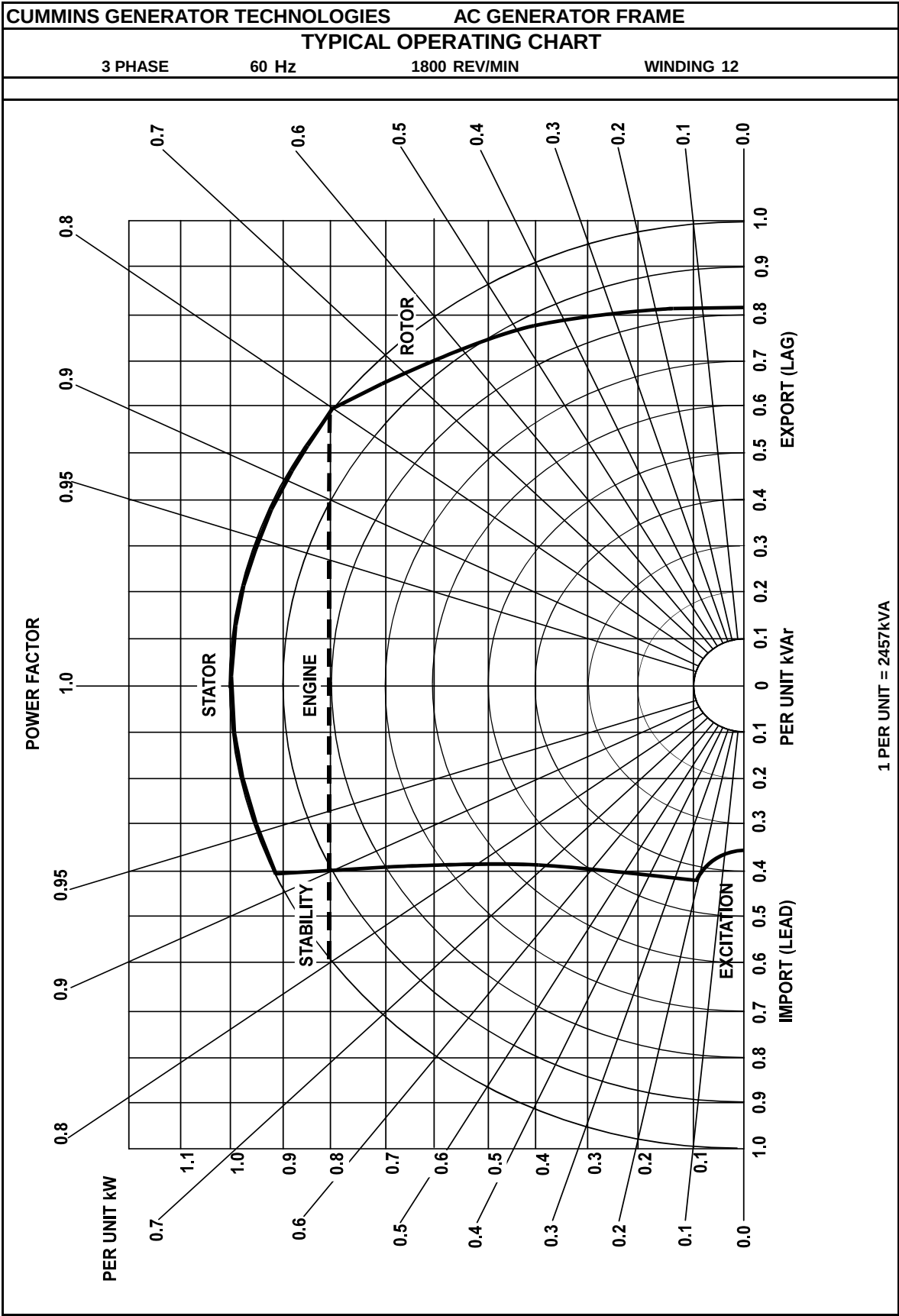
Regulator Forward Gain	(KA)	500	
Feedback Gain	(KF)	0.04 > 0.01	← Stability control setting Adjusts this value.
Input Filter Constant	(TR)	0.01 sec	
Amplifier Time Constant	(TA)	0.1 sec	
Feedback Time Constant	(TF1)	0.7 sec	
Feedback Time Constant	(TF2)	0.05 sec	
Minimum AVR output	(EA2)	0	← Although this is zero in practice it could be made -10 if the computations Require
Maximum AVR output	(EA1)	8	
Maximum rate of change	(DM)	2500	
Exciter Gain	(KE)	1	
Exciter voltage offsets	(KEF)	0	
Exciter voltage offsets	(KV)	0	
Exciter current F/B gain	(KC)	0	
Exciter Time Constant	(TE1)	See Below	← Includes Exciter field & Main field Time Constants
Exciter Time Constant	(TE2)	0	
Exciter Time Constant	(TE3)	0	
Maximum Exciter output	(EC1)	3	
Minimum Exciter output	(EC2)	0	
Exciter Saturation @ 75%	(SE1)	110%	
Exciter Saturation @ 100%	(SE2)	190%	

Exciter Time Constant (TE1)

This varies with size of Generator

Typical values

Frame Size	UC224	UC274	HC4	HC5	HC6	P7	Frame 8
TE secs	0.22	0.31	0.45	0.66	0.84	0.86	0.91



J612 LVSI 804 R 480V 2750KVA

Supplier	Volt.	Freq.	Speed	Grid Code	Jen. engine	P _{mech} (at engine)	P _{mech} (at Generator)	Genset output	Type load at "F"	Alternator Type	Alternator Family
	[V]	[Hz]	[RPM]			[kW/m]	[kW/m]	[kVA]	at "F" [kVA]		
Supplier	Volt.	Freq.	Speed[RPM]	Grid CodeCr	Jenbacher engine	Pmech		Gensetoutp	Type load 3lot "F"	AlternatorType	AlternatorFamily
CGT	480	60	1800	IGC-Extende	J 612	1684	1667	2002	2750	LVSI 804 R	LV 80

Efficiencies	Based on GenSet output				Based on Type load at "F"				Based on GenSet output				Based on Type load at "F"				Based on GenSet output				Based on Type load at "F"			
	Efficiencies pf=0.8 (%)				Efficiencies pf=0.8 (%)				Efficiencies pf=0.9				Efficiencies pf=0.9 (%)				Efficiencies pf=1.0 (%)				Efficiencies pf=1.0 (%)			
	pf=0.8 100% load	pf=0.8 75% load	pf=0.8 50% load	pf=0.8 25% load	pf=0.8 100% load	pf=0.8 75% load	pf=0.8 50% load	pf=0.8 25% load	pf=0.9 100% load	pf=0.9 75% load	pf=0.9 50% load	pf=0.9 25% load	pf=0.9 100% load	pf=0.9 75% load	pf=0.9 50% load	pf=0.9 25% load	pf=1.0 100% load	pf=1.0 75% load	pf=1.0 50% load	pf=1.0 25% load	pf=1.0 100% load	pf=1.0 75% load	pf=1.0 50% load	pf=1.0 25% load
Efficiencies	96.4	96.2	95.4	92.4	95.83	96.1	96	94.4	96.7	96.3	96.1	93.7	96.5	96.7	96.6	95.1	97.3	97.2	96.6	94.5	97.2	97.3	97.2	95.74

Reactances	Main machine data based on Genset output																				
	Reactances unsaturated [p.u.]									Reactances saturated [p.u.]											
	X _d unsat. [p.u.]	X _d ' unsat. [p.u.]	X _d '' unsat. [p.u.]	X _d '' unsat. [p.u.] = X _{qu}	X _d ''' unsat. [p.u.]	X _d ''' unsat. [p.u.]	X ₂ unsat. [p.u.]	X ₀ unsat. [p.u.]	X _{lu} unsat. [p.u.]	X _{rlu} unsat. [p.u.]	X _d sat. [p.u.]	X _d ' sat. [p.u.]	X _d '' sat. [p.u.]	X _d '' sat. [p.u.] = X _{qs}	X _d ''' sat. [p.u.]	X _d ''' sat. [p.u.]	X ₂ sat. [p.u.]	X ₀ sat. [p.u.]	X _{ls} sat. [p.u.]	S _G 1.0 sat. [p.u.]	S _G 1.2 sat. [p.u.]
Reactances	Xdunsat[p.u.]	Xqunsat[p.u.]	Xd'unsat[p.u.]	Xq'unsat[p.u.]	Xd''unsat[p.u.]	Xq''unsat[p.u.]	X2unsat[p.u.]	X0unsat[p.u.]	Xlu unsat. [p.u.]	Xrlu unsat. [p.u.]	Xdsat[p.u.]	Xqdsat[p.u.]	Xd'sat[p.u.]	Xd''sat[p.u.]	Xd'''sat[p.u.]	Xq'sat[p.u.]	X2sat[p.u.]	X0sat[p.u.]			
	2.394	1.301	0.191	1.301	0.142	0.287	0.191	0.009	0.094	0.145	1.915	1.301	0.152	1.301	0.113	0.261	0.162	0.024	0.094	0.117	0.472

Based on Type load at "F"						Resistances in p.u.			
Reactances									
Xd unsat [p.u.]	Xd sat. [p.u.]	Xd' sat. [p.u.]	Xd'' sat. [p.u.]	X2 sat. [p.u.]	X0 sat. [p.u.]	Ra (R3)	R2	R0	Rf
3.2885	2.6308	0.2099	0.1558	0.2228	0.033	0.0083	0.0162	0.0334	0.0015

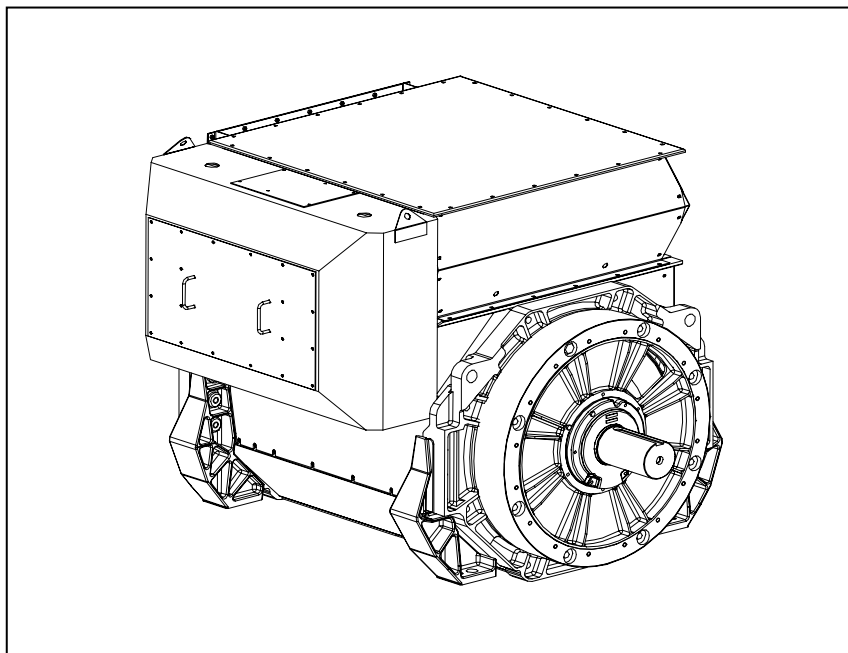
Time constants	Time constants					Exciter machine/ excitation data											
	T _d "	T _d	T _{d0} '	T _d '	T _q "	p.u.					p.u.	p.u.	p.u.	p.u.	p.u.		p.u.
	[sec.]	[sec.]	[sec.]	[sec.]	[sec.]	le nom	Te	Ke	Kd	Kc	SEIE1)	E1	SEIE2)	E2	VFEMAX	VRMIN	VRMAX
	Td"[sec.]	Td[sec.]	Td0'[sec.]	Td'[sec.]													
	0.015	0.068	3.946	0.184	0.012	2.10	0.243	1.00	0.12	0.10	0.97	5.87	0.08	4.40	13.31	0.00	13.57

204-234 V

Other data	Other data			
	Inertia J [kgm²]	H _{uik} [kWs/kVA]	Weight approx. [kg]	I type [A]
Other data	InertiaJ[kgm²]		Weightapprox. [kg]	
	74.8	0.46	5193	3308

14

LV 804 R WDG 12 - Technical Data Sheet



FRAME LV 804 R

SPECIFICATIONS & OPTIONS

STAMFORD | AvK

STANDARDS

Cummins Generator Technologies industrial generators meet the requirements of BS EN 60034 and the relevant sections of other national and international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC60034, CSA C22.2-100, AS1359.

Other standards and certifications can be considered on request.

DESCRIPTION

The STAMFORD PI range of synchronous ac generators are brushless with a rotating field. They are separately excited by the STAMFORD Permanent Magnet Generator (PMG). This is a shaft mounted, high frequency, pilot exciter which provides a constant supply of clean power via the Automatic Voltage Regulator (AVR) to the main exciter. The main exciter output is fed to the main rotor, through a full wave bridge rectifier, protected by surge suppression.

VOLTAGE REGULATORS

The P range generators complete with a PMG are available with an analogue AVR as standard. The AVR has soft start voltage build up and built in protection against sustained over-excitation, which will de-excite the generator after a minimum of 8 seconds. Underspeed protection (UFRO) is also provided on both AVRs. The UFRO will reduce the generator output voltage proportional to the speed of the generator below a pre-settable level.

The **MA330 AVR** is full wave rectified, 3 phase rms sensed with a voltage regulation of 0.5% rms (see the note on regulation). The UFRO circuit has adjustable slope and dwell for controlled recovery from step loads. An over voltage protection circuit will shutdown the output device of the AVR, it can also trip an optional excitation circuit breaker if required. As an option, short circuit current limiting is available with the addition of current transformers.

The MA330 AVR needs a generator mounted current transformer to provide quadrature droop characteristics for load sharing during parallel operation. Provision is also made for the connection of the STAMFORD power factor controller, for embedded applications, and a remote voltage trimmer.

WINDINGS & ELECTRICAL PERFORMANCE

All generator stators are wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches. A fully connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low levels of voltage waveform distortion.

TERMINALS & TERMINAL BOX

Standard generators feature a main stator with 6 ends brought out to the terminals, which are mounted on the frame at the non-drive end of the generator. A sheet steel terminal box contains the AVR and provides ample space for the customers' wiring and gland arrangements. It has removable panels for easy access.

SHAFT & KEYS

All generator rotors are dynamically balanced to better than BS6861:Part 1 Grade 2.5 for minimum vibration in operation. Two bearing generators are balanced with a half key.

INSULATION/IMPREGNATION

The insulation system is class 'H'. All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

QUALITY ASSURANCE

Generators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

NOTE ON REGULATION

The stated voltage regulation may not be maintained in the presence of certain radio transmitted signals. Any change in performance will fall within the limits of Criteria 'B' of EN 61000-6-2:2001. At no time will the steady-state voltage regulation exceed 2%.

NB Continuous development of our products entitles us to change specification details without notice, therefore they must not be regarded as binding.

Front cover drawing is typical of the product range.

FRAME LV 804 R

WINDING 12

STAMFORD | **AvK**

RATINGS	REFER TO SALES AND SERVICE BRIEFING
MAXIMUM ALTITUDE	1000 METRES ABOVE SEA LEVEL
MAXIMUM AMBIENT TEMPERATURE	40° C

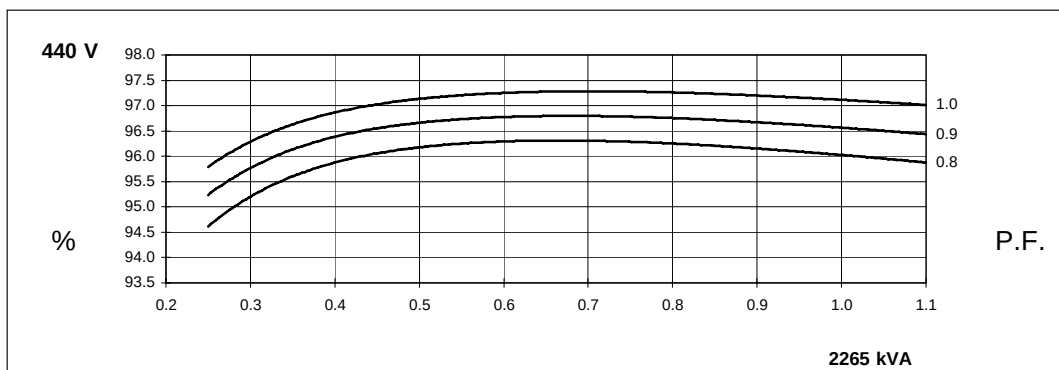
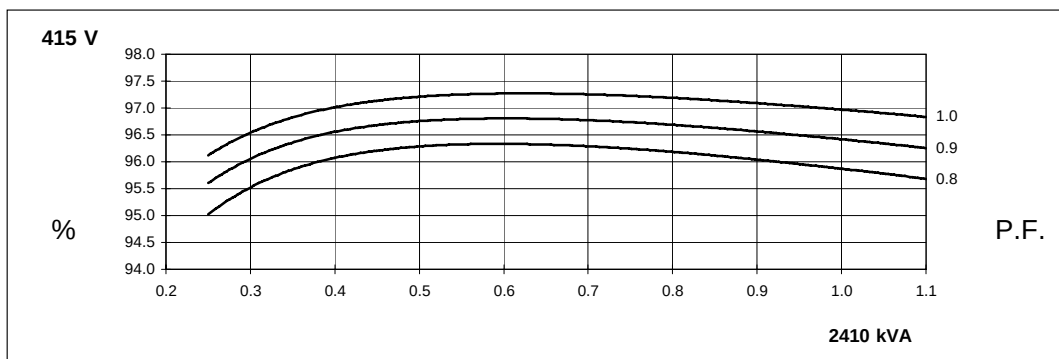
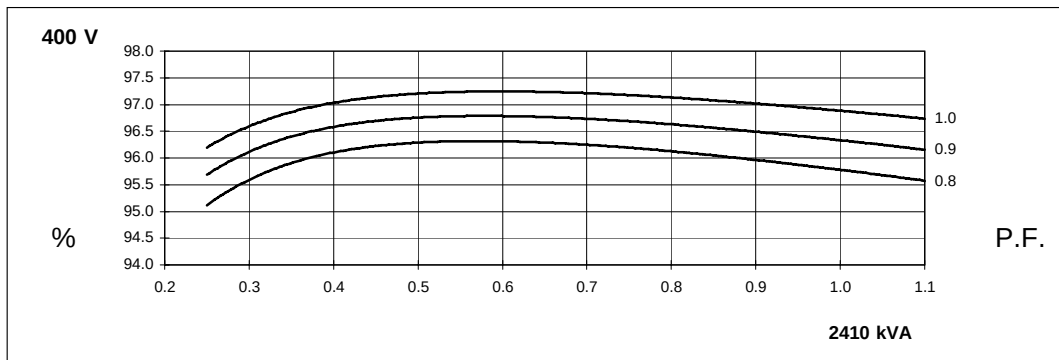
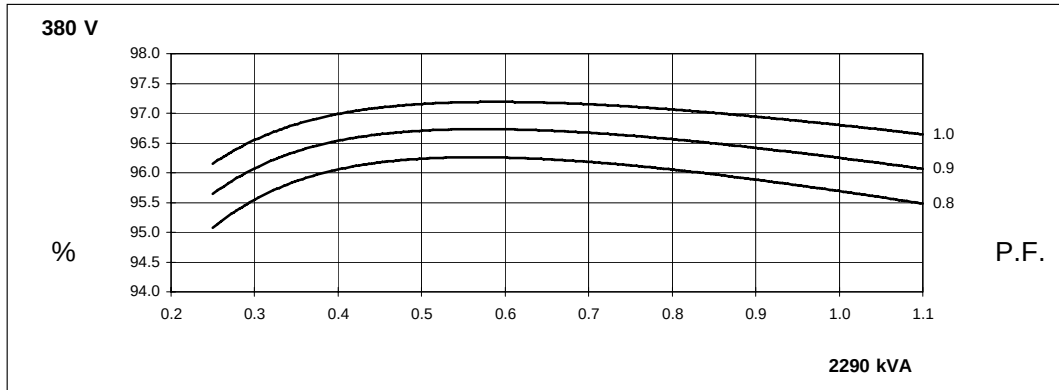
CONTROL SYSTEM SERIES 3	SEPARATELY EXCITED BY P.M.G.
A.V.R.	FULL WAVE RECTIFIED
VOLTAGE REGULATION	± 0.5% WITH 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES OF THIS SECTION

INSULATION SYSTEM	CLASS H
PROTECTION	IP23 STANDARD
RATED POWER FACTOR	0.8
STATOR WINDING	DOUBLE LAYER LAP
WINDING PITCH	2/3
WINDING LEADS	6
R.F.I. SUPPRESSION	BS EN 50081/2-1/2 VDE 0875G VDE 0875N For other standards apply to the factory
WAVEFORM DISTORTION	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 3.0%
MAXIMUM OVERSPEED	2250 Rev/Min
BEARING DRIVE END	ISO 6232 C3
BEARING NON DRIVE END	ISO 6324 C3
EFFICIENCY	REFER TO EFFICIENCY CURVES OF THIS SECTION

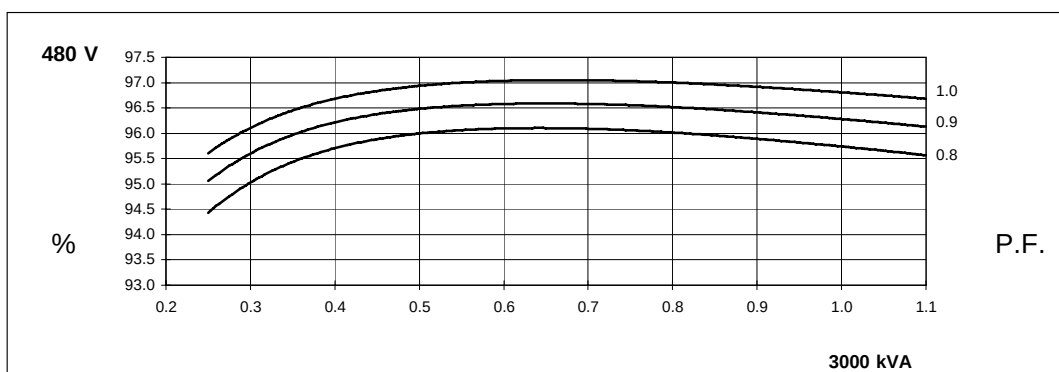
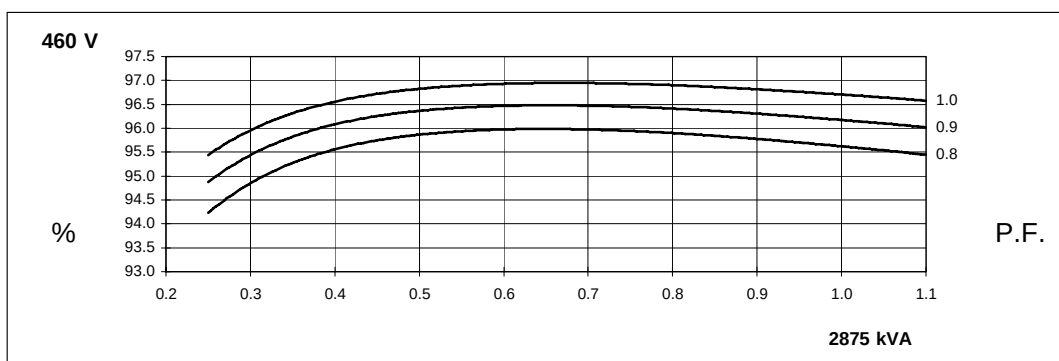
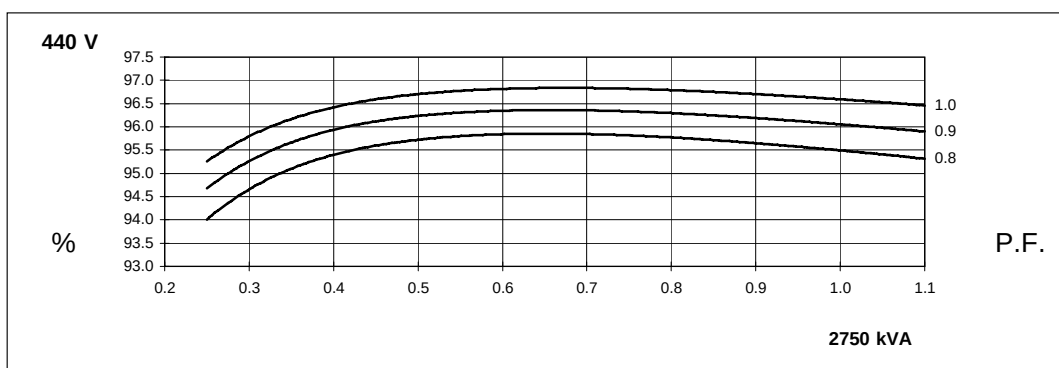
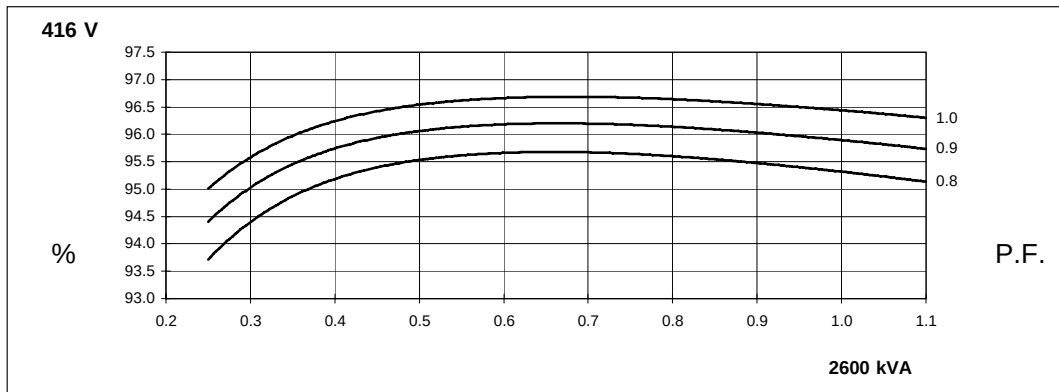
FREQUENCY	50Hz				60Hz			
TELEPHONE INTERFERENCE	THF< 2%				TIF<50			
COOLING AIR	3.2 m³/sec				3.7 m³/sec			
VOLTAGE STAR (Y)	380	400	415	440	416	440	460	480
KVA BASE RATING FOR REACTANCE VALUES	2290	2410	2410	2265	2600	2750	2875	3000
Xd DIRECT AXIS SYNCHRONOUS	2.95	2.80	2.60	2.17	3.35	3.16	3.03	2.90
X'd DIRECT AXIS TRANSIENT	0.232	0.221	0.205	0.171	0.264	0.249	0.239	0.229
X''d DIRECT AXIS SUB-TRANSIENT	0.172	0.164	0.152	0.127	0.196	0.186	0.177	0.170
Xq QUADRATURE AXIS REACTANCE	1.98	1.88	1.75	1.46	2.25	2.13	2.03	1.95
X''q QUAD. AXIS SUB-TRANSIENT	0.318	0.302	0.281	0.235	0.361	0.341	0.327	0.313
X _L LEAKAGE REACTANCE	0.109	0.104	0.097	0.081	0.125	0.118	0.113	0.108
X ₂ NEGATIVE PHASE SEQUENCE	0.246	0.234	0.217	0.182	0.280	0.265	0.254	0.243
X ₀ ZERO PHASE SEQUENCE	0.037	0.035	0.033	0.027	0.042	0.039	0.038	0.036
REACTANCES ARE SATURATED	VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED TO IEC60034 TOLERANCES							
T'd TRANSIENT TIME CONSTANT	0.184							
T''d SUB-TRANSIENT TIME CONSTANT	0.015							
T'do O.C. FIELD TIME CONSTANT	3.950							
Ta ARMATURE TIME CONSTANT	0.068							
SHORT CIRCUIT RATIO	1/Xd							
STATOR WINDING RESISTANCE (L-N)	0.000666							
ROTOR WINDING RESISTANCE	1.320							
EXCITER STATOR FIELD RESISTANCE	17.50							
EXCITER ROTOR RESISTANCE (L-L)	0.076							
PMG STATOR RESISTANCE (L-L)	3.800							
RESISTANCE VALUES ARE IN OHMS AT 20° C								
NO LOAD EXCITATION VOLTAGE	15.0							
FULL LOAD EXCITAION VOLTAGE	63.0							

Continuous development of our products entitles us to change specification details without notice, therefore they must not be regarded as binding.

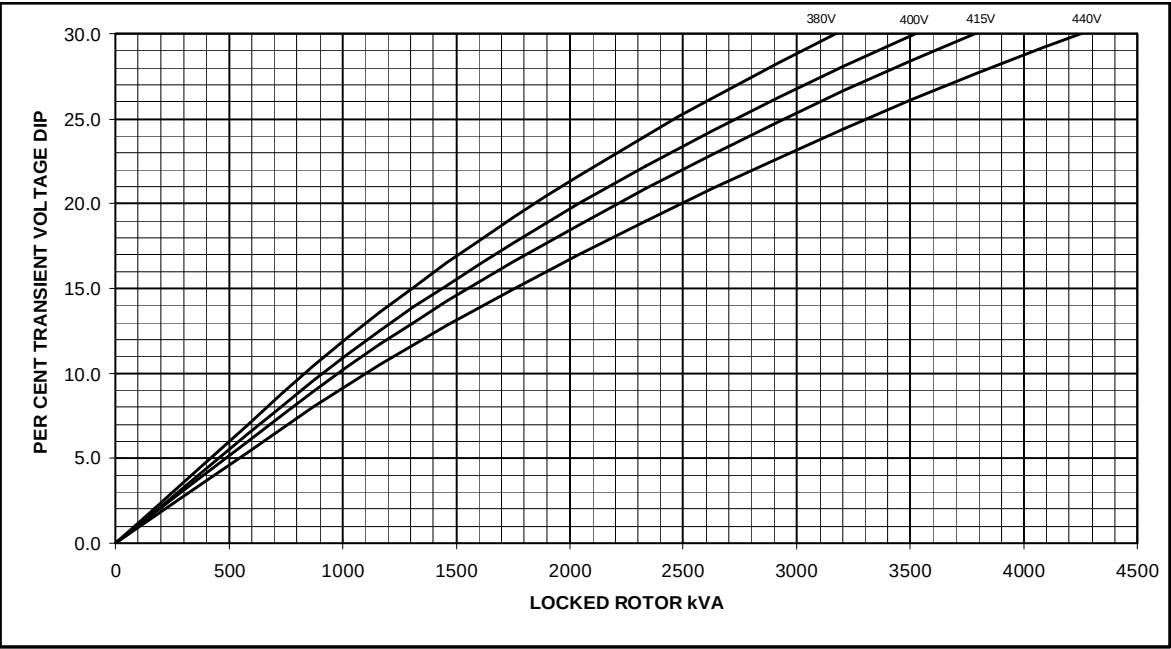
THREE PHASE EFFICIENCY CURVES



THREE PHASE EFFICIENCY CURVES



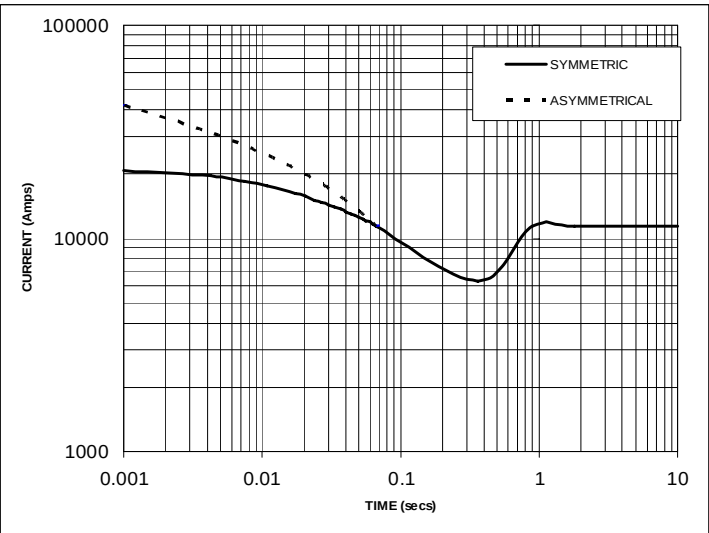
FULL WAVE RECTIFIED AVR
LOCKED ROTOR MOTOR STARTING CURVE



FRAME LV 804 R WDG 12 50Hz

Three Phase Short Circuit Decrement Curve
No- Load Excitation at Rated Speed

Based on series star (wye) connection



NOTE 1
THE FOLLOWING MULTIPLICATION FACTORS SHOULD BE USED TO ADJUST THE VALUES FROM CURVES BETWEEN THE 0.001 SECONDS AND THE MINIMUM CURRENT POINT IN RESPECT OF NOMINAL OPERATING VOLTAGE

VOLTAGE	FACTOR
380V	X 0.95
400V	X 1.00
415V	X 1.04
440V	X 1.10

THE SUSTAINED CURRENT VALUE IS CONSTANT IRRESPECTIVE OF VOLTAGE LEVEL

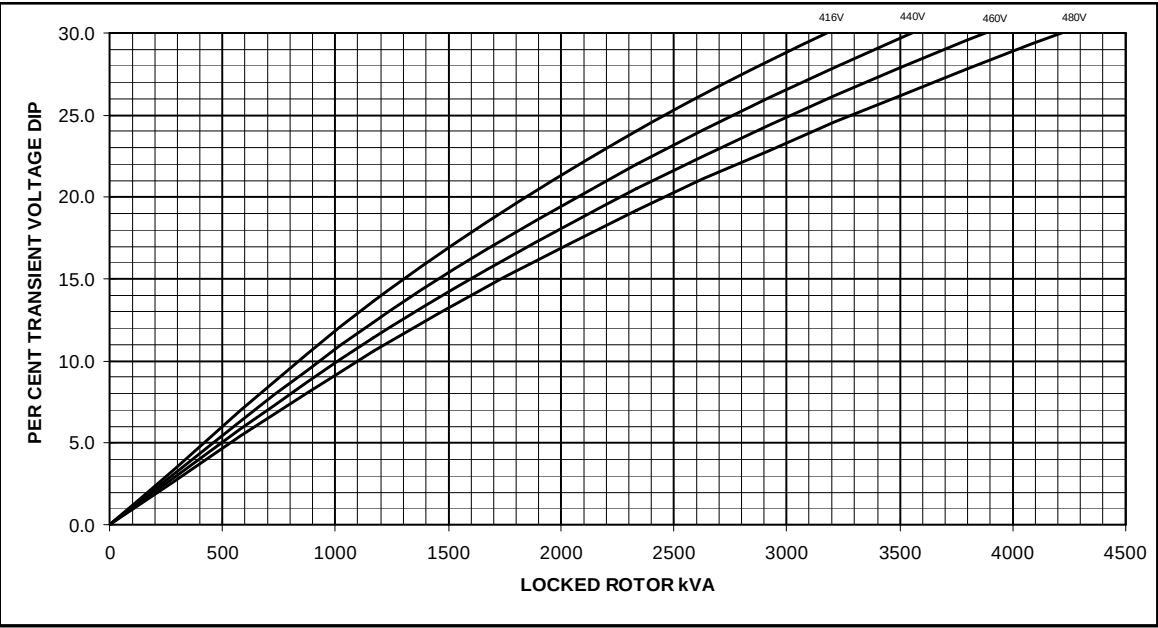
NOTE 2
THE FOLLOWING MULTIPLICATION FACTORS SHOULD BE USED TO CONVERT THE VALUES CALCULATED IN ACCORDANCE WITH NOTE 1 TO THOSE APPLICABLE TO THE VARIOUS TYPES OF SHORT CIRCUIT

	3 PHASE	2 PHASE L-L	1 PHASE L-N
INSTANTANEOUS	X 1.0	X 0.87	X 1.30
MINIMUM	X 1.0	X 1.80	X 3.20
SUSTAINED	X 1.0	X 1.50	X 2.50
MAX SUSTAINED DURATION	10 SEC	5 SEC	2 SEC

ALL OTHER TIMES ARE UNCHANGED

SUSTAINED SHORT CIRCUIT = 11479 Amps

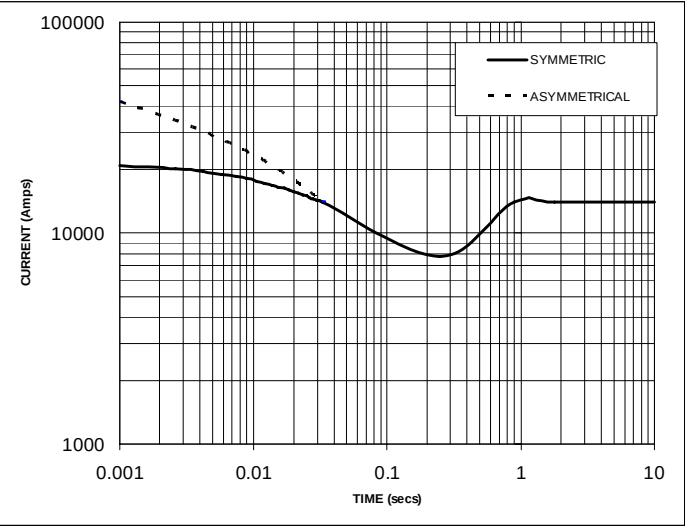
FULL WAVE RECTIFIED AVR
LOCKED ROTOR MOTOR STARTING CURVE



FRAME LV 804 R WDG 12 60Hz

Three Phase Short Circuit Decrement Curve
No- Load Excitation at Rated Speed

Based on series star (wye) connection



NOTE 1
THE FOLLOWING MULTIPLICATION FACTORS SHOULD BE USED TO ADJUST THE VALUES FROM CURVES BETWEEN THE 0.001 SECONDS AND THE MINIMUM CURRENT POINT IN RESPECT OF NOMINAL OPERATING VOLTAGE

VOLTAGE	FACTOR
416V	X 0.87
440V	X 0.92
460V	X 0.96
480V	X 1.00

THE SUSTAINED CURRENT VALUE IS CONSTANT IRRESPECTIVE OF VOLTAGE LEVEL

NOTE 2
THE FOLLOWING MULTIPLICATION FACTORS SHOULD BE USED TO CONVERT THE VALUES CALCULATED IN ACCORDANCE WITH NOTE 1 TO THOSE APPLICABLE TO THE VARIOUS TYPES OF SHORT CIRCUIT

	3 PHASE	2 PHASE L-L	1 PHASE L-N
INSTANTANEOUS	X 1.0	X 0.87	X 1.30
MINIMUM	X 1.0	X 1.80	X 3.20
SUSTAINED	X 1.0	X 1.50	X 2.50
MAX SUSTAINED DURATION	10 SEC	5 SEC	2 SEC

ALL OTHER TIMES ARE UNCHANGED

SUSTAINED SHORT CIRCUIT = 14073 Amps

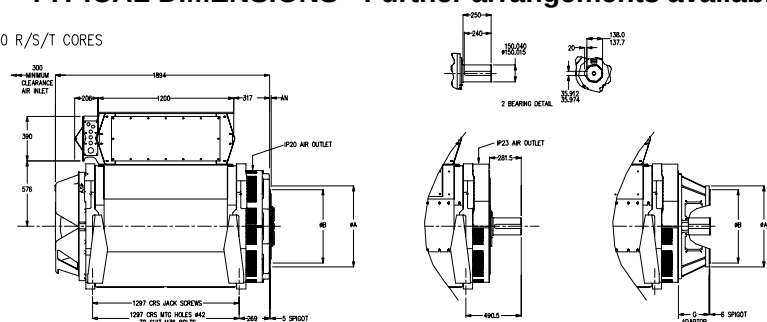
STAMFORD | AvK

Class - Temp Rise		Cont. F - 105/40°C				Cont. H - 125/40°C				Standby - 150/40°C				Standby - 163/27°C			
50Hz	Star (V)	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	kVA	2100	2210	2210	2075	2290	2410	2410	2265	2445	2575	2575	2420	2515	2650	2650	2490
	kW	1680	1768	1768	1660	1832	1928	1928	1812	1956	2060	2060	1936	2012	2120	2120	1992
	Efficiency (%)	95.8	95.9	96.0	96.1	95.7	95.8	95.9	96.0	95.5	95.6	95.7	95.9	95.5	95.6	95.7	95.9
	kW Input	1754	1844	1843	1728	1914	2013	2011	1887	2047	2154	2152	2019	2107	2218	2215	2077

60Hz	Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	kVA	2385	2520	2635	2750	2600	2750	2875	3000	2780	2940	3067	3200	2860	3025	3163	3300
	kW	1908	2016	2108	2200	2080	2200	2300	2400	2224	2352	2454	2560	2288	2420	2530	2640
	Efficiency (%)	95.4	95.6	95.7	95.8	95.3	95.5	95.6	95.7	95.2	95.4	95.5	95.6	95.1	95.3	95.5	95.6
	kW Input	2000	2109	2203	2296	2182	2304	2405	2507	2336	2466	2569	2677	2405	2539	2651	2762

TYPICAL DIMENSIONS - Further arrangements available - please refer to factory

P80 R/S/T CORES

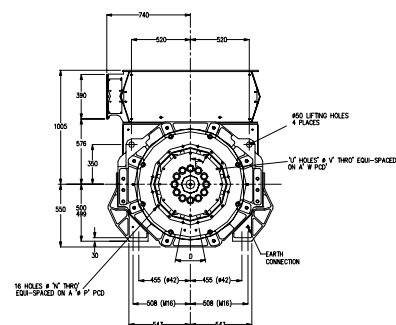


P80 R/S/T CORES 1-BRG ADAPTORS					
SAE	A	B	N	P	D
SAE 0	711	647.7	14	679.5	22.5°
SAE 00	883	787.4	14	851.0	22.5°

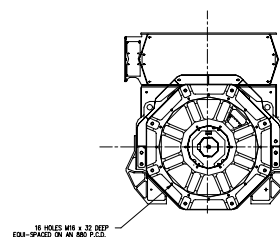
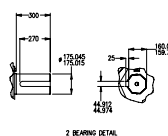
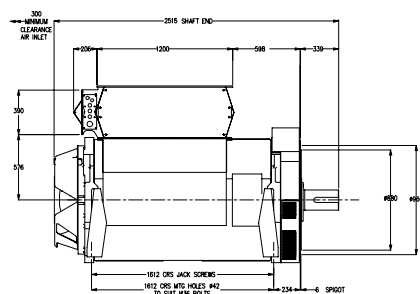
P80 R/S/T/W/X CORES 1-BRG COUPLING DISC						
SAE	AN	C	U	V	W	E
18	15.9	571.4	12	16.7	543.0	30"
21	0	673.0	12	16.7	641.3	30"
24	0	773.7	12	20.7	692.0	30"

P80 R/S/T/W/X CORES 2-BRG ADAPTORS		
	SAE	G
P80 R/S/T	0	271.5
P80 R/S/T	00	271.5
P80 W/X	0	271.5
P80 W/X	00	329.0

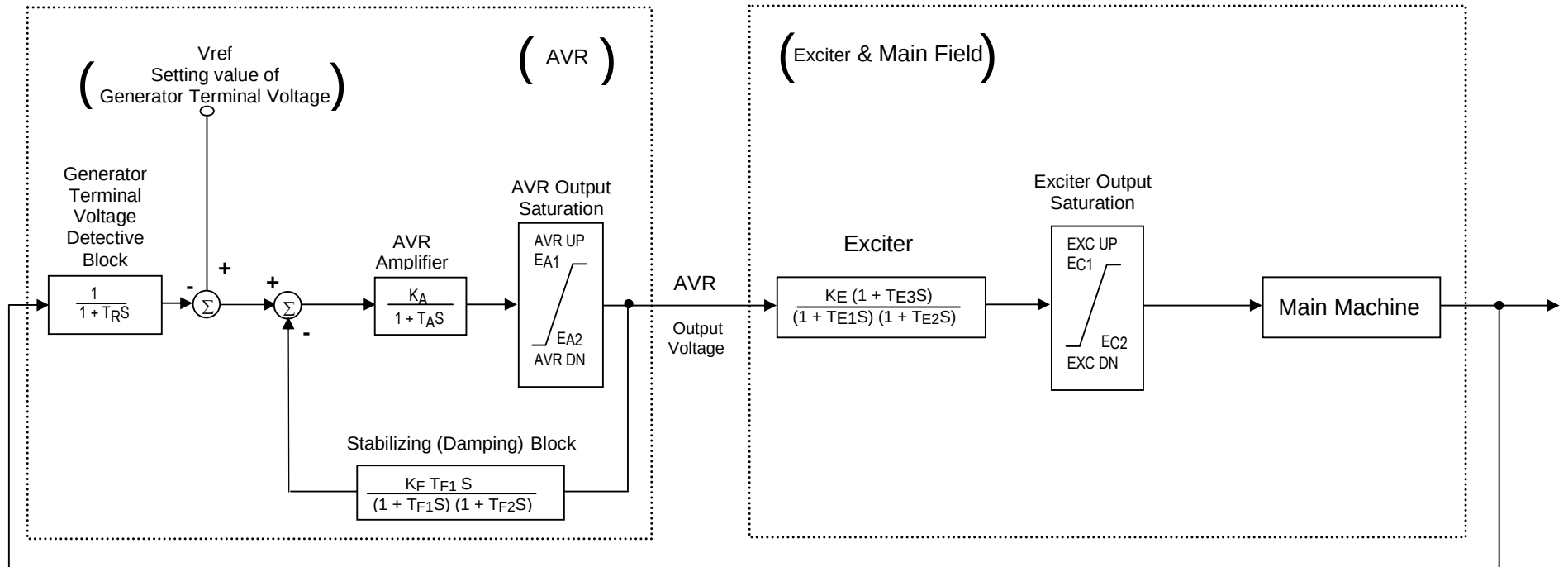
P80 R/S/T/W/X CORES 2-BRG ADAPTORS					
SAE	A	B	N	P	D
SAE 0	711	647.7	14	679.5	22.5
SAE 00	883	787.4	14	851.0	22.5



P80 W/X CORES

**STAMFORD | AvK**

Barnack Road • Stamford • Lincolnshire • PE9 2NB
Tel: 00 44 (0)1780 484000 • Fax: 00 44 (0)1780 484100



AVR / Exciter System block diagram

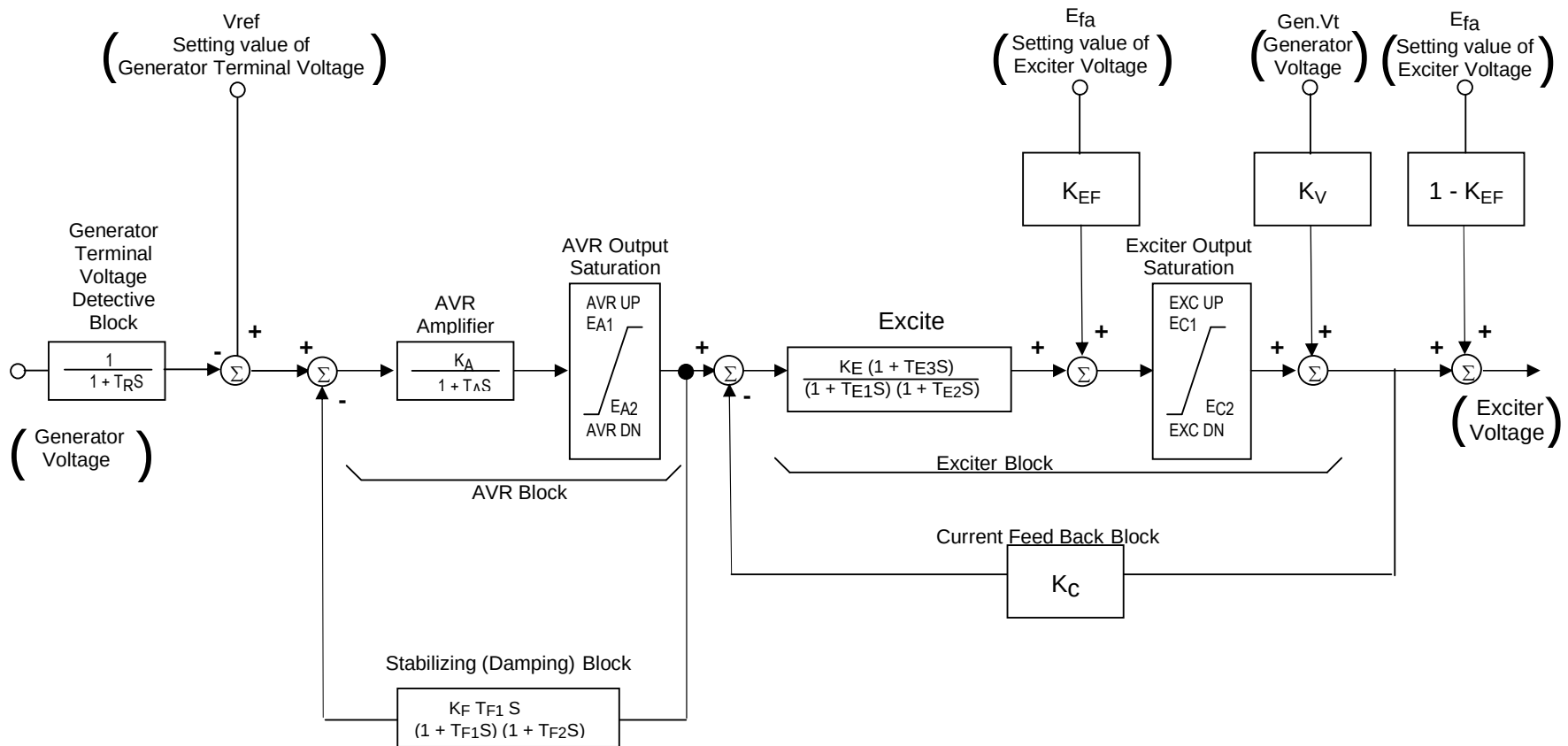


Figure 2. Modified to IEEE2 Exciter (Stamford AVR's)

Appendix J. CEC Precertification of Individual Facilities Application (CEC-RPS-1)



-All information on this form and on any attachments is subject to public disclosure-

For Energy Commission use ONLY:

Electronic copy received: _____	Analyst Review: _____
Analyst Review: _____	Supplemental Review: _____
RPS Program Lead: _____	LORS Analysis: _____
Office Manager: _____	Other: _____

Section I: Type of Certification Requested

1. Certification Type: Precertification Previously Assigned RPS ID, if any: _____

Section II: Facility Name and Location

2. Name of Facility: Wilseyville Community Power
Specify any additional names this facility is or has been known by:
a) _____
b) _____

3. Facility Location:
GPS Coordinates (e.g. 38° 34'28.47"N 121° 29'51.88"W) _____
Address: 13 Blizzard Mine Road
City: Wilseyville County: Calaveras
State/Province: CA Zip: 95257 Country: USA

Section III: Facility Operations

4. Provide the total nameplate capacity of the facility (in megawatts, AC): 3

5. Specify commercial operations date: 12/31/2015 Date renewable fuel first used, if different: _____

6. Facility operations: New Facility
For repowered and incremental:
▶ Specify date repowering/work began _____ ▶ Specify date repowering/work completed: _____
▶ For repowering, select method used to demonstrate compliance with the 80 percent investment threshold:
☐ Tax Records Methodology ☐ Replacement Value Methodology

Section IV: Facility Resource Information

7. Indicate all energy source(s) used by the facility.

Primary Resource: _____ Biomass

Secondary Resource: _____

Additional Resource: _____

8. For facilities using multiple resources, please indicate which of the measurement methodologies described in the *RPS Eligibility Guidebook* will be used to account for **each** energy input or fuel's contribution to electricity generation:

Non-combustion, thermal technologies, option 2 _____ *Actual plant efficiency:* _____



Section V: Application Contact Information

9. Application Information

Name of Applicant: Gregory Stangl

Title: President

Company Name: Phoenix Energy

Address: P.O. Box 29166

City: San Francisco

State: CA

Zip: 94129

Country: USA

Phone: 415-286-7822

Fax:

Email:

10. Additional Authorized Persons

Person completing the form if different from the applicant:

Phone:

Email:

List all additional persons authorized to make changes to this application:

Name: Matt Cook

Phone: 484-364-1188

Email: cook@phoenixenergy.net

Name: Matt Hart

Phone: 650-796-6288

Email: mhart@tssconsultants.com

Name:

Phone:

Email:

Section VI: Facility Ownership and Contact Information

11. Facility Owner

Name of Owner: Calaveras Healthy Impact Products Solutions

Owner Address: 291 Main St. # A

City: West Point

State: CA

Zip: 95255

Country: USA

Phone: 209-293-2333

Fax:

Email:

State or province in which facility owner/company is incorporated: California

12. Facility Contact Information

Onsite Facility Contact Name: - In Development -

Phone:

Fax:

Email:

Can mail be delivered to the facility address?



Yes



No*

*If not, specify the facility mailing address:

Address: 291 Main St. # A

City: West Point

State: CA

Zip: 95255

Country: Calaveras

Section VII: Facility Identification Numbers

13. For a facility applying for **certification**, provide information for each WREGIS Generating Unit (GU) associated with the facility

WREGIS GU ID	Unit Capacity (MW AC)	Type of Generating Unit	Multi-fuel GU ID

WREGIS GU ID	Unit Capacity (MW AC)	Type of Generating Unit	Multi-fuel GU ID

14. Other identification numbers, if available:

EIA Plant ID: _____

CEC Plant ID (a.k.a. CEC 1304, EAO QFER): _____

FERC QF ID: _____

CERTIFICATION OR PRE-CERTIFICATION OF INDIVIDUAL FACILITIES

CEC-RPS-1 (Revised 04/13)

**Section VIII: Facility Interconnection**

15. Specify the balancing authority area for the facility's first point of interconnection to the WECC:

- ☐ California Balancing Authority: CA ISO Resource ID, if any: _____
- ☐ Other: _____ Resource ID, if any: _____

Section IX: Other Facility Information:

16. Has the facility, currently or previously, participated in a net surplus generation program created pursuant to AB 920 for both the net surplus generation and the Renewable Energy Credits or are there any plans for the facility to participate in such a net surplus generation program in the future?

- ☐ No ☐ Yes ► Program start date: _____ ► Program termination date, if any: _____

17. Was the facility developed and awarded a power purchase contract under a 2002-2003 Interim RPS Procurement solicitation approved by the CPUC under Decision 02-08-071 and Decision 02-10-062?

- ☐ No ☐ Yes ► If yes, attach supporting documentation.

Section X: Information for Limited Certification Applicants18. The contract or ownership agreement for electricity from the facility was executed prior to June 1, 2010, and the facility met the eligibility requirements in the *RPS Eligibility Guidebook* effective when the contract or agreement was executed, but does not meet the current eligibility requirements.

- ☐ Yes, complete the following table ☐ No

Utility Counterparty	Execution Date of Original Contract	Contracted Deliveries (MWh/year)	Date of First Delivery	Contractual Date of Final Delivery

19. For applicable utilities, was the contract approved by the CPUC?

- ☐ Yes, provide the information requested below. ☐ No
- Advice letter number: _____ • Advice letter filing date: _____
- CPUC resolution number: _____ • CPUC resolution date: _____

20. Was the contract amended or modified after June 1, 2010?

- ☐ No ☐ Yes, attach a description of the amendments or modifications to the contract.

Section XI: General Information

The California Energy Commission reserves the right to request additional information to confirm or clarify information provided in this form, including any attachments. If a representative of a facility does not respond to the Energy Commission's request for additional information in a timely manner, the facility risks losing its certification status as specified in the Energy Commission's *Renewables Portfolio Standard Eligibility Guidebook*.

The Energy Commission may conduct an audit to verify the accuracy of any information included as part of an application for RPS certification. As part of an audit, an applicant may be required to provide the Energy Commission with any and all information and records necessary to verify the accuracy of any information included in an applicant's application(s) or reports. An applicant may also be required to open its business records for on-site inspection and audit by the Energy Commission or its authorized agents for purposes of verifying the accuracy of any information included in the applicant's applications and reports.

Representatives of certified facilities must notify the Energy Commission promptly of any changes in information previously submitted to the Energy Commission. Failure to do so may result in revocation of certification status. Any changes affecting the facility's certification status must be reported on an amended CEC-RPS-1 form. If there are any changes to the status of a facility's certification, the new information will be posted on the Energy Commission's website.

CERTIFICATION OR PRE-CERTIFICATION OF INDIVIDUAL FACILITIES

CEC-RPS-1 (Revised 04/13)

**Section XII: Attestation**

This attestation must be signed by an authorized officer or agent of the electrical generation facility owner, who 1) has the authority to submit this form and any supplemental forms and attachments included herewith on said facility owner's behalf, 2) can attest to the accuracy of the information provided in this form and any supplemental forms and attachments included herewith, and 3) has read and understands the requirements specified in the *Renewables Portfolio Standard Eligibility Guidebook*. Failure to supply an original of the properly signed attestation will prevent the Energy Commission staff from reviewing the application and may result in the denial of the application. Similarly, submission of an application with both the certification and the precertification attestation signed will also prevent Energy Commission staff from reviewing the application and may result in denial of the application.

Certification Attestation

I am an authorized officer or agent of the above-noted facility owner with authority to submit this application on said facility owner's behalf, and hereby submit this application and any supplemental forms and attachments included herewith on behalf of said facility owner for certification of the facility as an eligible renewable energy resource for California's RPS. I have read the above information as well as the California Energy Commission's *Renewables Portfolio Standard Eligibility Guidebook*, and understand the provisions, eligibility criteria, and requirements of that guidebook and my responsibilities under the guidebook. I acknowledge that any RPS certification approval from the Energy Commission is conditioned on the above noted facility owner's acceptance and ongoing satisfaction of all program requirements as set forth in the *Renewables Portfolio Standard Eligibility Guidebook*. I further acknowledge that the Energy Commission may revise the *Renewables Portfolio Standard Eligibility Guidebook* in the future, and that it is my responsibility to remain informed of any changes that could affect the certification of the above noted electrical generation facility. I declare under penalty of perjury that the information provided in this form and any supplemental forms and attachments included herewith is true and correct to the best of my knowledge and that I am authorized to submit this form and any supplemental forms and attachments included herewith on behalf of the above noted electrical generation facility owner.

Name of Facility: _____

Authorized Officer/Agent: _____

Officer Title: _____ Company: _____

Signature: _____ Date Signed: _____

Precertification Attestation

I am an authorized officer or agent of the above-noted facility owner with authority to submit this application on said facility owner's behalf, and hereby submit this application and any supplemental forms and attachments included herewith on behalf of said facility owner for precertification of the facility as an eligible renewable energy resource for California's RPS. I have read the above information as well as the California Energy Commission's *Renewables Portfolio Standard Eligibility Guidebook*, and understand the provisions, eligibility criteria, and requirements of that guidebook and my responsibilities under the guidebook. I acknowledge that any RPS precertification approval from the Energy Commission is conditioned on the above noted facility owner's acceptance and ongoing satisfaction of all program requirements as set forth in the *Renewables Portfolio Standard Eligibility Guidebook*, and does not guarantee the facility will be eligible for certification once it becomes operational. I further

acknowledge that the Energy Commission may revise the *Renewables Portfolio Standard Eligibility Guidebook* in the future, and that it is my responsibility to remain informed of any changes that could affect the precertification, or future certification, of the above noted electrical generation facility. I declare under penalty of perjury that the information provided in this form and any supplemental forms and attachments included herewith is true and correct to the best of my knowledge and that I am authorized to submit this form and any supplemental forms and attachments included herewith on the behalf of the above noted electrical generation facility owner.

Name of Facility: Wilseyville Community Power

Authorized Officer/Agent: Greg Stangl

Officer Title: _____ Company: Phoenix Energy

Signature: _____ Date Signed: _____