

Wilseyville Woody Biomass Product Yard Concept

**By the Calaveras Healthy Impact Products Solutions, Inc. (CHIPS) with the
Amador – Calaveras Cooperative Association for Biomass Utilization (ACCABU)**

Project Location

California's Sierra Nevada stretches from the Susan River in the north to Tehachapi Pass in the south. It is bounded on the west by California's Central Valley and on the east by the Great Basin and Range Province. The Sierra is a section of the Cascade-Sierra Mountains, which in turn is part of the larger Pacific Mountain System. West-to-east, the Sierra Nevada's elevation increases gradually from the California Central Valley to the crest, while the east slope forms the steep Sierra Escarpment. The range is drained on its north-west slopes by the Sacramento River and to the west-southwest by the San Joaquin River, two major Central Valley watercourses that ultimately discharge to the Pacific Ocean through the San Francisco Bay Delta. These two major rivers are further fed by the major rivers of the Sierra Nevada—the Feather, Yuba, American, Consumnes, Mokelumne, Stanislaus, Tuolumne and Merced.

The Wilseyville Woody Biomass Product Yard site is located in Calaveras County in the upper Mokelumne River Watershed. The Product Yard is to serve as an economic development infrastructure utilizing woody biomass (e.g. timber limbs and tops, brush, small trees, etc.) that is sustainably harvested in the counties of Calaveras and Amador, which share the upper Mokelumne River watershed. The area is bounded on the west by the Great Central Valley and rises from a few hundred feet eastward to over 10,000 ft. at the top of the Sierra Nevada Mountains. It is on line slightly north of due east of the San Francisco Bay Area. Amador and Calaveras counties are each within a 1 to 2 hour drive from the metropolitan areas of Sacramento and/or Stockton. The upper Mokelumne River Watershed is the water source for over 1.3 million people in the urban San Francisco (east) Bay Area about 125 miles west of Wilseyville.

Project investment in the Biomass Utilization Product Yard is centered near the Calaveras County "Blue Mountain" communities of West Point, Railroad Flats, Glencoe, and Wilseyville. These are all "wildland-urban interface (WUI)" communities in the northeast portion of Calaveras County. To the north across the Mokelumne River in nearby Amador are more WUI communities including Pioneer, Pine Grove and Volcano. These communities generally border on or are surrounded by public lands in high-severity fire zones under Federal jurisdiction (i.e. USFS, BLM, NRCS, etc.). The Yard site is centrally located for harvesting woody biomass from portions of the federal Stanislaus and the Eldorado National Forests and BLM lands as well as private lands. The Calaveras County Planning Department has provided a determination that current site zoning is appropriate for and consistent with the proposed Yard ownership and uses.

Local residents live and work mostly below the 4,000-foot level and in general are distributed around and among small Wildland-Urban- Interface (WUI) communities with sparse populations. Calaveras County had an unemployment rate in June 2012 that was 4.9% higher than the national average, 13.1% as compared to 8.2% nationally. After Yard operations start, the project expects to produce, in the 12- to 24-month near-term planning horizon, up to 50 local jobs in small diverse biomass added value businesses (e.g. biomass harvesting, power and heat generation, small sawmill, drying kilns, firewood, soil amendments, greenhouses, etc.).

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Map of the Project's General Operating Area in the Central Sierra Nevada
(This operating area is the same as the ACCG All Lands planning area.)

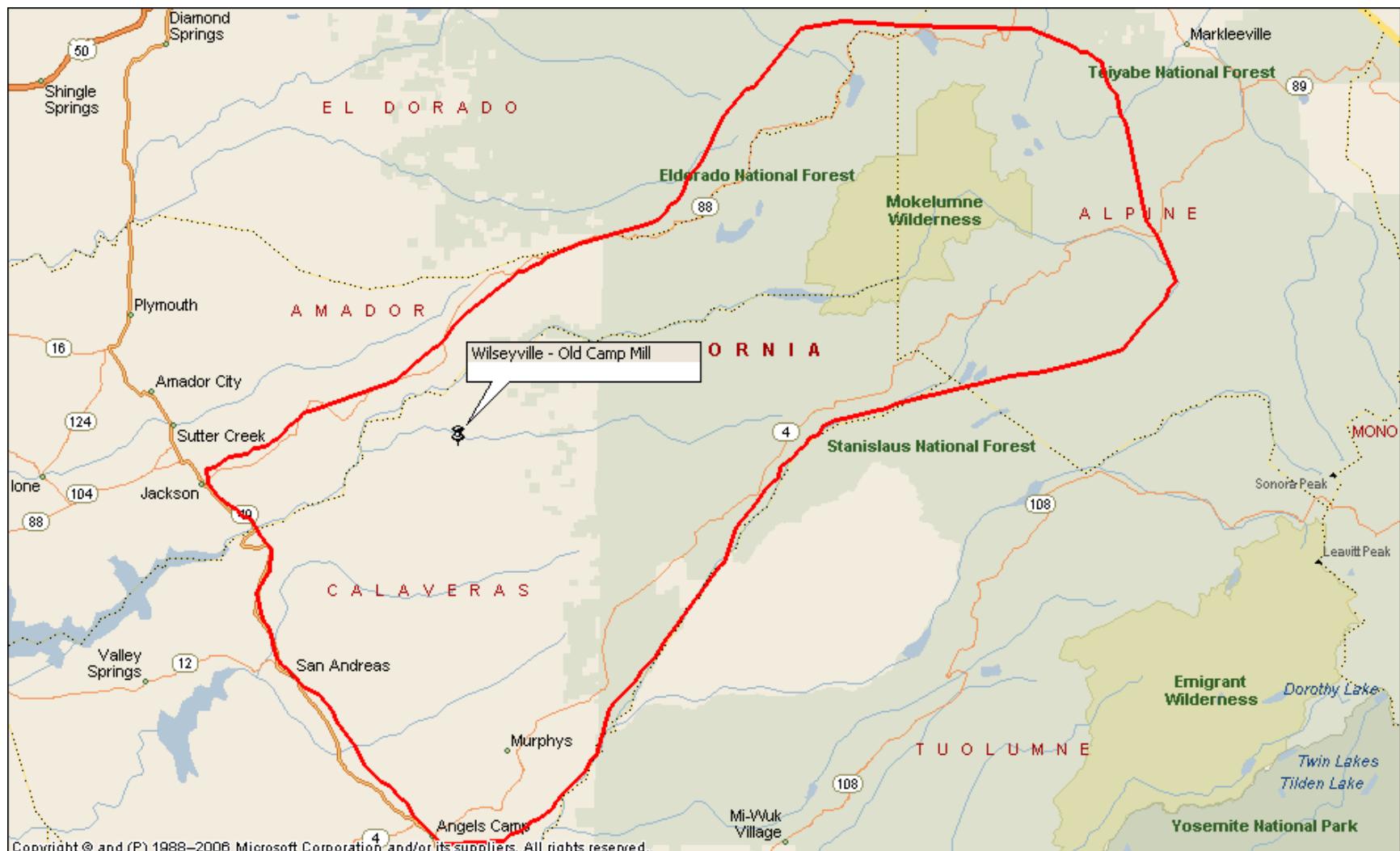


Image from Biomass Feasibility Study courtesy of TSS Consultants

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Aerial View of Yard Site (the proposed Surplus Area) and Adjacent Properties



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Project Description

Anticipated direct near-term (2013 -2015) project development results include:

- Completing CHIPS Wilseyville Biomass Product Yard site acquisition from the Calaveras County Water District (CCWD) (As of Dec. 2012 a purchase agreement is being processed).
- Yard site development engineering compliant for Calaveras County requirements completed (funding has been acquired from the Sierra Nevada Conservancy for site engineering).
- Yard infrastructure site construction done and ready to include biomass related businesses.
- Individual woody biomass ventures initiate business start-up operations (see below).
- A successful community based biomass utilization project offering a model for other communities to adapt and replicate.

A variety of small businesses and value added activities are to be sited at the Yard to use woody biomass harvested from local forests, watersheds and WUI areas as feedstock. These include, but are not limited to: A small scale 2 to 3 MW Combined Power and Heat (CHP) plant (enough to power 1,600 to 2,400 homes); a small saw-mill; wood-drying kilns; forest and green waste chipping for lawn and soil amendments; native plants greenhouse for landscapes and reforestation; wholesale firewood; and agricultural and architectural posts and poles production. A feasibility study of local woody biomass sources and potential uses centered at the Wilseyville Product Yard was completed and is available to guide Yard growth.

CHIPS is a member of, and administrative partner for, the Amador Calaveras Cooperative Association for Biomass Utilization (ACCABU). “The Association” is a local group of forest contractors, individuals and others interested in job and business creation using locally harvested woody biomass. CHIPS and the Association are working to revitalize a portion of a former sawmill site near Wilseyville that closed in 1968. The Wilseyville Yard project is recognized and approved by the federally recognized local Central Sierra Economic Development District (CSEDD) as an important Community Economic Development Strategy (CEDS).

CHIPS and the Association are also members of the local Amador Calaveras Consensus Group (ACCG) a community based collaborative working to create healthy forests and watersheds, fire-safe communities, and sustainable local economies. The Product Yard has the support of the ACCG as an important component of its collaborative All Lands Triple Bottom Line strategy (environment, community, and economy), as a place to take woody biomass to add economic value and benefit local communities. In 2012 the ACCG collaborative was awarded a 10 year USDA / USFS appropriation for a local Collaborative Forest Landscape Project (CFLRP) for forest ecosystem restoration.

CHIPS is the Product Yard owner, developer, and administrator for the infrastructure that is to help provide for diverse Association entrepreneurial activities. The Wilseyville Yard is to eventually be a part of a distributed cooperative network of local businesses involved in harvesting and utilizing woody biomass. The CHIPS Product Yard planning, finance, and operations activities are to be guided cooperatively with the small contractors, individuals and businesses involved in capacity building for local job creation based on utilizing woody biomass. Along with public investment for infrastructure, private investment by entrepreneurs will build individual Yard-related business activities and create jobs.

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CHIPS and its community partners are seeking resource help with critical start up items such as: completing site acquisition, engineering and construction work; a CHP impact study and engineering; and capacity building assistance for local collaborative planning and development.

The Yard infrastructure is expected to incubate and grow at least seven to ten entrepreneurs' business ventures within 12 to 18 months of completing site construction and receiving county approvals to start operations. This is all-new infrastructure focused on an emerging industry that uses woody biomass as feedstock for product development. The feedstock is to be sustainably harvested in forest and watershed ecosystem restoration, and forest and WUI fire fuel reduction projects on public and private lands. The project is based in a significant and growing need for forest and woodland resource management with public safety-related concerns about fire.

The by-products of local forest timber harvests, restoration and thinning fire fuel loads have long been piled and burned, with urban woody waste filling landfills or burned. The Wilseyville Yard provides infrastructure that addresses local constraints to developing biomass small-business opportunities. There is currently no infrastructure for woody biomass value added utilization in the area. The Yard provides an essential public-private component of infrastructure for an emerging local industry producing value-added products from woody biomass feedstock. Public benefits include, but are not limited, to local economic revitalization that improves community fire safety, creates jobs converting woody biomass feedstock (formerly waste) to commercial products, air quality improvement, habitat protection, and fire suppression cost avoidance.

Environmental, community and economic benefits are expected to accrue primarily to the project area's Calaveras and Amador counties, with secondary benefits accruing to the contiguous counties of the region: Alpine, El Dorado and Tuolumne, and tertiary benefits to the whole of California. A successful Wilseyville Biomass Product Yard will also indirectly provide benefit as a replicable model for community-based economic development of woody biomass utilization. It is a collaborative, community-based model applicable throughout the Sierra Nevada's major watersheds, and similarly situated regions in California that have ample natural resources of woody biomass, especially those with high public-safety and watershed forest restoration needs.

The Wilseyville Woody Biomass Product Yard:

- Supports collaborative innovation in sustainable economic development built on regional strengths that involve a wide variety of stakeholders (i.e. local, state and federal gov't; local environmental and community groups; and business and economic interests).
- Employs a strategy of leveraged public, private and nonprofit investment for creating jobs that contribute to local fire-safe communities and fire suppression cost avoidance.
- Promotes environmentally sustainable job creation in green products and renewable energy technology – specifically working with woody biomass. (“Doing good with wood”— creating jobs that convert forest and green waste to value-added products.)
- Implements economic development activity in economically distressed and underserved communities in WUI areas of the upper Mokelumne River watershed.

Product Yard development is a public-private partnership to provide a strategic foundation for local entrepreneurial creativity to expand or start businesses that create local jobs related to woody biomass utilization. Historically the local industry focused on timber extraction for lumber, while woody biomass was a waste by-product piled and burned. Now woody biomass is considered potentially a valuable feedstock, but without a local infrastructure to make highest

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and best value products out of the different types of woody biomass material. A strong public safety and cost avoidance emphasis is emerging in California to support development of biomass utilization infrastructure for its forested watersheds and communities.

The Wilseyville project builds on regional strengths of ample resource availability and the growing public safety and resource restoration needs for harvesting this resource. Other strengths include readily available local skill sets for forest agricultural harvest and reforestation work.

Ownership of the underlying property and site development improvements is to be held by CHIPS and is intended to be lease space for ACCABU members for entrepreneurial, public-private woody biomass activities. The Yard infrastructure is to incubate and grow small-scale businesses that create jobs using sustainably and locally harvested woody biomass feedstock. CHIPS will work with a Yard Steering Committee of ACCABU and ACCG members to provide input for planning, setting policies, and monitoring performance of the Yard and its participating woody biomass business activities.

Operation of the Woody Biomass Product Yard will be administered by CHIPS as owner and as part of its member service relationship with the Association. Association members operating a business at the Yard will pay a lease rate proportionate to their portion of the site used with lease revenue used for common site maintenance and operations costs. Each separate business activity will be responsible for placing its operations at the site and for operating within the lease agreement. The Product Yard will provide the common substructure of vehicle and utilities access, rest rooms and Yard office, general lighting and similar commonly used and metered utilities. Each business activity is responsible to its owners and applicable regulating authorities.

Maintenance of the general and common areas of the Wilseyville Biomass Product Yard is a responsibility of the owner and administrator, CHIPS. Each operating business entity will be responsible, as part of its lease agreement, for maintaining its site operations safely and compliant with applicable Yard, local, state, and federal requirements.

Listed below are useful documents to support and/or clarify the concept description above.

- Wilseyville Woody Biomass Value-Added Product Yard Feasibility Study (*TSS Consultants*)
- Memorandums of Agreement (MOA) for the Association and for the ACCG
- ACCG collaborative Cornerstone CFLRP proposal narrative for USDA/USFS grant award
- An Ecosystem Management Strategy for Sierran Mixed-Conifer Forests, FS PSW-GTR-220, March 2009, Malcolm North, et al
- UCB Community Scale Bioenergy from Woody Biomass Conference of December 14, 2012, launching a conversation on SB-1122 related new policies and technologies, proceedings.
- An Ecological Basis for Ecosystem Management, RMRS-GTR, May 1994
- National Report on Sustainable Forests – 2010 FS 979, June 2011.
- FS document - 2012 Planning Rule requirements 36 CFR § 219.3
- Woody Biomass Utilization Desk Guide, FS NTD, 2400-Forest Management, Sept. 2007
- Woody Biomass Utilization: Challenges & Opportunities, Forest Products Society, June 2006
- Woody Biomass Utilization: Conference Proceedings, Forest Products Society, August 2009
- Central Sierra Regional Profile, CSEDD, Summer 2012

An overview follows of Wilseyville Product Yard Critical Development Items as of Jan. 2013:

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Wilseyvile Product Yard Critical Project Development Task & Activities as of December 2012
 (With a very ambitious draft projection for an earliest path development schedule during 2013)

Development Tasks / Key Activities	1 st Qtr. 2013			2 nd Qtr.			3 rd Qtr.			4 th Qtr. 2013		
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Yard Access & Site Construction</i>												
• Complete purchase agreement with CCWD												
• Access and site engineering												
• Calaveras County Public Works: Encroachment Permit												
• Calaveras County Planning: CEQA & DFG												
• Yard site / access construction finance												
• Yard site / access construction												
• Site construction project admin. and management												
<i>2-3 MW CHP Development (Anchor Tenant)</i>												
• CHP Development Team established												
• CHP Business Plan Development (with FiT project details)												
• CHP Plant Engineering Finance												
• Impact or Phase I Study (or screened)												
• CHP Plant Engineering												
• Calaveras Air Resources Board										Cont.	----->	
• Fit (SB1122) auction requirements										Cont.	----->	
• CHP plant construction finance												
• CHP plant construction									Start	2014	----->	
• Interconnection with PG&E system									Start	2014	----->	
• CHP Development project admin. and management									Cont.	----->		
<i>Yard Cooperative Site Leasing Operations</i>												
• Establish Steering Committee										Cont.	----->	
• Calaveras County approval of site opening												
• Revise/update Yard Business Plan												
• Start small woody biomass Yard business site leases										Cont.	----->	
• Project admin and management										Cont.	----->	