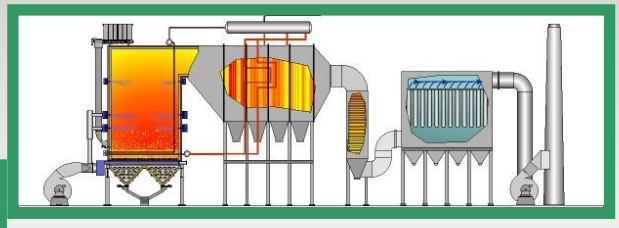
Clearview Renewable Energy, LLC

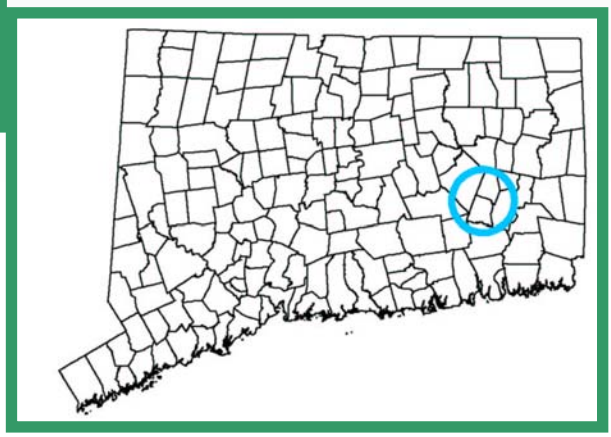
PETITION
BEFORE
CONNECTICUT SITING COUNCIL

November 9, 2006

Class I Renewable Energy Biomass Gasification to Combined Heat & Power Facility



Kofkoff Egg Farms
Bozrah, CT



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Submitted by:
CLEARVIEW POWER, LLC

CLEARVIEW POWER, LLC.
A SUBSIDIARY OF THE CLEARVIEW GROUP, LLC

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November 9, 2006

HAND DELIVERY

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition For Declaratory Ruling
Clearview Renewable Energy, LLC
Proposed 29.0 MW Renewable Energy Facility
Town of Bozrah, CT

Dear Mr. Phelps:

Clearview Renewable Energy, LLC ("Clearview") respectfully submits the attached Petition For Declaratory Ruling in connection with the proposed construction, operation, and maintenance of a 29.0MW renewable energy, mixed biomass-to combined heat and power Project, to be located on the Kofkoff (Land O' Lakes) Egg Farm in the Town of Bozrah ("the Project"). The proposed Project will provide:

A. A long-term solution toward meeting regional energy goals with renewable and sustainable biomass fuel;

B. A long-term solution for management of poultry manure;

C. Protection of the State's agricultural enterprises, including preservation of open space associated with rural community values and the provision of locally grown food;

D. Improved energy efficiency through the use of combined heat and power in the form of electricity to the grid and co-generated thermal energy to Kofkoff Egg Farms, Inc., a subsidiary of Land O' Lakes;

E. Economic development through the protection of over 300 existing jobs, provision of new jobs associated with operation and maintenance of the Project, temporary provision of construction jobs associated with the Project, creation of a certified organic fertilizer as a new State export product, essential support to the region's rail system, and primary support to the agricultural economic activity associated with the Kofkoff Egg Farms which currently provide a value to the State in excess of over $186 million per year; and

F. Unique enhancement and support of multiple state policies for energy, agriculture, environmental protection, and economic development.

The attached Petition seeks the Council's Declaratory Ruling that:

1. The Project is a grid-side distributed resources project with a capacity of not more than 65MW, which will meet the air quality standards of the CT Department of Environmental Protection;
2. The Project will not have a substantial adverse environmental affect; and therefore
3. The Project will not require a Certificate of Environmental Compatibility and Public Need from the Council.

Under the Siting Council's procedures, Clearview anticipates that the Council will issue formal public notice of this petition within 30 days.

Should you have any questions, or require any additional information, in connection with the attached Petition, please do not hesitate to contact us. We stand ready to meet with you and discuss the proposed Project in further detail.

Sincerely yours,

James S. Potter
President

JSP:wcm
Encl. (As Noted)

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PETITION FOR DECLARATORY RULING

BEFORE

CONNECTICUT SITING COUNCIL

Petition for Declaratory Ruling

Pursuant to Connecticut General Statutes ("CGS") Section 16-50k as amended by Section 18 of Public Act 05-01, and Regulations of Connecticut State Agencies Sections 16-50j-38 through 16-50j-40, Clearview Renewable Energy LLC (CRE) hereby petitions the Connecticut Siting Council (Council) for a Declaratory Ruling that the proposed construction, operation, and maintenance of a 29.0MW/10MMBTU renewable energy, mixed biomass-to-combined heat and power project, to be located on the Kofkoff (Land O Lakes) Egg Farm in Bozrah, Connecticut (the Project):

1. Is a grid-side distributed resources project or facility (as defined in CGS section 16-1(43)) with a capacity of not more than sixty-five (65) MW which will meet the air quality standards of the CT Department of Environmental Control ("CDEP");
2. Will not have a substantial adverse environmental effect; and therefore
3. Will not require a certificate of environmental compatibility and public need from the Council.

Further, CRE respectfully requests that the Council recognize and acknowledge that the proposed Project is or will provide:

- **a.** A long-term solution to help meet regional energy goals with renewable and sustainable biomass fuel;
- **b.** A long-term solution for animal manure management;
- **c.** Protection of the State's agriculture, including preservation of open space associated with rural community values, and the provision of locally grown food;
- **d.** Improved energy efficiency through the use of combined heat and power in the form of electricity to the grid and co-generated thermal (hot water) energy to Kofkoff Egg Farms, a subsidiary of Land O Lakes;

e. Economic development through the protection of over 300 existing jobs, provision of new jobs associated with operation and maintenance of the Project, temporary provision of construction jobs associated with the Project, creation of a certified organic fertilizer as a new State export product, essential support to the region's rail system, and primary support to the agricultural economic activity associated with the Kofkoff Egg Farms that provides a value to the State in excess of over $186 million per year; and

f. Unique enhancement and support of multiple State policies for energy, agriculture, environmental protection, and economic development.

CRE files this petition under the statutory authority of CGS Section 16-50k as amended by Section 18 of Public Act 05-01, and Regulations of Connecticut State Agencies Sections 16-50j-38 through 16-50j-40.

Petitioner

The legal name of the petitioner is Clearview Renewable Energy LLC. Communications and correspondence are to be addressed to:

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One Harbour Place, Suite 11
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603 433-2022
JimPotter@verizon.net

With additional service to legal counsel:

Scott R. Singer, Esq.
Nixon Peabody, LLP
437 Madison Avenue 18th Floor
New York, NY 10022 – 7001]

CRE is also represented by:

Joel M. Rinebold, Vice President
194 Mansion Road
Wallingford, CT 06492

William C. Miller, Jr., PE, Vice President
242 Miller Place Road
Miller Place, NY 11764-2806

Other Petition Filing Administrative Matters

1. Additional Distributions

Although this application is a Petition, CRE is simultaneously providing copies of this Petition to the following federal, State, and local officials listed in CGS § 16-50l(b). CRE also will be placing a copy of this Petition in Bozrah Town Hall.

- **Local Government**
  - Town of Bozrah
    Town Hall
    1 River Road
    Bozrah, CT 06334
    - Honorable Keith J. Robbins, First Selectman
    - Seymour Adelman, Chairman
      Planning & Zoning Commission
    - Kelli McKeon, Chairwoman
      Inland Wetlands Commission
    - Richard C. Serra, Town Planner

- **Regional Government**
  - James S. Butler, Executive Director
    Southeastern Connecticut Council of Governments
    5 Connecticut Avenue
    Norwich, CT 06360
  - John Bilda, General Manager
    Norwich Public Utilities
    173 North Main Street
    Norwich, CT 06360

- **State Government**
  - Richard Blumenthal, Attorney General
    Office of The Attorney General
    55 Elm Street
    Hartford, CT 06106
  - Honorable Edith D. Prague, Senator
    19th District
    Legislative Office Building, Room 3800
    Hartford, CT 06106-1591
  - Honorable Kevin Ryan, Representative
    139th District
    Legislative Office Building, Room 3804
    Hartford, CT 06106-1591
    and
    21 Terrace Drive
    Oakdale, CT 06370

- F. Philip Prelli, Commissioner
  Department of Agriculture
  165 Capital Avenue
  Hartford, CT 06106
- James F. Abromaitis, Commissioner
  Department of Economic & Community Development
  505 Hudson Street
  Hartford, CT 06106
- Gina McCarthy, Commissioner
  Department of Environmental Protection
  79 Elm Street
  Hartford, CT 06106-5127
- Ralph J. Carpenter, Commissioner
  Department of Transportation
  2800 Berlin Turnpike
  Newington, CT 06131-7546
- Donald W. Downes, Chairman
  Department of Public Utility Control
  10 Franklin Square
  New Britain, CT 06051
- Donald W. Downes, Chairman
  CT Energy Advisory Board
  805 Brook Street
  Rocky Hill, CT 06067
- Lise Dondy, Executive Director
  CT Clean Energy Fund
  200 Corporate Place 3rd Floor
  Rocky Hill, CT 06067
- Karl J. Wagener, Executive Director
  Council On Environmental Quality
  79 Elm Street
  Hartford, CT 06106-5127
- Mary J. Healy
  Office Of Consumer Counsel
  10 Franklin Square
  New Britain, CT 06051

- **Federal Government**
  - Col. Curtis Thalken, District Commander
    US Army Corps of Engineers
    New England District
    696 Virginia Road
    Concord, MA 01742-2751

- Environmental Protection Agency
  - Robert W. Varney, Regional Administrator
    USEPA New England, Region 1
    1 Congress Street, Suite 1100
    Boston MA 02114-2023
  - T. Frakiewicz
    USEPA Office Of Air & Radiation
    Combined Heat & Power Partnership
    Climate Protection Partnerships Division
    1200 Pennsylvania Avenue, NW
    Washington, DC 20460

2. Filing Fee

Consistent with the Council's Filing Fee Schedule, a check in the amount of $500.00 is included with this Petition.

INTRODUCTION

CRE's proposed renewable, combined heat and energy (CHP), Project, utilizing a mixed biomass with staged gasification system, addresses regional energy needs through improved biomass management of animal farm manure and clean, unadulterated and uncontaminated wood wastes.

CRE has assembled the highest caliber team to develop, construct and operate the proposed Facility in order to ensure a viable and compatible Project. To-date CRE's Project development activities have included:

- Identification, assessment and selection of the Project's state-of-the-art renewable energy system components:
  - Fluidized bed staged gasification;
  - Heat Recovery Steam Generator (HRSG);
  - Environmental control systems:
    - Fluidized Bed
      - In–bed limestone injection
      - SNCR
    - Dry Scrubber/Spray Dryer
    - Baghouse;
  - Steam Condensing Cycle
    - Closed Loop Air Cooled Condenser;
- Site identification, assessment, selection and control;
- Facility and Site engineering and environmental assessment;
- Preparation of a detailed milestones schedule covering all of the Project's planning, development, financing, construction and commissioning activities;
- Preparation of detailed Project capital and O&M costs;
- Biomass fuel assessment and acquisition;
- Developing a technically, environmentally and commercially sound Facility ash beneficial re-use/recycling plan;
- Identification and assessment of electric and thermal interconnection alternatives;

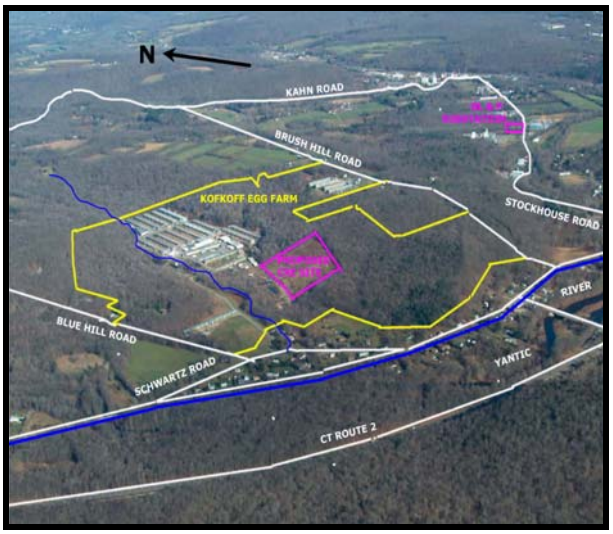
- Identification of the Project's federal, State and local approvals, certifications and permitting regime and follow-up interaction with identified involved agencies; and
- Developing and carrying out a Government and public outreach program.

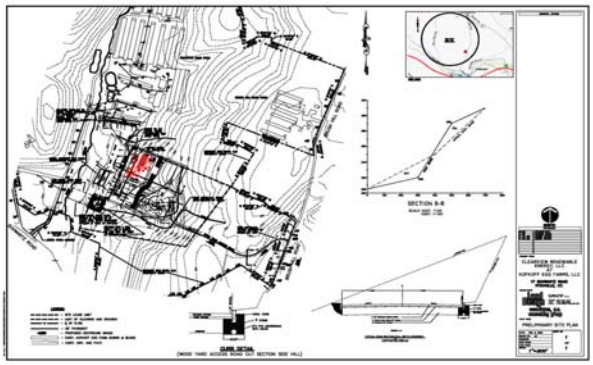
The proposed Project has undergone refinements in response to the feedback, findings, conclusions and inputs from each of these activities. The following summarizes the Project's description and status, as well as the Project's benefits, including those benefits associated with sustainable, renewable energy production, improved agriculture and farm management and rural economic development.

Project Site - The proposed Project Site is located in the center of one of the State's major agricultural operations with the following attributes:

- Located within close proximity to regional truck (CT Route 2 and US 395), rail (New England Central [NECR]) and marine (Port New London) transportation corridors with direct access to Kofkoff Egg Farms' Bozrah and Franklin operation respectively;
- A well buffered interior 31 acre parcel within Kofkoff's 259 acre Fitchville Farm;
- Located within the Town of Bozrah's permitted land use (RU-1 Zoning District);

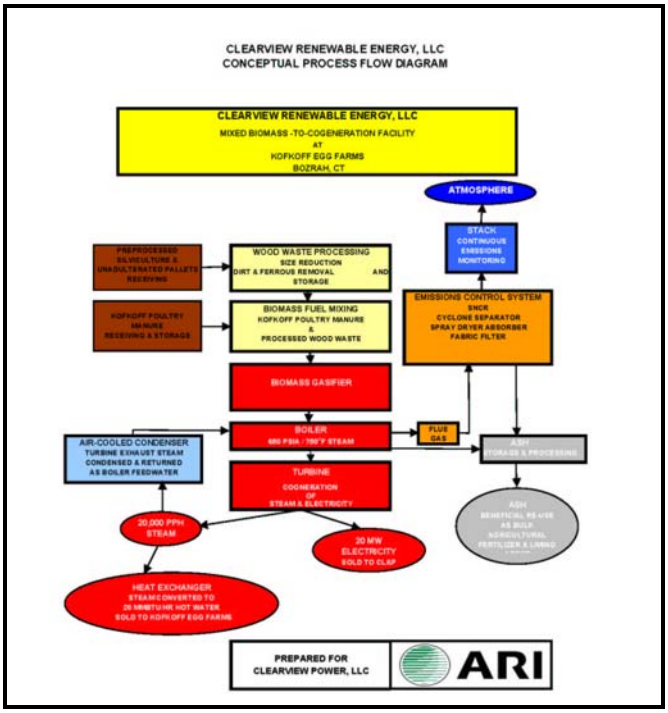
- Located near an existing electric substation, owned by the Bozrah Light & Power (BL&P), suitable for interconnection;
- Nearby public water supply along Brush Hill and Fitchville roads operated by Norwich Public Utilities;
- Near Kofkoff's existing Franklin NECR rail siding with existing enclosed Transfer Station for potential bulk deliveries of the Project's wood fraction biomass and bulk shipments of the Facility ash product as an approved organic fertilizer by the State's Department of Agriculture (CDA);
- Clearview holds exclusive Site and Facility development rights under a Project Exclusivity Agreement, a Site Option Agreement, Poultry Manure Supply Agreement and Thermal Sale MOU with Kofkoff.

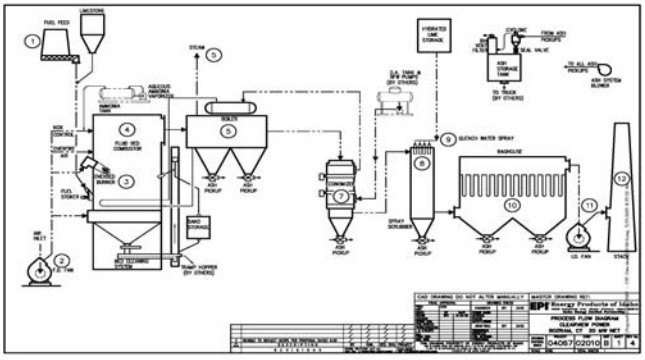


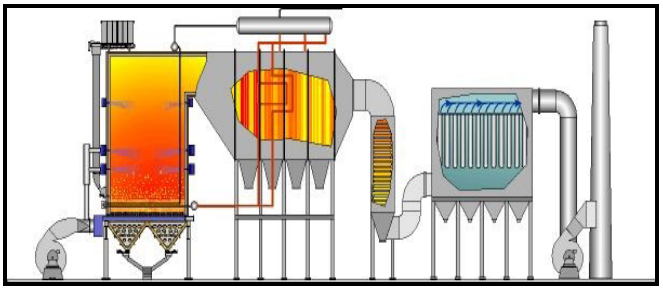


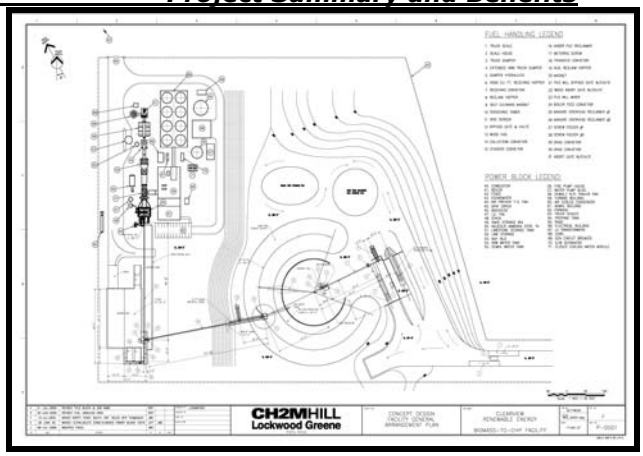
Project Summary - The proposed Project is a 29.0MW Net-to-the-Grid and 10MMBTU/HR average HW supply to Kofkoff, mixed biomass gasification-to-CHP Facility with the following components:

- An average daily Biomass Processing Capacity of 340 TPD of Kofkoff poultry manure and regional clean wood waste (1112 TPD);
- A Wood Yard with a waste wood receiving, processing and storage system consisting of weigh scales, truck tippers, wood chippers, ferrous magnets, trommel screens, stacker/reclaimer and 8400 Tons (seven [7] days) of outdoor Processed Wood Fuel fraction storage capacity;
- A fluidized bed Gasification Cogeneration System producing 295,000 PPH of steam @ 750°F/665PSIA;
- A state-of-the-art low emissions control system with selective non-catalytic reduction (SNCR), a Spray Dryer Scrubber, a high efficiency fabric filter Baghouse, and Continuous Emissions Monitoring System (CEMS).









- Closed loop air cooled condenser;
- On-site septic system to manage sanitary wastewater;
- Hold-and-Haul tank to manage process wastewater with period service by a certified collector/hauler and disposal at a regional public treatment works;
- Stormwater management with runoff will be directed to an on-site collection basin;

- Step-Up, Auxiliary and Station Transformers; and
- Interconnection to the CL&P grid via an on-site electrical switchyard.

Project Benefits- CRE is part of a long-term solution to meet regional energy needs with renewable and sustainable biomass fuel. In addition to meeting regional energy needs, the proposed Project will provide a long-term solution for management of poultry manure and clean wood biomass.

The proposed Project will also provide State, regional and local benefits that will support municipal and community services, create new jobs, and accelerate economic development opportunities in Connecticut.

CRE has worked with local officials, and the State Departments of Agriculture and Environmental Protection over the course of the past thirty-one (31) months, and has interfaced with the USDA, USDOE, USEPA, CDA, CDEP and CDECD to ensure Project compatibility with federal and State policy and maximum benefits to the public. CRE has developed substantial local, State, and federal support, which is documented within this Petition. CRE is confident that the proposed Project will provide the following substantial benefits for energy management, agriculture, the environment, and to the economy:

- ***Sustainable/Renewable Energy Production***

  The Facility will co-generate and deliver approximately 29.0MW Net-to-the Grid sustainable/renewable electric energy and up to 20,000 PPH of steam converted to 20MMBTU/HR hot water (HW) to support egg washing activities on an average of 6.6 million eggs per week. This same HW will also provide poultry barn space heating at Kofkoff's Schwartz Road and Brush Hill Road farms located within 1800 feet from the proposed Project Site. Kofkoff's current thermal energy cost can be reduced and more efficiently managed through the Project's closed-loop thermal HW system.

  In addition, the on-Site production of 29.0MW of distributed generation will also improve the efficiency and reliability of BL&P's local electric distribution.

As a renewably fueled facility, CRE will provide diversity and value to the region's electric supply system. Renewable fuel use would be consistent with federal and State initiatives to reduce dependency on foreign oil, reduce greenhouse gas emissions and enhance a sustainable ecological balance of energy use for the production of food.

As a relatively small renewable biomass-fueled cogeneration facility, the Project will clearly meet each of the specific energy strategies set forth in the 2005 State Energy Plan prepared by the Connecticut Energy Advisory Board by:

- Reducing dependence on fossil fuels;
- Supporting energy efficiency;
- Supporting renewable energy technologies;
- Increasing penetration of distributed generation and combined heat and power; and
- Increasing fuel diversity.

The Project will also establish a new standard for lowest achievable emission rates for biomass-fueled electric generation facilities with its fluidized bed gasification system equipped with SNCR, Spray Dryer Scrubber, high efficiency fabric filter Baghouse, and Continuous Emissions Monitoring System (CEMS). This state-of-the-art technology combustion and emissions control system will provide statewide value for years to come as a model for efficiency and clean energy production.

The technical relevance and merit of the Project's sustainable energy component includes the following goals:

- Convert renewable biomass into sustainable electric and thermal biopower through proven gasifier and advanced emission control technology to improve energy reliability, cost control, reduction of odor, reduction of greenhouse gases, and displacement of foreign non-renewable fuels;
- Manage the production of biopower to support cogeneration applications on the Farm for barn heating and egg washing operations;

- Manage the production of biopower to support the use of renewable energy by the Farm and on the regional electric grid consistent with Connecticut Public Act 03-135.

- ***Agriculture and Farm Management***

The Project will be located on and in support of Kofkoff Egg Farms, one of the largest egg farms in New England. Kofkoff's Farm operation includes:

- Approximately 4.7 million bird population producing 15 million eggs per week;
- Approximately 300 employees with six (6) facilities in four (4) towns within New London County, all within an 8 mile radius of the Project location;
- Vertically integrated production, sales, feed manufacturing, and distribution;
- Among the highest taxpayers in several rural communities;
- One of the last remaining commercial egg-laying operations in New England, a deficit production region;
- Among the largest customers of NECR contributing close to 40 percent of this railroad's total revenue; and
- As a Land O' Lakes company, an industry leader and highly respected organization in CT, the US and North America.

Both the USEPA and CDEP recognize that animal farms within CT import feed and generate large quantities of manure high in nutrients. According to CDEP studies and reports, in-State manure production is 1.3 million TPY with 8000 Tons of Nitrogen (N) and 4550 Tons of Phosphorous (P). This waste generation rate is equivalent to that of 2.6 million people.

CDEP has also determined that of the 8000 Tons of N and 4550 Tons of P produced annually from animal operations, 30% of the N and 43% of the P are surplus nutrients. As a measure to manage animal manure, CDEP has developed a Concentrated Animal Feeding Operation (CAFO) General Permit under USEPA's authorization.

The CRE Project will address and manage poultry manure generated by all six (6) of Kofkoff's Egg Farms, which represents six (6) of the eight (8) farms in CT regulated under a (Class 1) large CAFO General Permit, as well as compliment an associated Comprehensive Nutrient Management Plan (CNMP).

The Facility would process approximately 340 TPD of raw poultry manure with both a value and a cost if improperly applied. With values of $.20/LB for N, $.25/LB for P, and $.12/LB for Potassium (K), the combined value of the nutrients would exceed $1.5 million per year. With application to six (6) of the eight (8) large (Connecticut Class 1 General Permit) CAFOs in the State, the Project would represent a substantial reduction of nutrient loading and increased nutrient utilization.

The Project would also support the regional development of "sustainable agricultural ecology" to cycle energy, nutrients, and food products through an existing farm operation.

As part of the "sustainable agricultural ecology", regional biomass resource feedstocks of poultry manure and wood wastes will come from Kofkoff's farms, rural agricultural operations, and other community activities. Electric and thermal energy produced will be co-generated on-Site from these resource feedstocks, and used both by the Farm and the community.

Resource waste products, byproducts, and residues will be assessed and processed for reduction and re-introduction back into the agricultural supply chain as agriculturally safe fertilizer.

The Project, consistent with a recent CDEP and USEPA technical report and CT CAFO General Permit and CNMP requirements, will provide assimilation of feedstock materials, energy management, food production, and supply chain management, serving as a model for improved farm operations, renewable energy production, and environmental management. The Project will be a model for efficient agricultural operations, and suitable for potential reproduction at other agricultural sites.

The technical relevance and merit of the agricultural component of the project will be manifested in the CNMP with the following goals:

- Increase storage, processing, and reuse of nutrient materials;
- Increase efficiency and utilization of clean wood biomass materials;
- Convert poultry manure and biomass material into an agriculturally acceptable fertilizer consistent with Connecticut Public Act 00-96; and
- Improve control, environmental protection, and timely application of nutrients for year-round sustainable farm operations.

- ***Rural Economic Development***

The Project is being developed to produce a sustained cycle of benefits for agriculture and farm management, which in turn will provide needed support for rural economic development.

Kofkoff and the CDEP have proceeded with analyses of long-term poultry manure management alternatives. Currently, the only method that achieves the cost, efficiency and environmentally viable goals is to combine the poultry manure with wood waste and efficiently gasify the biomass in the proposed Project. Implementing the proposed Project will provide long-term (30+ year) poultry manure management for Kofkoff while maintaining the critical employment, tax and community benefits discussed below.

Based on a Regional Economic Model Inc. (REMI) analysis undertaken by the Connecticut Department of Economic Development (CDED), CT's loss of Kofkoff Egg Farms would produce a statewide economic impact exceeding $161 million annually. Together with an estimated $25.7 million impact on consumer prices (increase in wholesale egg prices), the total in-State economic impact for loss of the Farm would be $186.7 million annually. Although the extraordinary value of this farm operation is of substantial economic benefit to the State, as identified and calculated by State economists, the continued operation of the farm is an economic necessity for the rural community and is of great importance to the regional economy of New England.

Local property taxes from Kofkoff Egg Farms are now among the highest revenues in several rural communities. The CRE Facility would continue to support Kofkoff's farm operations for long-term operations and would provide additional revenue to the rural community of Bozrah for municipal operations. The Town of Bozrah would receive additional tax revenue from the Project to support community services. The Project will also provide full time and part time positions for high quality local employment associated with facility operations. The value of this employment will have both direct and indirect value to the community. Temporary construction will involve employment for approximately two years. At the maximum point of construction activities, many skilled craftsmen will be employed on the site providing a substantial benefit to the local economy. The Town of Bozrah has been involved with the planning and development of the Project and will consider the Project as an economic asset to the community.

The proposed interconnection will be developed in cooperation with BL&P. The interconnection would be configured with a second distribution feeder to substantially improve local electric reliability to the BL&P's service area.

In addition, as an in-state generation facility located in eastern CT, the Project will support the Southern New England Reliability Project in eastern CT, RI, and MA, and will be positioned to reduce Federally Mandated Congestion Charges (FMCCs) that apply to Connecticut and Southwest Connecticut.

This transmission project will work in conjunction with the Phase 1 and Phase 2 transmission reliability projects to eventually mitigate and reduce, if not to totally eliminate, the dispatch of older uneconomic generation that has been estimated to cost CT rate payers over $300 million per year. While the CRE Project is not located in southwestern CT, the location in eastern CT will nonetheless provide substantial value and economic benefits to the ratepayers of the State and the region.

As one of the largest customers of NECR contributing close to 40% of the railroad's total revenue, the loss of Kofkoff Egg Farms could easily result in the abandonment of the last of the freight rail service in rural eastern CT. The economic impact of this loss would be substantial and potentially irreversible with far reaching economic effects to industry and transportation. With operation of the CRE Project, rail service would be expected to continue and/or increase as a result of increased productivity from Farm operations.

- **Greenhouse Gas Emission Benefits**

The USEPA CHP Partnership has in conjunction with CRE conducted analyses on the CO2 emission reductions that would result from the development, construction and operation of the Project. The study concluded that the Project would when operating at a capacity factor of 90%, and displacing the average Connecticut Fossil Generation Unit displace an average annual amount of CO2 equal to 203,935 tons. The study further confirms that this is equivalent to the annual removal of 34,762 automobiles. The study results clearly confirm the benefits of renewable power and the intent of PA 03-135.

CONCLUSION

CRE has worked diligently with State, federal, regional and local public officials for the past thirty-one (31) months and has carefully configured the proposed Project as a long-term solution to help meet regional energy goals with renewable and sustainable biomass fuel; provide a long-term solution for poultry manure and clean wood biomass management; and provide local, State, and regional benefits that will support municipal services, create new jobs, and accelerate economic development in CT.

CRE is confident that the proposed Project will be consistent with State and federal energy and environmental policy, and will provide multiple benefits to the region, the state, and the local community. CRE is further confident that no other project can provide such a diverse array of economic and environmental benefits to the public as will the proposed Project.

PROJECT ELIGIBILITY

CRE's proposed Project is eligible to be exempted from a Certification Proceeding as follows:

1. The proposed Facility is a 29.0MW/10MMBTU renewable energy, mixed biomass-to-combined heat and power facility (Project), to be located on Kofkoff Egg Farm's Fitchville complex, in Bozrah, CT. The proposed Project will be electrically interconnected to the grid at the Stockhouse Road substation and thermally connected to the Farm to provide heat and thermal energy for Kofkoff's Fitchville farms' operations. The proposed Project size, function, and location clearly qualify the as *"a customer-side distributed resources project or facility or grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts"* as defined in CGS Sections 16-1(43) and 16-50k (as amended by Section 18 of Public Act 05-01);
2. The proposed Project, by law and regulation, must meet federal (USEPA) and State (CDEP) air quality standards. Although air quality permits have not yet been applied for, supporting documentation to this Petition demonstrates that CRE has taken substantial steps to advance the evaluation of the proposed Project with respect to applicable air quality permitting standards and has obtained technical assurances that the proposed Project will meet and/or exceed all applicable air quality standards. Consequently, the Council can rule with confidence that the proposed Project will *"meet air quality standards of the Department of Environmental Protection"* as required by CGS Section 16-50k as amended by Section 18 of Public Act 05-01;
3. Supporting documentation to this Petition also demonstrates that CRE has performed extensive diligence and taken great steps to ensure that the proposed Project will not adversely effect air, water, ecological, or cultural resources and will *"not have a substantial adverse environmental effect"* as defined in CT General Statutes Section 16-50k (as amended by Section 18 of Public Act 05-01);

The proposed Project will produce energy from gasification of mixed biomass, which will qualify it as a Class 1 Renewable Energy Source under the definition in CT General Statute section 16-244c, as amended by section 4(j)(2) of Public Act 03-135 and Public Act 04-247. The proposed Project will gasify mixed biomass in the form of poultry waste and wood waste. The poultry waste component of the fuel will unquestionably qualify as biomass under CT General Statutes section 16-1(26). The wood waste stream, on its own, also would qualify as biomass under that section because it will consist of land clearing and silviculture wood debris, sawmill, millwork and manufacturing scrap, as well as unadulterated and uncontaminated pallets, reels, and recycling scrap. Because each of the components of the fuel mixture would, on its own, qualify as biomass, CRE's overall fuel mixture also will qualify as biomass. CRE plans to seek and obtain a declaratory ruling from the CT Department of Public Utility Control that will confirm the proposed Project's eligibility as a Class 1 Renewable Energy Source. As a Class 1 Renewable Energy Source, the proposed Project will contribute to the overall reduction of the environmental impacts of burning fossil fuels. Moreover, CRE has substantial data to confirm that the proposed Project will help to improve air and water quality, agriculture and local food production, and will be compatible with the environment in the area of the site and with the values of the community. Consequently, the Council should be confident that the facility will not have a substantial adverse environmental effect; and

4. Finally, and in conclusion, after reviewing this and other information, the Council should be confident to issue a ruling that the proposed Project will not require a certificate of environmental compatibility and public need from the Council.

2.1 PROJECT PURPOSE

The purpose of the proposed Project is to satisfy multiple State and federal policies for renewable energy, environmental protection, preservation of agriculture, high efficiency cogeneration, and rural economic development.

2.1.1 Renewable Energy

Connecticut Clean Energy Fund (CCEF)

- Manage the production of renewable energy to support the use of renewable energy on the regional electric grid consistent with CT Public Act 03-135;
- Meet the definition of a Class 1 Renewable Biomass Resource;
- Provide a cost-effective solution to meet the CT Renewable Portfolio Standards;
- Demonstrate commercial operation;
- Provide sound financing.

Connecticut Energy Advisory Board

- Reduce dependence on fossil fuels;
- Support energy efficiency;
- Support renewable energy technologies;
- Increase penetration of distributed generation and combined heat and power; and
- Increase fuel diversity.

2.1.2 Environmental Protection

Connecticut Department of Environmental Protection(CDEP)

- Compliance with State's Solid Waste Management Plan;
- Meeting CAFO initiatives and objectives;
- Reduction of greenhouse gases; and
- Displacement of foreign non-renewable fuels.

US Environmental Protection Agency

- Meeting CAFO initiatives and objectives.

2.1.3 Preservation of Agriculture

Connecticut Department of Agriculture (CDA) and USDA

- Meeting CAFO initiatives and objectives;
- Increased utilization of biomass materials;
- Convert poultry manure and biomass material into an agriculturally acceptable fertilizer;
- Improve control and timely application of nutrients for year-round sustainable farm operations;
- Provide assimilation of feedstock materials, energy management, food production, and supply chain management;
- Improve farm operations and environmental management; and
- Manage the production of biopower to support applications on the Farm.

2.1.4 Rural Economic Development

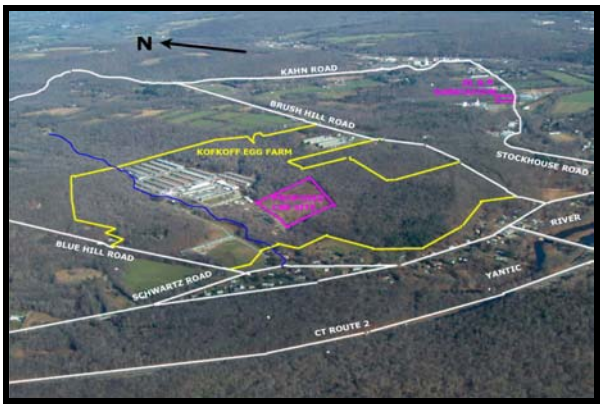
Connecticut Department of Economic and Community Development

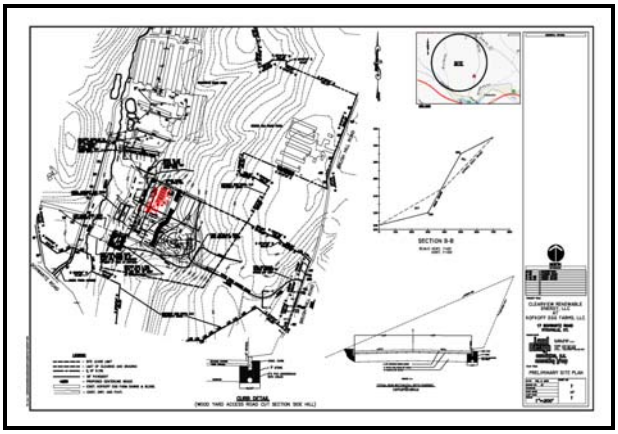
- Support Kofkoff's farm operations for long-term operations and additional revenue to the rural community;
- Provide local property taxes to support community services;
- Provide full time and part time positions for high quality local employment; and
- Provide support for continued rail service to the region.

2.2 SITING STATUS

CRE is proceeding with development of its proposed CRE Project on an interior parcel of Kofkoff's 259-acre Fitchville Farm located in the Town of Bozrah. CRE's executed Project Agreements with Kofkoff (Appendix 1A) require, among other things, development of the Project on one (1) of Kofkoff's six (6) New London County farms. From the outset Kofkoff has had strong preference for the identified Site due it's proximity to Kofkoff's largest egg production operation, largest poultry manure generation, energy load; and its proximity to major transportation corridors (CT Route 2 and US 395).

Kofkoff provided Clearview with a Phase 1 Environmental Site Assessment (ESA) for its entire Fitchville Farm completed as part of Kofkoff's purchase by Moark, LLC, a subsidiary of Land-O-Lakes Inc The Project Site consists of 31 acres, which is roughly 12% of the Farm's total acreage. TRC Environmental Corp., CRE's environmental consultant, conducted habitat, wetlands, traffic, noise, as well as cultural and natural resources surveys during the Project's Assessment and Development Phases.





Clearview and Kofkoff have had informal pre-Application Zoning and Building Code review discussions with the Town's Planning and Zoning Commission Chairman and the Town Planner. Both the Site and CRE's intended use comply with current Town Zoning (RU-1).

The Town has also advised that the Site will require the following Town reviews and approvals:

- Zoning Permit (Planning and Zoning Commission)
    - Site Plan Approval
    - Special Exception Approval
- Erosion & Sedimentation Control Plan (Inland Wetland Commission)
- Inland Wetlands & Watercourses Approval (Inland Wetland Commission)
- Aquifer Protection Review (Inland Wetland Commission)
- Erosion & Sedimentation Control Plan (Planning and Zoning/Inland Wetland Commission)
- Stormwater Management Plan (Inland Wetland Commission)
- Board of Selectmen Endorsement (Board of Selectmen)

2.3 PROJECT OUTREACH

CRE has been committed to development and implementation of a comprehensive Outreach program, as part of CRE's Project Development Phase activity, designed to encourage the active involvement of interested agencies and stakeholders.

Clearview has a history of successfully undertaking and completing complex projects within difficult geographic regions requiring careful coordination with community representatives, leaders, and spokespersons. Most recently Clearview has completed development and construction of four (4) projects located on Long Island, NY arguably among the most difficult regions in the US to develop power generation projects. These projects required extensive government and public outreach activity in order to gain community and government support. Clearview is committed to provide outreach to affected stakeholders during the project's development phase in order to assure proper understanding, review and consideration.

Critical to a project's successful Outreach Program is development of a project that addresses:

- Viewshed
- Safety
- Noise
- Traffic
- Odors
- Air quality

CRE is proceeding with the proposed Project's development plan to manage these issues through effective siting; incorporation of Facility and Site design criteria that manage safety, noise and odor concerns; and incorporation of state-of-the-art pollution control technologies that result in a model Project.

An efficient and effective communication network is fundamental to a successful outreach program. CRE is committed to an outreach program network that interfaces the Project with Kofkoff, its immediate neighbors, the hamlet of Fitchville, the Town of Bozrah, the Southeast Connecticut Council of Governments, elected and appointed State officials, federal agencies, the State's congressional and senatorial delegation, as well as at-large interested citizens, other stakeholders and special interest groups. The Outreach Program is linked to specific Project activities, which include:

- Project Development Phase
  - Town of Bozrah Applications, Review and Approvals
  - State Applications, Review and Approvals
- Project Construction Phase
- Project Operation Phase

Each of the above activities has a specific Outreach Program intended to manage community information needs and requirements. CRE has held numerous meetings with federal, State and local officials for the purpose of anticipating specific areas of potential community concern. These meetings have been very productive to deliver the Project's environmental benefits message and have resulted in the documented support that the Project currently enjoys.

CRE has built a factual Project-specific technical database as the foundation for CRE's outreach program, investing considerable Project Team resources compiling credible and understandable information about the Project that can be effectively communicated to jurisdictional agencies, elected and appointed officials, the Town, local residents and the news media.

These actions have included:

- Commencing the Project's outreach program with numerous "listen and learn" meetings and discussions with federal, Bi-State, State, regional, Town and Kofkoff representatives and interests, compiling a Project checklist along the way;

- Committing to a thorough understanding of the region's energy needs, which when combined with CRE's equally thorough understanding of relevant federal and State regulations, policies and initiatives, has resulted in CRE emerging as an integrated approach to 1) federal and State initiatives; and 2) southeast Connecticut's specific needs and issues;
- Getting an early start on the Project's environmental assessment (cultural, natural resources, noise, traffic, infrastructure, electric interconnection and view shed) surveys and analyses (e.g. poultry manure, wood waste and Facility emissions) to identify and mitigate potential Project impacts; and
- Conducting quantitative and qualitative manure, wood waste and ash analyses to establish the integrated renewable energy measures consistent with the Facility's technical, environmental, construction and operating criteria;

CRE will also implement programs that provide complete access to Project information and Project representatives including:

- ***Project Forums*** - CRE will hold formal meetings within the Town of Bozrah to allow for effective community interaction with concerned citizens.
- ***Project 1-800 Number*** - CRE will establish a toll free voice mailbox for callers to leave messages, ask questions regarding the Project, and voice any concerns. Project representatives will be required to respond within 24 hrs. of a request for response.
- ***Project E-Mail*** - A Project e-mail address will be established to provide another means of communications with the Public.
- ***Project Web Site*** - CRE will establish a Project Web Site that provides timely information concerning the Project, FAQ section, and other critical links.

CRE's commitment to a fair, accurate and well-balanced Outreach Program will provide the information critical to the communities' acceptance of the Project and its long term viability.

CRE's Outreach Program is supported by the unique economic and environmental benefits created by the Project. These benefits are also being incorporated into all of the communication outlets discussed above.

2.4 Biomass Fuel Supply Plan

CRE has performed extensive diligence on available biomass fuel resources. The Project's two (2) biomass fuels are:

- Kofkoff Poultry Manure; and
- Wood secured through a portfolio of existing regional wood wastes aggregators and processors.

CRE is committed, pursuant to its Project Agreements with Kofkoff, to develop, permit, finance, and construct a mixed biomass gasification-to-CHP Project utilizing Kofkoff poultry manure. CRE's biomass fuel resources diligence has included the following:

- ***Poultry Manure Biomass Fraction***
  - Reconnaissance of Kofkoff's six (6) regional CAFOs including review and analysis of routine poultry barn manure cleanout cycles and methods;
  - Quantification and assessment of daily, weekly and annual manure generation by Kofkoff's six (6) egg farms;
  - Twenty-five (25) months of sampling and independent laboratory analysis of the manure's physical, fuel, chemical and environmental characteristics;
  - Review of current vehicle loading operations and dedicated manure transport fleet; and
  - Identification, assessment and determination of how any and/or all of the above observations, findings and conclusions would influence Project and Facility location, configuration, systems selection, environmental considerations and O&M.

- ***Wood Biomass Fraction***
  - Review of historical public and private sector information on wood waste generation within the Project's wood wasteshed. This includes the following:
    - "Fuel Supply Assessment for Waterbury and Plainfield Areas" – Connecticut Clean Energy Fund, prepared by The Antares Group, Inc., August 25, 2004;
    - "Biomass Conversion Technology Characterization Study" – Connecticut Clean Energy Fund, Connecticut Innovations, prepared by The Antares Group, Inc., February 12, 2005;
    - "Fuel Supply Assessment for Waterbury and Plainfield Areas with Revised Analysis Using Construction & Demolition Biomass" – Connecticut Clean Energy Fund, prepared by The Antares Group, Inc., April 21, 2005;
    - Wood waste generators, aggregators, processors and transporters, licensed, registered and/or permitted by the following agencies:
      - CT
        - Department of Environmental Protection
        - Resources Recovery Authority
          - Southeastern Regional Resources Recovery Authority
      - MA
        - Department of Environmental Protection
      - NY
        - Department of Environmental Conservation
      - RI
        - Department of Environmental Management
        - Solid Waste Management Corporation
  - Development and execution of a Project specific program to assess:
    - Existing collection, processing and transportation industry;
    - Existing and projected supply and demand marketplace, as well as projected trends, including regulatory regime and transportation influences;

- Identification of processed wood physical and fuel characteristics that influence CRE's biomass Facility location, as well as receiving, storage, processing, conveying, gasification, air pollution control and ash management systems, in addition to expected permit conditions.

2.4.1 Establishing Biomass Fuel-Based Project Design Criteria

Clearview's prior power project development experience with solid waste fuels, coupled with CRE's review of Kofkoff's poultry manure, as well as wood wasteshed, technical data provided for the early establishment of CRE's combustion system selection criteria…a system that would allow CRE to access a wood fraction with the widest possible moisture content range.

This key criterion has allowed CRE's Project Development Team to identify and pursue wood wastes from the broadest regional market segment, thereby accessing a larger market segment at lower costs. This criterion, coupled with the poultry manure fraction dictated CRE's selection of gasification technology for the Project's combustion system.

With biomass gasification established as a Project objective, CRE then selected Energy Products of Idaho (EPI) and its patented Fluidized Bed Biomass Gasification System for the Facility's combustion system. EPI's Biomass Gasification System uses a pre-heated bed of sand-like material suspended (fluidized) within a rising column of air to gasify the Facility's as-fired mixed biomass fuel blend of wood waste and poultry manure. The high efficiency of EPI's fluidized bed gasification system makes it particularly well suited to these high moisture content biomass fuels.

2.4.2 Assessment of Biomass Fuel Fractions

CRE's gasification system decision established the protocols for assessing the separate wood waste and poultry manure fractions for the potential as-fired mixed biomass fuel blends. The following describes the current status of CRE's fuel assessment activities:

- ***Poultry Manure Assessment*** – Two (2) of the nation's foremost laboratories have been performing independent manure analyses:
  - ***Midwest Laboratories Inc. (MLI)–***This Kofkoff laboratory has performed multiple chemical, elemental and physical analyses.
  - ***Environmental Laboratories, Inc. (ELI)*** – This CRE Team laboratory has been conducting extensive chemical, elemental, physical and fuel value analyses on Kofkoff poultry manure and wood chips samples, as well as a variety of surrogate mixed biomass (manure/wood chips) blend ratios.

  These laboratory results have established the following Project design basis and Facility specifications:

  - An As-Fired Fuel Value of 5054 BTU/LB HHVdb (dry basis) with a 67% average Moisture Content (MC) and 10.7% Ash Content (AC);
  - Fluidized Bed Gasification is the ideal combustion technology for this biomass fuel fraction.

  Discussions with Kofkoff representatives have confirmed an average daily generation rate of 340 tons and an average annual generation rate of 124,100 tons. CRE/Kofkoff Poultry Manure Supply Agreement establishes the delivery and receiving schedule for these quantities.

- ***Wood Waste Assessment*** - CRE has simultaneously conducted an extensive wood waste assessment during the Project's Assessment and Development Phases in order to confirm available quantities and qualities, as well as cost and deliverability factors.

  Once fluidized bed gasification of 340 TPD of Kofkoff poultry manure was established the very next activity was development of the Facility's Mass & Energy Balance to, among other things, determine 1) the required autogenous As-Fired Biomass Fuel blend; and 2) the required wood waste fraction quantity and fuel characteristics.

Fundamental to establishing the Facility's required instantaneous, daily and annual wood waste fraction firing rates, was defining this biomass fraction's fuel characteristics.

CRE's Project Development Team has established an average wood waste fraction As-Fired Fuel Value of 8211 BTU/LB HHVdb with a 42% average MC for the Facility.

- ***Mixed Biomass Gasification Criteria*** – The following mixed biomass gasifier performance criteria has been jointly established by CRE's Project Development and EPC teams based upon detailed analyses of the individual Kofkoff poultry manure and candidate wood waste fractions:
  - An average mixed biomass As-Fired Fuel Value of 7741 BTU/LB HHVdb with a 48% average MC; and
  - The need for the Gasifier's fuel delivery and metering system to be capable of wood chips-to-poultry manure blend ratios ranging from 2-1 to 4-1 in order to maintain autogenous as-fired mixed biomass fuel feed to the Gasifier.

Table 1.8-1 presents the Facility's average hourly, daily, monthly and annual mixed biomass throughputs based upon the Facility's Mass & Energy Balance.

TABLE 2.4-1

SUMMARY OF CRE FACILITY MIXED BIOMASS THROUGHPUTS

BIOMASS FRACTION	AVERAGE BIOMASS FIRING RATES PROFILE				
	HOURLY		TPD_1	TPM_2	TPY_2
	MMBTU	TPH			
KOFKOFF POULTRY MANURE	27.75	14.17	340	10,342	124,100
WOOD WASTE	461.15	46.33	1112	30,027	360,324
MIXED BIOMASS	488.90	60.50	1452	40,369	484,424

Notes:

1. 24 HPD Facility Operation

2. 91.4% Facility Average On-Line Reliability = 8007 HPY

- ***Biomass Fuel Supply***

As previously stated CRE has secured the Project's poultry manure supply under the terms of the CRE/Kofkoff Manure Supply Agreement.

The Project's wood waste fraction will be secured from a portfolio of CDEP Regulated Wood Fuel Suppliers within the regional wasteshed's generators, aggregators, processors, and transporters of silviculture, as well as air and kiln dried scrap from mills, manufacturers and recyclers. CRE has conducted a comprehensive assessment of the established regional wood waste generators, aggregators, processors and transporters within the Project's wood wasteshed (Figure 1.8-1). Since transportation cost is a critical component, CRE's Wood Waste Supply Plan is focused on those entities within strategic over-the-road, rail and marine transportation corridors to the Project Site.

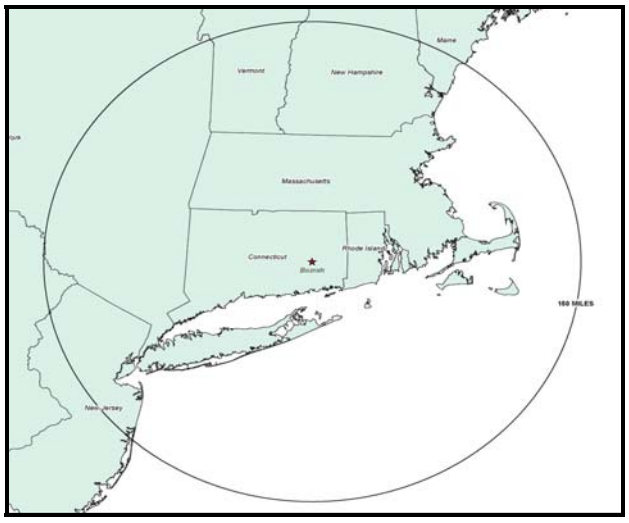


FIGURE 2.4-1
CRE WOOD WASTESHED

As presented in detail in Section 2.2 - Siting Status, the Project Site is located in Fitchville:

- Only 1.4 miles from CT Route 2 Exit 23. This proximity to major over-the-road transportation corridors, which also includes US Routes 84, 91, 95 and 395 all within 30 miles of the Site, provides excellent access to the Project;
- Only 7 miles from Kofkoff's Franklin Feed Mill operation serviced by NECR with an available active rail-to-truck siding. The all-freight NECR line runs from New London to Canada, with links to eight (8) other NE regional RRs and three (3) national RRs (Amtrak, Canadian National and CSX).
- Only 20 miles from Port of New London, further expands CRE's economic haul distance to the coastal areas of MA, NH, NJ, NY and RI.

BOZRAH ROAD NETWORK

NECR RAIL SIDINGS – FRANKLIN

PORT OF NEW LONDON

CRE's Facility O&M staff will include a full time biomass fuel sourcing person whose sole responsibility will be to continuously manage and execute CRE's Fuel Supply Plan including daily interface with Kofkoff on poultry manure deliveries and all of CRE's wood waste suppliers and transporters managing wood waste deliveries through predictable seasonal changes and unpredictable severe weather periods. CRE's biomass sourcing staff will manage biomass supply and quality through maintaining CRE's relationships with the Project's primary suppliers. CRE expects to manage variations in its system wide supply by integrating each supplier's permitted storage capacity as surge capacity in CRE's Supply Agreements with the Project's wood waste aggregators. This approach provides the Project's off-Site storage capacity where its best managed to the benefit of the Project with lower Facility capital and O&M costs associated with maintaining an on-Site inventory.

CRE will contract with existing wood waste aggregators equipped with a dedicated hauling fleet and to contract with regional truckers for addiitonal hauling capability on an as-required basis. This provides the Project with the ability to offer third party trailer capacity to smaller aggregators that do not have available rolling stock. Through this approach, CRE can better manage the Project's wood waste deliveries. This CRE transportation approach can more effectively manage supply and secure more spot market suppliers in a fluctuating market.

Discussions with the Project's prospective wood waste suppliers to-date has produced the following CRE findings and conclusions to-date:

- Adequate supplies of wood waste are clearly available within cost-effective over-the-road, rail and marine transportation distances;
- The regional trucking industry currently identifies a cost effective distance as a three (3) hour round trip, which would extend the Project's waste shed into Rhode Island and Massachusetts;
- Wood waste aggregators and processors are very interested in a long-term predictable end-user market for their products. CRE's regional wood waste assessment has narrowed CRE's Plan to the following specific sources:

- Whole Tree Silviculture (no stumps);
- Saw and Planing Mill scrap;
- Clean, unadulterated and uncontaminated (no adhesives, paint, preservatives or stain) manufacturing scrap;
- Clean, unadulterated and uncontaminated pallets, reels and skids recycling scrap; and
- Clean, unadulterated and uncontaminated Regulated Wood Fuel derived from CDEP regulated C&D waste processors.

  CRE is committed to working with the region's permitted C&D processors to implement a rigorous QA/QC program that will consistently generate a clean unadulterated and uncontaminated wood waste fuel product critical to CRE's CDEP permits (Air and Solid Waste), as well as CDA and USDA Ash registration for bulk organic fertilizer application.

- Based upon it's review and assessment of reports, information and data available within the public and private sectors, Clearview has concluded that this wasteshed generates enough wood waste to meet CRE's annual wood waste requirement.

- That numerous aggregators capable of meeting CRE's Acceptable Wood Waste Specifications are not well capitalized. Still other numerous aggregators have the permitted capacity to receive large volumes of waste wood but limited capacity to process (chip) the material.

- The large volume silviculture generators (tree services companies, overhead power line maintenance trimming crews and residential tree services companies) while well capitalized are not self-incentivized to invest in infrastructure that would provide regionalized waste wood drops at strategically located sites within the wasteshed. Historically these generators have simply dumped the majority of their chipped material at conveniently located residential homes.

As high volume generators these candidate supply sources are important to CRE and its Biomass Fuel Supply Plan. Accordingly, successful aggregator and generator and management will require CRE's biomass fuel sourcing representative's full time attention.

- While CRE's reconnaissance of existing wood-fired power plants across the US has concluded that long-term supply agreements have successfully addressed aggregator financial creditworthiness and thus consistency and reliability of wood waste supply, it is also clear that additional investment capital in the aforementioned strategic infrastructure will be the key to guaranteeing the long-term, lowest cost, supply of wood waste. Therefore, as part of CRE's strategic Biomass Fuel Supply Plan intends to put a Wood Waste Supply Optimization Program in place thereby creating a CRE/Supplier partnership wherein CRE would be prepared to commit capital to, among other things:
    - Develop strategically located and efficient Drop Zones for the high volume whole tree silviculture generators at existing and future permitted wood waste aggregation sites;
    - Install new efficient chipping systems compatible with the large existing wood pile volumes and future waste generation;
    - Supply over-the-road trailer fleet capacity as further convenience to generators, aggregators and processors;
    - Securing and permitting sites for seasonal storage and surge capacity; and
    - Commercially demonstrated systems for efficient sorting and processing of clean, unadulterated C&D wood waste.

- The region's mills, manufacturers and recyclers see wood waste end-user opportunities such as CRE as a major incentive for their waste volume reduction equal to their avoided disposal costs and/or sales of recovered recyclable materials to end users. However, current secondary materials markets for wood waste have historically been and continue to be, uncertain. Therefore, in the absence of a stable end-user marketplace many of these generators, aggregators and processors are forced to operate with their current non-recovery processes. Opportunities for economic outlet capacities hold a significant potential to change the dynamics for this market segment.
- Regional whole tree silviculture waste (logs and brush) is currently typically beneficiated by converting into colored landscaping mulch. The regional landscape mulch market has matured in the northeast out of necessity. Managers of this waste stream historically have had nowhere else to go with their processed material. Several issues combine to make the regionally produced chipped and colored product that currently goes to the local bulk mulch market a potential CRE source:
    - Regional producers of this material must stockpile large quantities on-Site waiting for the spring market to materialize. This increases operating costs dramatically due to bonding requirements associated with facility operating permit conditions. It also involves severe off-season cash flow droughts and in-season cash flow unpredictability.
    - The bulk landscape mulch market has very rigorous end-user specifications for color, texture, odor, etc. Complying with these specifications excludes large fraction of silviculture wastes (wet stumps are not a viable wood for coloring and too much oak creates an odor problem).

The rigorous specifications also add to the number of grinds required and therefore, processing costs. These wood waste aggregators would much prefer a consistent, predictable end-user market with a single grind fuel specification.

- The producers of mill waste are also looking for a viable, long term, predictable disposal option. Their market has historically been dominated by inconsistent, financially questionable contractors/haulers that are not always reliable. CRE can provide these wood waste producers with a viable, long-term solution.
- Typical of all businesses, wood waste generators and aggregators believe that their long term cost trend of doing business will only increase. Their disposal costs will increase as disposal options decrease and/or become more expensive. They are therefore, looking for less expensive options.
- In addition to those in-State processing operations already in existence, there are additional Volume Reduction permits pending with CDEP, while still other permit applications are being prepared. A review of the State Permit Application Management System database also indicates that numerous facilities are in the process of increasing their active capacity or are proposing new capacity.

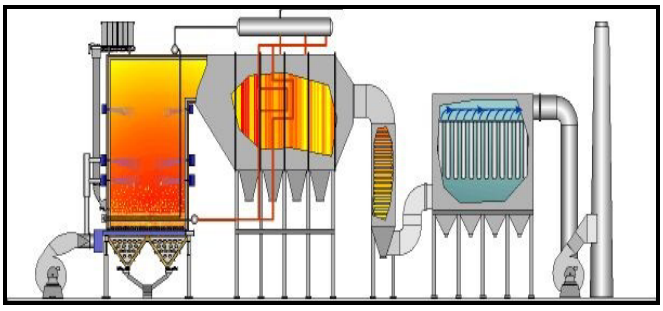
Securing adequate wood supplies for the Project and assuring the Project's CapEx lender that a long-term market exists for waste wood is perhaps the single most critical and complex task for CRE. Given this level of importance, CRE has proceeded with its campaign to further already established relationships with prospective suppliers and meeting with additional candidate suppliers. CRE is proceeding with detailed discussions with these priority suppliers and as the Project matures will incorporate the Wood Waste Procurement Optimization program to assure supply of low cost wood waste.

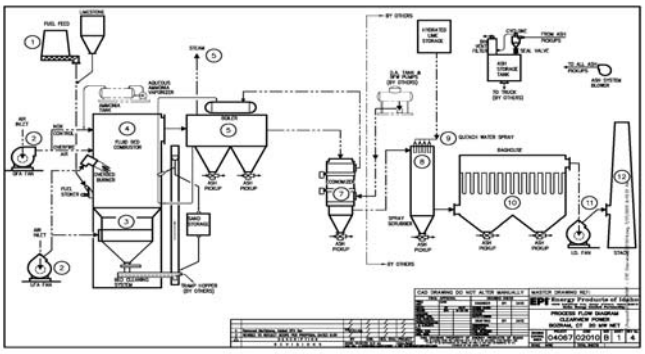
CRE will continue to formalize the Project's wood waste supply arrangements to secure the commitments required for a viable and successful Project.

2.5 Cogeneration Energy Supply Plan

CRE's Development Phase has included simultaneous Facility cogeneration design and negotiation/execution of commercial transactions matched to the Facility's CHP system that will produce electricity for sale to CL&P and thermal energy for sale to Kofkoff.

There are significant Project benefits associated with implementing this CHP configuration including that CHP includes higher overall system thermodynamic efficiencies, fuel efficiencies, emission reductions and thermal energy savings to Kofkoff's Fitchville farm operations.





As previously presented and discussed, the Facility's mixed biomass gasifier boiler will generate and deliver 295,000 PPH of steam (750°F/650PSIG) to a cogeneration-condensing turbine that will produce 29.0MW of electricity while simultaneously delivering a maximum of 20,000PPH of 150PSIG steam through a controlled extraction port.

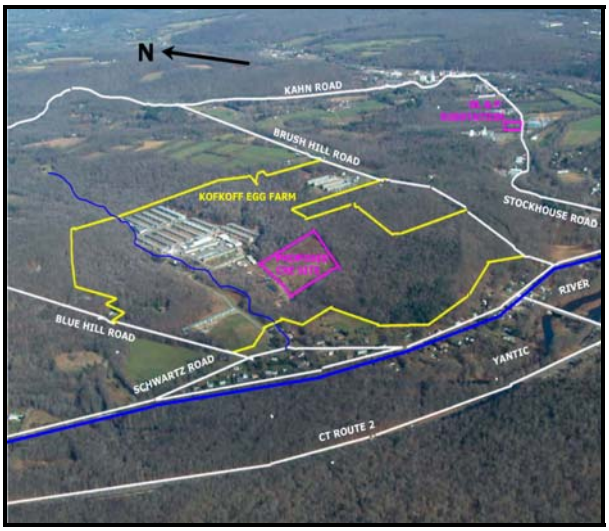
4.0MW of the Facility's electric generation will be used to meet the Facility's Station Load.

2.5.1 Electric Generation and Supply

A net 29.0MW of the Facility's electric generation will be delivered to CL&P via BL&P under the terms of a) a CRE/BL&P Interconnection Agreement; and b) a CRE/CL&P Standard Electric Purchase Agreement. The status of the Facility's Interconnection status is presented in Proposal Section 2.6.

2.5.2 Thermal Energy Generation and Supply

Facility cogeneration will be an integral part of the Project with CRE produced HW delivered to Kofkoff's Schwartz Road and Brush Hill Road farms. While both farms have pullet barns (young hen growing houses), only the Schwartz Road Farm also has egg layer barns and therefore, production egg washing facilities.



Both Farm operations use propane as the primary fuel source for pullet barn heating. The Schwartz Road Farm also uses oil for its brown and white egg washing operations. Tables 2.5-1 and 2.5-2 and Figures 2.5-1 and 2.5-2 provide an overview of Kofkoff's fossil fuel consumption.

2.5.2.1 Oil Consumption and Costs - Kofkoff currently heats its water using a dedicated oil-fired system for both brown and white egg washing just prior to USDA inspection, egg carton packaging, palletizing, and refrigeration storage for bulk over-the-road shipment. The Schwartz Road Farm egg washing operation processes 40% (6.6 million eggs per week) of Kofkoff's multi-farm weekly total of 15 million eggs.

The Farm's white and brown egg washing hot water demand is dictated by daily egg production, Farm egg washing staff shift operations and bulk shipping schedules. Hot water demand for egg washing is routinely during an 8-hour day shift, 365 days per year. As indicated in Table 2.5-1 this demand cycle is consistent throughout the year with the exceptions of the high egg demand/production holiday months of Easter, Thanksgiving and Christmas.

TABLE 2.5-1
KOFKOFF EGG FARMS, LLC
SUMMARY OF SCHWARTZ ROAD FARM EGG WASHING HOT WATER DEMAND

MONTH	HEATING OIL CONSUMPTION	
	GALLONS	COST ($)
JANUARY	3,666	3,763
FEBUARY	7,427	9,560
MARCH	4,337	5,394
APRIL	4,240	4,095
MAY	3,850	3,486
JUNE	1,404	1,229
JULY	2,443	2,244
AUGUST	3,144	2,899
SEPTEMBER	3366	2,982
OCTOBER	3000	2,905
NOVEMBER	5125	4,837
DECEMBER	4513	4,753
TOTALS	46,515	48,147

Figure 2.5-1 presents the monthly white and brown egg washing hot water demand profile and therefore, heating oil consumption.

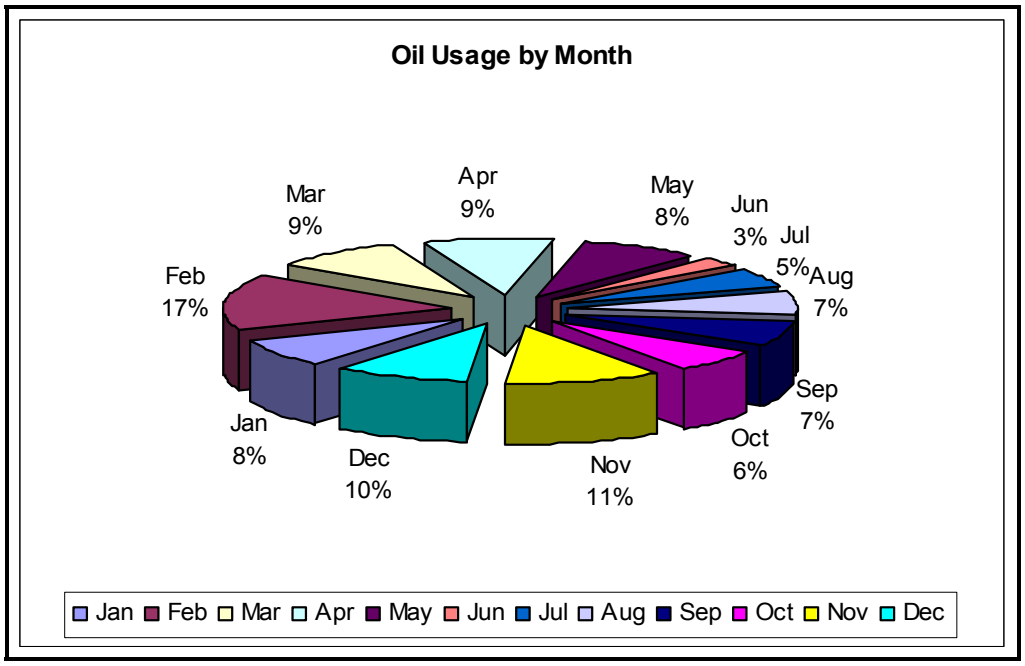


FIGURE 2.5-1

2.5.2.2 Propane Consumption and Costs – The majority of Kofkoff Fitchville Farm's propane consumption is for heating of its Schwartz Road and Brush Hill Road pullet barns. These barns require significant heat (90+ °F) while the young pullets mature to layers. A small amount of propane is also used to heat the Schwartz Road Farm Vehicle Maintenance Garage and the Farm's brown egg production washing area. Given the dominant space heating use, monthly and annual propane demand is also dominated by the seasonal weather conditions as indicated in Table 2.5-2 and Figure 2.5-2.

TABLE 2.5-2
KOFKOFF EGG FARMS, LLC
SUMMARY OF SCHWARTZ ROAD AND BRUSH HILL ROAD FARMS
PULLET BARNS HEATING DEMAND

PROPANE CONSUMPTION		
MONTH	**GALLONS**	**COST ($)**
JANUARY	23,049	$21,583
FEBUARY	38,919	$36,444
MARCH	27,308	$25,571
APRIL	23,965	$22,441
MAY	11,067	$10,363
JUNE	5,033	$4,713
JULY	1,463	$1,370
AUGUST	3,562	$3,335
SEPTEMBER	7,675	$7,187
OCTOBER	19,315	$18,087
NOVEMBER	35,034	$32,806
DECEMBER	32,992	$30,894
TOTALS	229,382	$214,797

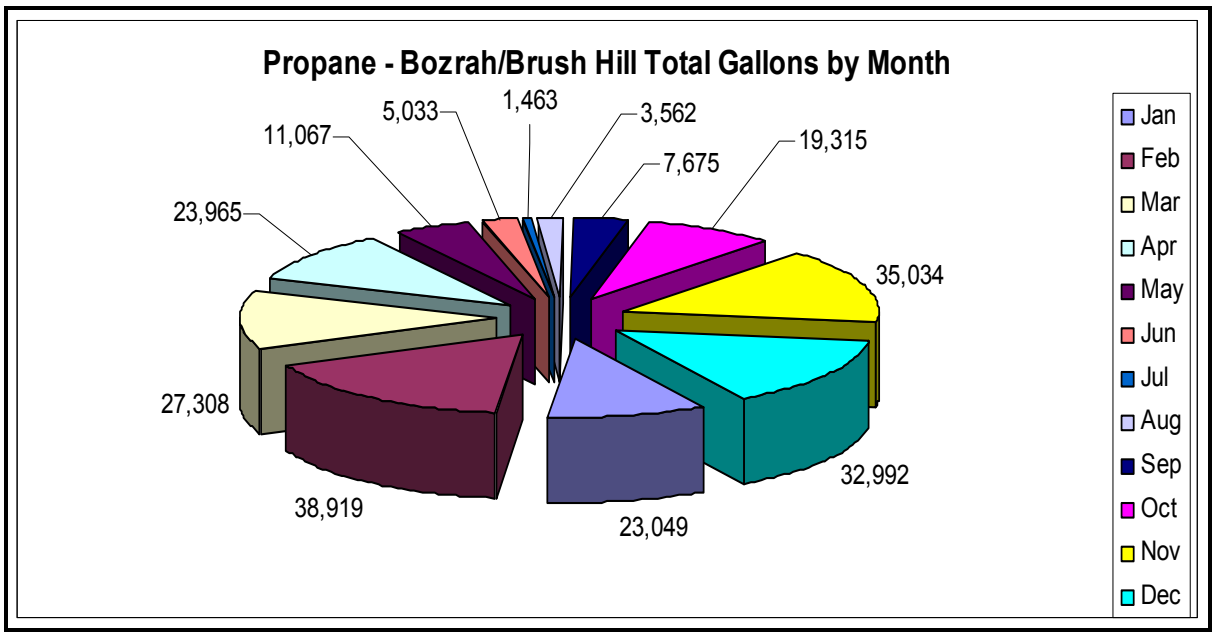


FIGURE 2.5-2

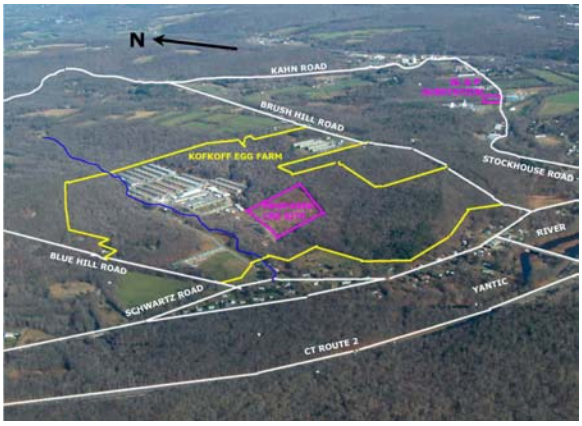
2.5.3 CRE Thermal Energy Supply – The Facility will supply thermal energy in the form of HW to Kofkoff's Schwartz Road and Brush Hill Road farms pursuant to a Thermal Energy Supply Agreement.

The Facility will include a 20MM BTU/Hr (Maximum) steam-to-hot water heat exchanger along with a variable flow pumped HW Supply and Return loop to both farms for pullet barns space heating and to Schwartz Road Farm's white and brown egg washing systems. This HW system will be adequate to meet Kofkoff's peak (February) hourly heating and hot water demand. Kofkoff's existing hot water boilers and barn heating systems remain as back up, providing thermal energy supply during periods of CRE Facility scheduled and unscheduled maintenance.

This cogeneration feature optimizes CRE'S thermodynamic Rankine cycle while simultaneosuly supplying Kofkoff with up to 26,008 MMBTU/Yr of thermal energy.

2.6 Interconnection Status

The CRE Project Site is located within Kofkoff's Fitchville Farm.



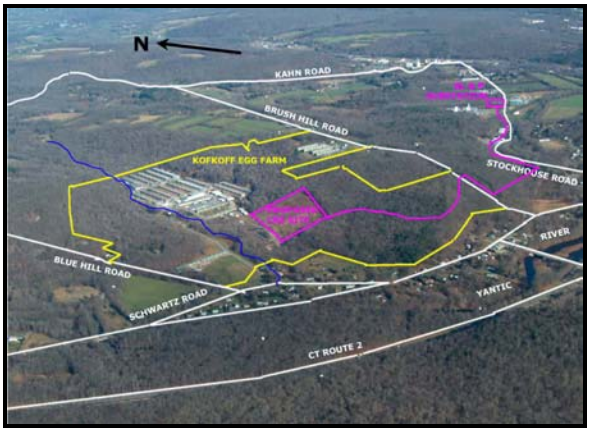
The Town of Bozrah (Town) is provided electricity from Bozrah Light and Power (BL&P) a subsidiary of Groton Utilities. The Town and Groton Utilities are hopeful that the Project proceeds for several reasons including the Project's Interconnection to BL&P's distribution system solving a very serious electric supply reliability problem.

The Town is currently served by a single 13.8KV transmission line from BL&P's Stockhouse Road Substation. If an accident or major storm event compromised BL&P's 13.8kV overhead distribution line along Stockhouse Road, electric service throughout the entire Town would not be available until repairs were made. The Town and CL&P have jointly considered a number of alternatives to solve the problem. None of the solutions considered to-date match the prospect of CRE's interconnection to BL&P's Stockhouse Road Substation and the simultaneous opportunity to connect to another existing BL&P 13.8kV overhead line along Schwartz Road resulting in a back-up interconnection capability. This solution, to a long-standing local electric distribution system problem, has itself created a high level of Project support and cooperation within the Town and BL&P/Groton Utilities

CRE commenced meetings with BL&P/Groton Utilities very early in the Project's Appraisal Phase to identify and assess interconnection alternatives and costs. Subsequent meetings, during the Project Development Phase were held to review routing options between the Project Site and BL&P's Stockhouse Road. Substation.

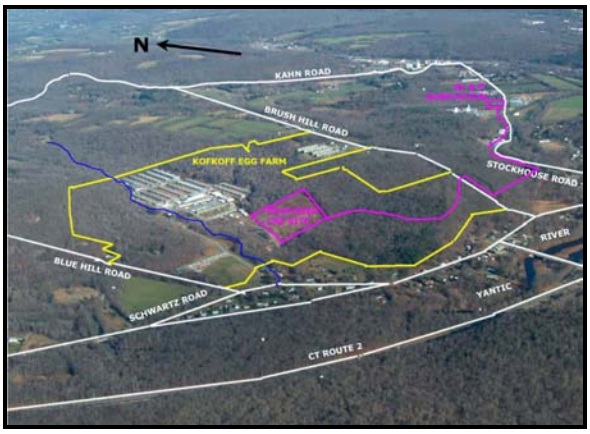
Groton Utilities has developed detailed cost estimates for the following three (3) alternative routing options identified during these meetings:

Option 1 – Under this Option the Interconnection would exit the Stockhouse Road Substation via Stockhouse Road and follow Stockhouse Road south to the intersection of an abandoned railroad right-of-way (ROW) to properties along Stockhouse Road. The new line will continue west along these properties to Brush Hill Road. This routing will require CL&P easements along the railroad ROW and the properties along Stockhouse and Brush Hill roads. The approximate length of this route is 7,300 feet.



OPTION 1

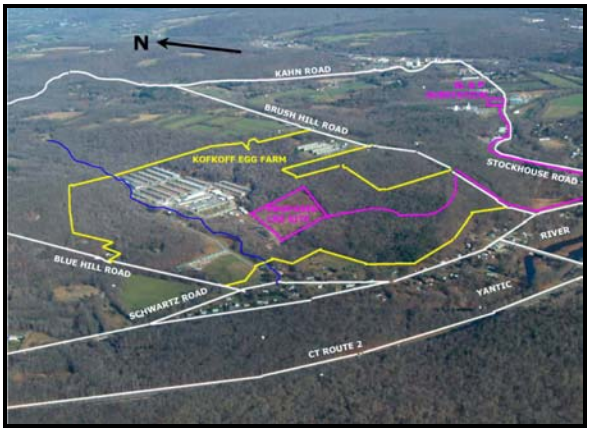
- **Option 2**- Under this Option the Interconnection would exit BL&P's Stockhouse Road substation via the Northeast Utilities (CL&P) right of way (ROW) for the 115kV transmission lines. The new line would follow the railroad ROW to the same properties along Stockhouse Road. The new overhead line would continue along the properties to Brush Hill Road.



OPTION 2

This routing will require easements in the NU and railroad ROWs, as well as on properties along Stockhouse and Brush Hill roads. Costs for obtaining these easements have not been included in the estimates. Approximate length of this route is 8,700 feet.

- **Option 3**- Under this Option the Interconnection would exit BL&P's Stockhouse Road Substation via Stockhouse Road and follow Stockhouse Road south to Fitchville Road. This new overhead line would then travel along Fitchville Road to Brush Hill Road. The line would follow Brush Hill north for approximately ½ mile. No easements will be required for this route. Approximate length for this route is 11,880 feet.



OPTION 3

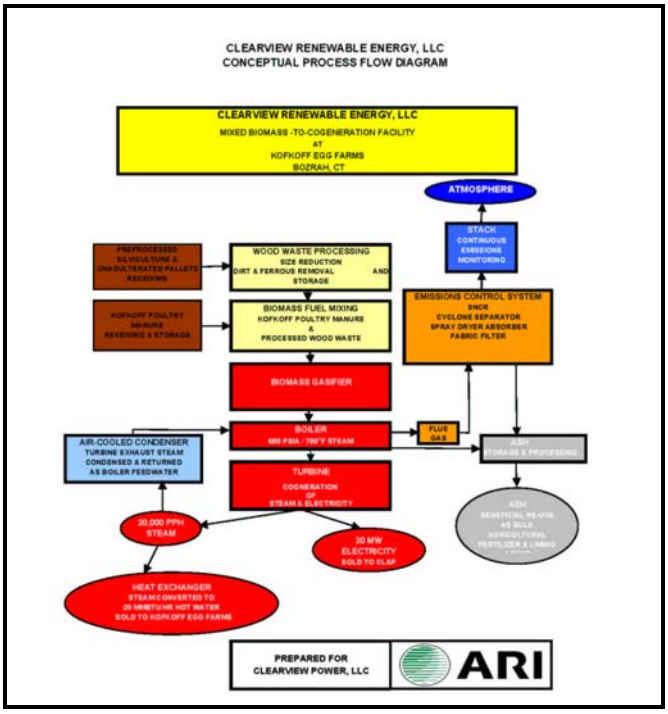
Implementation of any of these interconnection options would result in the interconnection of the Project to the CL&P system. There are currently no known barriers to the viable interconnection of the Project to CL&P's system via BL&P's Stockhouse Road Substation.

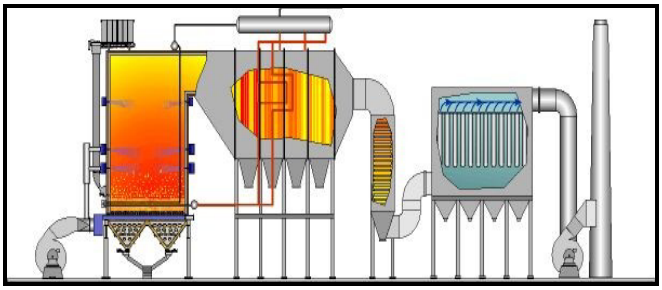
2.7 Ashed Biomass Management Plan

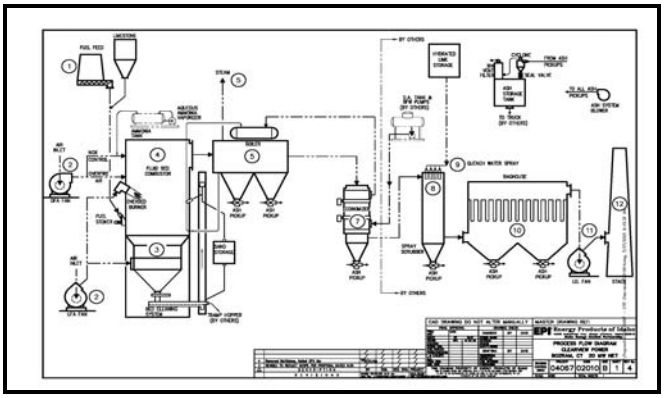
As indicated in the Project's Mass and Energy Balance the proposed CRE Facility will generate approximately 58 TPD (4.00% [by weight] of the Facility's throughput) of ashed biomass.

CRE has developed an effective plan to manage beneficial reuse of the Project's ash residue as a marketable product with significant commercial value:

- Analysis of the Project's biomass feedstocks;
- Selection of the Facility's combustion process and ash handling system;
- Establishing a comprehensive product-marketing program, including product registration with 1) CDA as a commercial fertilizer under CT Statute 22-1.1.1a-q and 2) USDA as an organic fertilizer under 7 CFR 225 the National Organic Program managed by USDA's Organic Marketing Service.







As part of Project Development Phase activities to establish the environmentally safe and nutrient rich value of the Project's ashed biomass, CRE has undertaken the following activities:

- Comprehensive technical literature search for applications of wood ash as a soil fertilizer, liming material, or soil amendment;
- Review of the Project Gasifier manufacturer's available data on ashed poultry litter and wood waste;
- Extensive laboratory analyses (Appendix 1C) of the ashed fraction of CRE's As-Fired Biomass Fuel blends (Kofkoff poultry manure and regional wood supplier samples);
- Meetings and discussions with CDA in connection with CT Statutes 427a – Fertilizer and 427b – Soil Amendments and Agricultural Liming Material; and
- Identification of regional and national bulk fertilizer manufacturers, distributors and users.

Beneficial Use of Wood Ash on Agricultural Land
April 6, 2001

This fact sheet is intended to provide general information to potential users of unadulterated[1] wood combustion ash as an agricultural amendment. It is the responsibility of the producer and user of the ash to determine the appropriateness of a particular application and to select applicable tests and specifications to facilitate its use and environmental protection. Potential users of unadulterated wood combustion ash on agricultural land should contact the appropriate state regulatory program to identify specific use conditions and permit requirements. A listing of state contacts is located at the end of this fact sheet.

MATERIAL DESCRIPTION

Wood ash is produced in large quantities from wood-burning energy plants. Unadulterated wood ash is derived from the burning of clean and/or virgin wood, and consists of bottom ash, fly ash or a combination of the two. The characterization of wood ash is dependent upon the type of wood burned. Generally, hardwood ash contains a higher percentage of nutrients than ash from softwoods, and hardwoods produce more pounds of ash per pound of wood burned. In terms of agricultural nutrients, wood ash generally contains 50-70 percent calcium and 6-8 percent potassium, and some magnesium, along with trace quantities of phosphorus and no nitrogen.

BASIC DESCRIPTION OF USE

Unadulterated wood ash can have beneficial agricultural properties either as a liming material or a fertilizer. Therefore, the proper utilization of unadulterated wood ash could be a benefit to farmers and save valuable landfill space. Wood ash raises the alkalinity (pH) of the soil similar to limestone. However, wood ash has a high water solubility and quickly changes the pH, whereas limestone acts more slowly (over six months or so).

Wood ash can help a composting operation maintain a neutral condition which is the best environment to help microorganisms break down organic materials. An appropriate quantity of ash could be applied on each layer of compost as the pile is built.

CRE has completed independent laboratory analysis of projected ashed as-fired manure/wood chips fuel blend with specific chemical analysis of the following elements and compounds:

- Ash pH
- Alumina
- Calcium
- Calcium Carbonate Equivalency
- Chlorine
- Iron Oxide
- Magnesium Oxide
- Manganese Oxide
- Nitrogen
- Phosphorous
- Potassium
- Silica
- Soda
- Sulfur
- Titania
- Arsenic
- Boron
- Cadmium
- Chromium
- Cobalt
- Copper
- Mercury
- Manganese
- Molybdenum
- Nickel
- Lead
- Selenium
- Zinc

In addition, as advised by the State Department of Agriculture, CRE has tested for the following micronutrients: Al, Ca, Fe, Mg, Mn, P, K, Si, Na, S, and T.

After review and analysis of the analytical test data supplied by CRE's independent lab, and as confirmed by the CT Department of Agriculture, the ash product from Kofkoff Farms can be used as an agricultural fertilizer. CRE has also begun discussions with bulk agricultural commercial fertilizer manufacturers, as well as bulk organic agricultural fertilizer distributors, a niche that holds great marketing promise for CRE's "organic potash fertilizer". Effective October 2002, (7 CFR Part 205) USDA established the National Organic Program (NOP) requiring producers of fresh and processed organic crops to be certified to sell, label or represent products as:

- □ "100% Organic";
- □ "Organic"; or
- □ "Made with Organic Ingredients"

Since wood ash created through the combustion of clean, uncontaminated and unadulterated wood waste has already been approved by the USDA for organic agricultural application and the independent laboratory results performed on CRE's mixed biomass ash indicates that it has fertilizer qualities superior to wood ash alone, CRE will seek to exploit the organic niche market opportunity.

This analysis, findings and conclusions derived from test data, confirmed the viability of the ash product from the Facility to be used as a safe and acceptable agricultural fertilizer and/or liming material. This acknowledgement from the State Department of Agriculture confirms the high value of the Project to create a healthy "sustainable agricultural/energy ecology" with maximum use and recycling of energy and nutrients for high productivity and protection of environmental resource

2.7.1 Biomass Feedstocks Controls

Consistent with CRE's goal to establish energy ecology, CRE will screen all poultry manure and wood biomass deliveries to the Facility. Clearview has already established specifications and protocols requiring positive clean, unadulterated wood sorted biomass. The positive sort protocol will prevent inadvertent deliveries of unacceptable off-spec materials.

2.7.2 Biomass Processing

Biomass will be processed using EPI's proven gasifier technology to ensure a high confidence level that the Facility will operate as planned and designed. The proposed process will transform the biomass feedstock into a uniform ash residue that will have value and be acceptable for land application as either a bulk agricultural fertilizer or a soil liming material. The recycling of materials as a soil fertilizer or liming material will have inherent value to improve soil fertility and increase local agricultural productivity for continued crop production. The process will also avoid characterization of residual material as waste ash requiring costly and inefficient landfill disposal.

2.7.3 Ashed Biomass Management

Consistent with CT Public Act 00-96, an Act Concerning Soil Amendments and Agricultural Liming Materials and 7 CFR 225, establishing USDA's National Organic Program rules and regulations, CRE has developed a soil fertilizer/liming material management program with the following components:

- Regulation and certification with the CDA and USDA;
- Label and display management;
- Development of "proof of claims" for the CDA and USDA;
- Certified laboratory chemical analysis and availability for inspection;
- Development of an organic bulk soil fertilizer/liming material marketing program; and
- Monitoring of the program for effectiveness and compliance

2.7.4 Conclusions

CRE is confident that the above Ashed Biomass Management Plan is achievable and will result in the greatest opportunity for the management of the Project's ash residue in a safe, efficient and cost-effective manner. CRE is further confident that the cumulative value to the agricultural community and rural economy will be substantial and provide additional justification for the Project.

2.8 CONSTRUCTION PHASE PLAN

Selecting an Engineering, Procurement and Construction (EPC) contractor and executing an EPC contract are among the most critical decisions CRE must make. After lengthy review, discussions and EPC agreement negotiations with several candidates for its proposed CRE Project, Clearview has identified CH_2MHill as the preferred EPC contractor. CH_2MHill has all of the requisite capabilities to provide the depth of engineering, procurement and construction services necessary for a successful CRE Project. CH_2MHill has completed over 10,000MW of power projects within the last five (5) years. CRE will seek to enter into the formal CRE EPC Agreement with the preferred EPC contractor immediately following CRE's selection as a Round II Renewal Energy Project by CCEF.

CRE and the Project Development Team, have been working on the Project's design, gasification, cogeneration and emissions control systems, Site arrangement, building designs, etc for the past thirty-one (31) months. Together this Team has proceeded under a disciplined programmatic approach to the design and cost estimating process required by the Project. Three (3) major documents establish the foundation for proceeding:

- Project Approach and Execution Plan
- Design Criteria and Scope of Work
- Equipment List

CRE's Project Team has made significant progress towards completion of the design and cost estimating phases of the Project. Following is a brief summary of certain major milestones completed to date,

- Issued Request for Quotations and received bids for all major equipment;
- Issued foundation package design drawings for bid, received and reviewed bid packages;
- Completed Site civil works requirements, access road design, Site drainage, etc.;
- Completed Gasifier/Boiler Island General Arrangement Drawings;
- Completed Site Plan;
- Completed Project General Arrangement Drawings;

- Completed boiler design and erection drawing set;
- Completed design and issued RFQ for wood fuel processing systems;
- Completed design and issued RFQ for truck scales and weigh house;
- Completed design and issued RFQ for Steam Turbine;
- Completed design, issued RFQ and received/reviewed bids for Air Cooled Condenser (ACC), condensate tank, deaerator and vacuum pump or ejector skid;
- Completed design, issued RFQ and received/reviewed bids to engineer, fabricate and supply boiler feed pumps;
- Completed design, issued RFQ and received/reviewed bids for waste wood/ poultry manure pug mill; and
- Completed design, issued RFQ and received/reviewed bids for pre-engineered buildings.

The Project continues to evaluate responses to the formal RFQ's. The Project has completed the value engineering phase, focusing on all aspects of Project design, equipment selection, project layout and general arrangement, etc. CH_2MHill and CRE representatives visited representative existing wood fired power projects with the specific objectives of assessing, evaluating and optimizing design elements for Site arrangement, Wood Yard design, fuel handling design, weather optimized design parameters, maintenance optimized design parameters, truck weighing, tipping and traffic flow designs, spare parts inventory review, etc. This value engineering activity was critical to Site Plan and Facility General Arrangement, Wood Yard arrangement and location, poultry manure storage and conveying system, as well as wood waste and poultry manure mixing/blending systems.

The extensive design, value engineering and cost estimating activities provide the foundation for the EPC Price and resulting Pricing Proposal incorporated herein.

CRE and CH_2MHill intend to proceed with completion of a definitive and final Engineering, Procurement and Construction Contract during the period immediately following selection by CCEF.

2.9 Project Operation

CRE's ability to successfully develop, finance, construct, own and operate the proposed Project will be influenced by its selection of a qualified third party retained to operate and maintain the Facility. Clearview has successfully secured third party O&M services from qualified companies for it's other projects. Clearview insists that the selected entity demonstrate hands-on experience with similar facilities, systems, fuels and operating permits. Clearview also seeks firms already operating facilities within the same geographical area. This optimizes access to experienced operators and skilled maintenance craft labor, while at the same time minimizing incremental O&M contract cost.

In this case, CRE set out to assess its northeast regional O&M Services market options, identifying qualified entities experienced with biomass fuel-based power generation facilities. The search quickly narrowed to three (3) firms and following further comparative review and consideration, narrowed to Covanta Energy.

Covanta Energy is ideally suited to provide CRE's required operations and maintenance services based upon its unmatched international, national, northeast and in-State O&M waste-to-energy projects portfolio. Covanta's current in-State facilities portfolio alone includes the following:

TABLE 1

LOCATION	RATED OUTPUT (MW)	RATED THROUGHPUT (TPD)	PROJECT ROLE	SERVICES START DATE
BRISTOL	**16.3**	**650**	**OWNER/OPERATOR**	**1988**
WALLINGFORD	**11.0**	**420**	**OWNER/OPERATOR**	**1989**
HARTFORD	**68.5**	**2,000**	**OPERATOR**	**1987**
PRESTON (1)	**20**	**690**	**OWNER/OPERATOR**	**2005**

(1) Facility acquired as part of recent acquisition of American Ref Fuel.

Covanta's multiple in-State waste-to-energy (WTE) facilities provides a truly unique ability to leverage its existing O&M staffing by using its existing roving technicians, already providing services to all of Covanta's northeast plants. This presence provides additional value to CRE through 1) reduced premium labor O&M costs and 2) Covanta's bulk purchasing power for common consumables required by all of its plants including aqueous ammonia, water treatment chemicals, waste water disposal services, parts, etc.

In addition to the in-State facilities owned and operated by Covanta, the company also owns and operates thirty-five (35) other international and national power generation projects. Of particular relevance to CRE is Covanta's Pacific-Ultrapower Facility located in Chinese Camp, CA. This 25MW wood waste-fired Facility also has an EPI Fluidized Bed System, another significant CRE benefit.

The above summary of Covanta's experience and cost effectiveness set them apart from the other O&M services candidates considered by Clearview.

CRE has executed a Memorandum of Understanding with Covanta for Project O&M services to CRE. Covanta will provide additional value to the established CRE Project Team with Development and Construction Phase input from its experienced O&M management, operations and maintenance personnel.

The objective is to align the CRE Project with the long-term viable operational requirements necessary for a successful Project. This includes fuel delivery coordination. Covanta brings that added expertise to the CRE Project with the type of operations currently ongoing at its WTE Facilities.

CRE is confident it has made the right decision with the execution of the MOU with Covanta and adding Covanta's talented O&M management capabilities to the CRE Project team.

3.1 INTRODUCTION

This Section provides detailed descriptions of the CRE Project and Project Site. CRE is proposing development of a Class I Renewable Energy Project, which would be a new mixed biomass-to-CHP Facility located in New London County's Town of Bozrah, within the unincorporated hamlet of Fitchville (Figure 3-1).

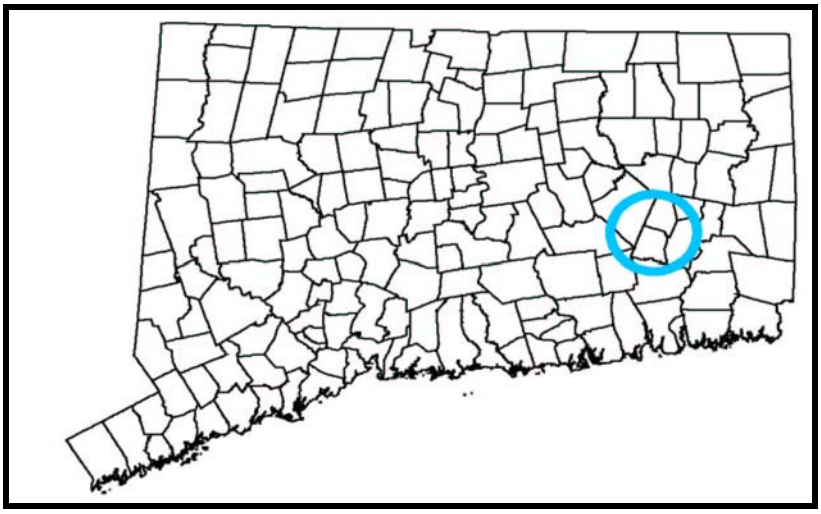


FIGURE 3-1

CRE's ability to achieve a June 2010 COD, is the result of CRE's extensive thirty-one (31) months of Project planning and development at the federal, State and local levels. Highlights of this effort include the following:

- ***Project Site***
  - ***Screening & Selection***

    The Project Site has emerged from an intense site canvassing and screening process. The Project Site is ideally located, appropriately zoned and owned by Kofkoff. It is approximately 4000' from BL&P's and CL&P's 13.8/69kV/115kV Stockhouse Road Substation (Figure 3-2) to the east and close proximity to Kofkoff's thermal energy demands.

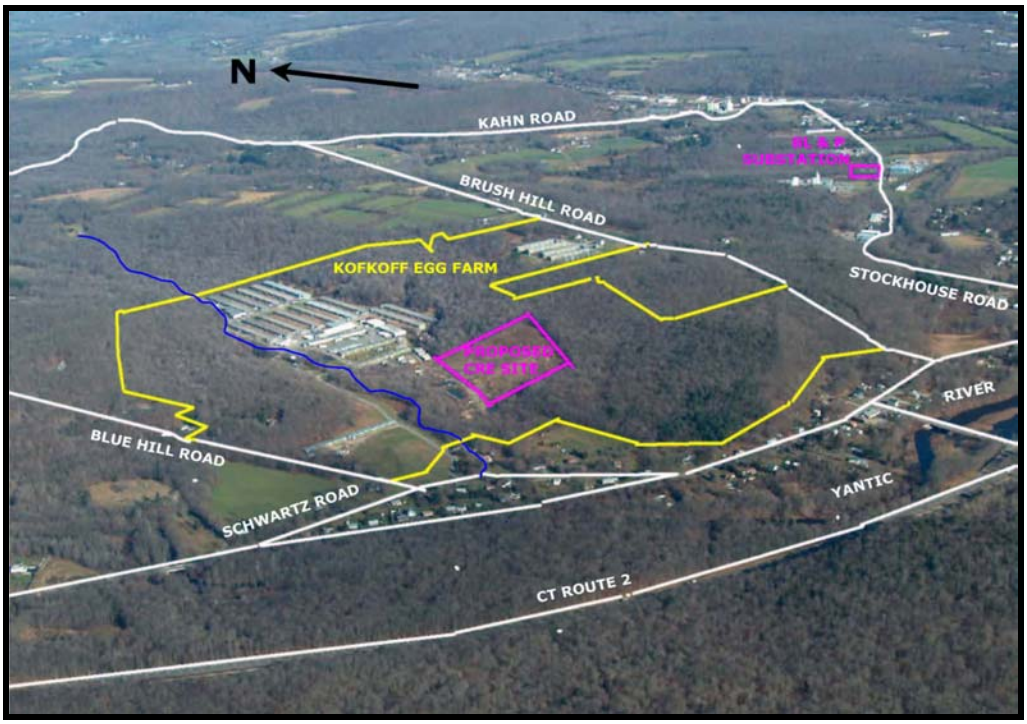


FIGURE 3-2

- ***Control***

  Under the terms of Project Development and Site agreements executed by CRE and Kofkoff, CRE holds exclusive development rights to the Candidate Project Site (Figures 3-3 and 3-4).

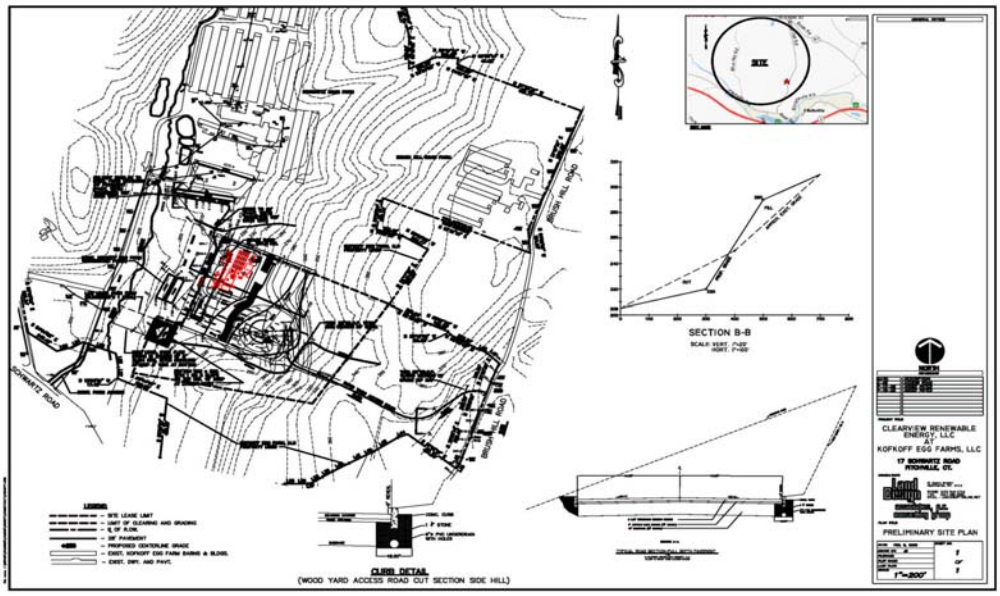


FIGURE 3-3

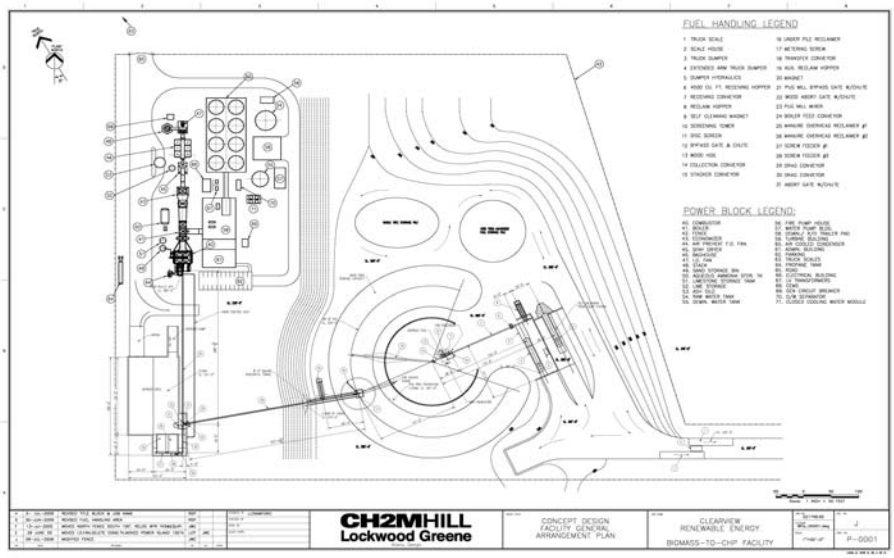


FIGURE 3-4

- ***Project Permitability***

  Over the past thirty-one (31) months CRE has worked with all jurisdictional agencies including federal (FAA, USDA and USEPA), State (CDA, CDEP, CDPUC) and Town (Selectmen and Planning & Zoning Commission) to establish the Project's permitability.

- ***June 2010 Commercial Operation***

  As indicated in Section 4.0 CRE can deliver the proposed Project's 29.0MW Net/10MMBTU Combined Heat & Power (CHP) Facility to CL&P by June 2010.

CRE is prepared to undertake the remainder of Project engineering, permitting, financing, procurements, construction, commissioning and commercial operation of this proposed Project 100 Renewable Energy Facility. 29.0MW generated by CRE's proposed mixed biomass-to-CHP Facility, would be purchased by CL&P under the terms of a Standard Electricity Purchase Agreement. Additionally, an average hourly 10MMBTU/Hr (20MMBTU/Hr maximum) of thermal energy, in the form of hot water (HW), would be purchased by Kofkoff under the terms of a Thermal Energy Agreement.

3.2 PROJECT SITE

3.2.1 Location

As previously stated, the Project Site (Figure 3-2) was selected for its strategic location and characteristics for a mixed biomass-to-CHP Facility, which include the following:

- Located on Kofkoff's Fitchville Farms where:
  - 40% of Kofkoff's total poultry manure is generated;
  - Kofkoff's eggs are washed, USDA inspected, packaged and refrigerated prior to being shipped to the marketplace;
  - There are five (5) heated chick (pullet) barns;
  - The Project is compatible with the Town's RU-1 Zoning District that includes Specialized Agricultural Buildings as Permitted Uses, such as CRE's proposed Facility; and
  - The Site is well buffered from commercial, residential and recreational land uses abutting the Farms' 259 acres.
- The Site is approximately 4000' from BL&P's 13.8/69kV Stockhouse Road Substation to the east and 1800' to the Kofkoff Fitchville Farm complex thermal energy demands.

3.2.2 Description

As shown in Figures 3-2, 3-3 and 3-4, the 31 acre Project Site is a fully disturbed and undeveloped interior parcel within Kofkoff's 259 acre Fitchville Farm.

Based upon CRE and Kofkoff meetings with Town representatives (Planning and Zoning Commission and Town Planner), the leased Site will only require formal Site Plan approval (Volume II – Draft Zoning Application). As shown in Figure 3-3, the Site would have two (2) separate accesses to different public roads:

- Through an easement provided under the CRE/Kofkoff Site Lease, the Project's Plant Yard would have access/egress to Schwartz Road via Kofkoff Schwartz Road Farm's existing entrance/exit.

- The Project's Wood Yard would have direct access/egress to Brush Hill Road via a new access/egress road constructed as part of the Project.

As Figures 3-2 and 3-3 indicate the Project Site is upland of Kahn Brook, which traverses the entire Farm flowing from north to south. Kahn Brook exits along the Farm's south property line crossing Schwartz and Fitchville roads just before discharging into the Yantic River. As shown in Figure 3-3:

- A 250' buffer will be maintained between existing vegetation along Kahn Brook and the Site's western-most leasehold boundary; and
- A new stormwater retention basin, sized to handle a 100-year storm event, will manage stormwater flowing down gradient toward Kahn Brook from the Plant Yard and Wood Yard.

Under the terms of the CRE/Kofkoff Site Agreements, during the Construction Phase:

- Laydown and subassembly areas will be accommodated at various locations on the Farm within proximity to the Site (Figure 3-5); and
- Craft parking will also be accommodated at various locations on the Farm (Figure 3-5).

FIGURE 3-5

As shown in Figure 3-4, the Project Site will be completely fenced with single gated entrances to the Plan Yard and Wood Yard for security and each Yard's related traffic control. The Wood Chips Feed Conveyor is the sole physical connection between the Wood Yard and Plant Yard. All poultry manure deliveries, Facility administration and Plant Yard O&M staff, as well as all Plant Yard O&M materials and supplies, will enter the Plant Yard at the main security gate located at the northwest corner of the Plant Yard. All wood chips deliveries, Wood Yard O&M staff, as well as Wood Yard O&M materials and supplies will enter the Wood Yard at the main security gate located at the southeast corner of the Wood Yard.

All poultry manure and wood chips vehicles will be weighed visually inspected and cleared at the separate Plant Yard and Wood Yard scales (Figure 3-6). Following weighing Kofkoff's poultry manure vehicles (Figure 3-7) will proceed to the Plant Yard's enclosed manure Receiving Bay, back into the Bay, untarp, discharge their loads into a receiving hopper, broom clean, re-tarp and exit the Bay.

FIGURE 3-6

FIGURE 3-7

Following weighing all wood chips deliveries (Figure 2-6) will proceed to the Truck Tipping Platform. Arriving wood chip tractor-trailer delivery rigs will be backed onto a tipper platform (Figures 3-8 and 3-9), which will raise the entire rig discharging the payload into the Platform's receiving hopper. When the load is completely discharged the tipper platform will be lowered back down to grade and the rig will exit.

FIGURE 3-8

All biomass vehicles (poultry manure and wood chips) will be re-weighed at the Plant Yard (poultry manure) and Wood Yard (wood chips) scales upon exiting. In addition to all biomass vehicles, all aqueous ammonia, Gasifier sand, ash and propane vehicles will also be weighed upon entering and exiting the Plant Yard.

3.3 THE FACILITY

3.3.1 Overview

CRE is developing a mixed biomass gasification-to-CHP Facility with a projected June 2010 Commercial Operation Date (COD) capable of simultaneously delivering the following energy products:

- 29.0MW to CL&P; and
- An average hourly 10MMBTU/Hr (20MMBTU/Hr maximum) to Kofkoff Egg Farms' adjacent Bozrah farm complex.

CRE's Project Milestone Schedule is presented in Section 4.

3.3.2 Project Layout and Appearance

Figure 3-4 presents the Project's physical layout and general arrangement, which include the following key structures, buildings, systems and equipment:

- ***Plant Yard***
  - Administration & Control Building
  - Weigh Scale
  - Mixed Biomass System
    - Poultry Manure Vehicle Receiving & Maneuvering Area
    - Enclosed Manure Receiving Hall
    - Enclosed Mixed Biomass Fuel Pre-Mixer
  - Cogeneration System
    - Mixed Biomass Gasifier
    - Heat Recovery Steam Generator (HRSG)
    - Controlled Extraction Steam Turbine
    - Air Cooled Condenser
    - Steam-to-Hot Water Heat Exchanger and Pumped Hot Water Distribution System
  - Air Pollution Control (APC) System
    - Gasifier
    - In-Bed Lime Injection (SOx)
    - Over-Bed SNCR Aqueous Ammonia Injection (NOx)
    - Boiler (PM)
    - Spray Dryer (SOx, HCL and H_2SO_4)
    - Fabric Filter Baghouse (PM)

- Ash System
  - Boiler
  - APC
  - Combined Ash Conditioning, Storage and Load-out
- Electrical Switchyard
- Storage Tanks
- Main and Auxiliary Transformers

- ***Wood Yard***
  - Weigh Scales (Figure 3-6)
  - Tractor Trailer Staging Area (Figures 3-3 and 3-4)
  - Hydraulic Platform Tippers with Discharge Hoppers (Figures 3-8 and 3-9)
  - Wood Chip Conveyors with Primary and Secondary Ferrous Metal Magnets (Figures 3-11 and 3-12)
  - Wood Hog (Chipper) (Figure 3-10)
  - Wood Chips Stockpile Stacker/Reclaimer (Figures 3-9 and 3-13)
  - Active (Wood Chips) Stockpile (Figure 3-9)
  - Dead (Silviculture) Stockpile (Figure 3-15)
  - Wood Chips supply conveyor to Plant Yard (Figure 3-4)
  - Rolling Stock
    - Front–end bucket loader
    - Skid steer

FIGURE 3-9

FIGURE 3-10

FIGURE 3-11

FIGURE 3-12

FIGURE 3-13

FIGURE 3-14

FIGURE 3-15

FIGURE 3-16

3.3.3 Site Infrastructure

- ***Fuel Supply, Storage & Use***
  - ***Propane Storage and Use***

    CRE anticipates that CDEP will require CHP system startup, shutdown and minimum operating temperature control, by gas firing. This Facility permit requirement will be accomplished through an on-Site Propane Storage Tank to be located on the west side of the CHP system (Figures 3-4 and 3-16).

  - ***Biomass Storage and Use***

    The CHP system will exclusively fire a pre-blended biomass mix of Poultry Manure and Processed Wood Chips. The Manure-to-Chips blend ratio will automatically be varied to maintain a constant As-Fired Fuel feed rate of 488.9 MMBTU to the CHP system's Gasifier.

    The Wood Yard's Active Wood Chips Stockpile (Figure 3-4) will be maintained at 8400 Tons, which is the equivalent over seven (7) full days of Gasifier/Boiler firing capacity. Based upon CRE's reconnaissance of US wood-fired power plants this stockpile capacity along with CRE's on-Site Dead Storage silviculture stockpile (Figure 3-4) should be more than adequate to handle holiday weekends, extreme weather and seasonal variations in the silviculture fraction of CRE's regional wood waste supply.

    The Plant Yard includes an enclosed Poultry Manure Receiving Hall with an aggregate storage capacity of 1700 Tons, which is equivalent to five (5) days of Kofkoff's poultry manure deliveries.

- ***Water Supply, Storage & Use***

  As shown in the Project's Water Balance water is used for:
  - CHP System - HRSG Make-up
  - Air Pollution Control System
    - Gasifier Above-bed SNCR (NOx Control)
    - Spray Dryer (PM, SOx, HCL and H_2SO_4)
  - Ash Conditioning and Dust Control

- General Facility Maintenance
- Staff and Visitors Potable and Sanitary Needs
- Fire Protection

The Project's potable, process, sanitary and fire protection water requirements will be satisfied through connection to the Norwich Public Utilities' (NPU) existing 30" 80 PSIG main located along Fitchville Road (Figure 3-17).

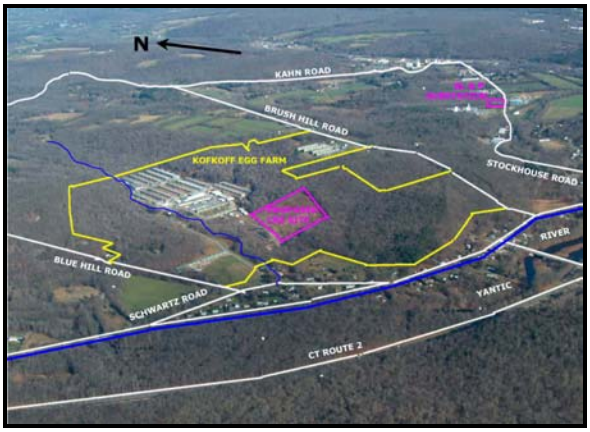


FIGURE 3-17

A 300,000 Gal above ground Raw Water Storage Tank will be located in the Plant Yard's northeast corner (Figure 3-4). Demineralized water is required for CHP System makeup. A Mobile Demineralization and Polishing System will treat NPU's raw water supply. The mobile water treatment equipment will be located in the northwest corner of the Plant Yard just to the west of the Air Cooled Condenser (Figure 3-4). Pumps, piping, and hook-ups will be provided for two (2) mobile demineralization trailers. The trailers will produce demineralized water using a cation/anion exchange process. A 180,000 Gal above ground Treated Water Storage Tank will also be located in the Plant Yard's northeast corner (Figure 3-4).

- ***Wastewater Management***
  - ***Sanitary Wastewater*** - will be managed using an on-Site septic system.
  - ***Process Wastewater*** - will be held in a 5,000 Gallon Hold-and-Haul Tank that will be periodically serviced by a certified collector/hauler and taken to a regional Wastewater Treatment Plant.

- ***Stormwater Management***

  Stormwater will be managed through the following system (Figure 2-3):

  - ***On-Site Stormwater***

    The majority of stormwater generated on the Wood Yard and Plant Yard parcels (Figure 3-4) will be collected, controlled and directed by natural gravity flow to the retention pond as open channeled surface water through Site grading and contouring. Channel headwalls, culverts and buried gravity flow pipe will be an integral part of this collection system where stormwater must pass under and around on-Site paved areas.

  - ***Off-Site Stormwater***

    - ***Access/Egress Roads***

      - ***Wood Yard***

        Integrated road pavement contours, with catch basins and subsurface gravity piping system will be the primary method of collecting roadway stormwater and transporting the eastern portion to the existing drainage channel along Brush Hill Road and the western portion to the reconfigured existing stream that will flow to the new retention pond located at the southwest corner of the Plant Yard.

      - ***Plant Yard***

        Integrated road pavement contours, with catch basins, dry wells and controlled overflow to Kahn Brook will be the primary method of collecting this roadway's stormwater.

- ***Undeveloped Farm Area***

  The Project's detailed topographic Site and Road survey will cover the 31-acre leasehold, as well as the Plant Yard and Wood Yard access/egress roads (Figure 3-3). This survey, coupled with pre-Construction Phase storm event observations, will be used to 1) identify tributary areas; 2) identify existing surface stormwater flow patterns; and 3) determine how best to manage future surface stormwater flow from the undeveloped upland farm area to Kahn Brook once the Plant Yard, Wood Yard and their dedicated Roads are in place.

  To the greatest extent practicable, existing surface stormwater flow patterns and watercourses will be left undisturbed. CRE will incorporate physical improvements only where such flow patterns require improvement, or redirection to accommodate the Project, including access/egress roads.

- ***Interconnection to BL&P's 69kV Electric Transmission System*** – An on-Site 13.8kV Switchyard will connect the Facility to BL&P through BL&P's existing 13.8/69kV Stockhouse Road Substation located within 5000' of the Project Site (Figure 3-2). Proposal Section 1.10 presents CRE's Interconnection Plan and Status

3.3.4 Biomass Receiving, Processing, Storage and Retrieval

As previously discussed the Facility will exclusively receive manure generated on Kofkoff's six (6) poultry farms within New London County and clean, unadulterated and uncontaminated wood chips delivered by regional waste wood generators, aggregators and processors licensed by CDEP as Regulated Wood Fuel Suppliers.

- ***Poultry Manure Fraction***

  As previously stated the Plant Yard will receive an average of 340TPD of Kofkoff Poultry Manure. This fraction will be directly fed to and retrieved from the Plant Yard's total enclosed Manure Receiving and Storage System, on a first in/first out basis, prior to being conveyed to the Biomass Fuel Mixer (Figure 3-4).

- ***Wood Fraction***

  As also previously stated the Wood Yard will receive an average of 941 TPD of pre-processed wood waste in the form of ≤ 10" chips. All –3" wood chips will be screened just prior to the wood hog and conveyed directly to the Active WoodFuel Stockpile (Figures 2-4 and 2-9). An on-Site Wood Chips Reprocessing System will reduce all +3" wood chips received to –3" prior to conveying to the Active WoodFuel Stockpile.

3.3.5 Biomass Fuel Pre-Mixer

The individual Manure and Wood Biomass fractions are conveyed to the Enclosed Biomass Fuel Pre-Mixer (Figure 3-4) where the poultry manure and wood chips are thoroughly mixed in a pug mill into the As-Fired Fuel blend and then conveyed to the Biomass Gasifier's Fuel Metering Bin (Figure 3-4).

3.3.6 Combined Heat & Power System

As previously stated, the Facility's CHP System consists of the following elements (Figure 3-4):

- Biomass Gasifier
- Heat Recovery Steam Generator (HRSG)
- Controlled Extraction Steam Turbine
- Air Cooled Condenser
- Steam-to-High Temperature Hot Water Distribution System

CRE's state-of-the-art Biomass Gasification CHP System will provide for the clean and efficient conversion of the As-Fired Wood/Manure Fuel blend into steam and electricity.

The 4035 BTU/LB (HHV basis) of the As-Fired Fuel will be maintained by a state-of-the-art integrated control system that will 1) monitor and maintain Gasifier vapor space temperature at 1700°F (±50°F); 2) simultaneously adjust the poultry manure feed rate to the pug mill mixer; and 3) Gasifier combustion air combustion air flow.

The CHP System will generate 295,000 PPH steam (665 PSIA/750 °F). This steam flow will co-produce 33.0MW Gross electricity and a maximum of 20,000 PPH steam (150PSIA Saturated) from the controlled extraction steam turbine generator (STG).

The Gasifier is Energy Products of Idaho's (EPI) patented and proprietary design (Figure 3-18).

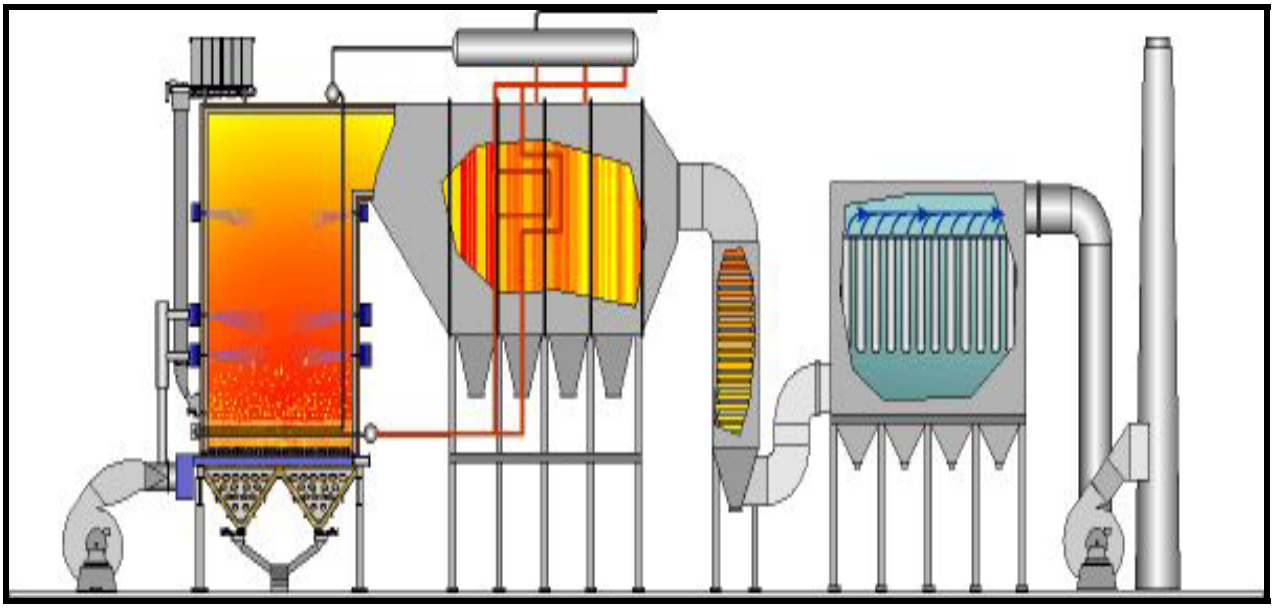


FIGURE 3-18

- ***Biomass Gasifier***

  The Gasifier will generate 320MMBTU/HR @ 1700 °F in the form of a hot gas when firing 121,164 PPH of the As-Fired Wood/Manure Fuel blend (Table 3-1).

Mixed Biomass Reference Fuel Specifications			
Description	**Poultry**	**Silvaculture**	**Total Mix**
Pounds/hr, wet basis	28,474	92,691	121,165
Moisture, percent	67.00%	42.00%	47.88%
Pounds/hr, dry basis	9,396	53,761	63,157
[1]HHVdb - Btu/lb	5054	8211	7741
[2]LHVwb - Btu/lb	806	3999	3248
Percent of total - wet	23.50%	76.50%	100.00%
Percent of total - dry	14.88%	85.12%	100.00%
Percent of total - Btu	5.83%	94.17%	100.00%
Total alkaline elements (<)	<0.10%	<0.10%	<0.10%
[3]Initial ash softening temp.	> 2000° F	> 2000° F	>2000° F
Ultimate Analysis (dry basis)			
Carbon	29.50%	48.70%	45.84%
Hydrogen	5.65%	6.20%	6.12%
Nitrogen	2.67%	0.15%	0.52%
Sulfur	0.23%	0.03%	0.06%
Ash	27.50%	2.49%	6.21%
Chlorine	1.28%	0.01%	0.20%
Oxygen	33.17%	42.42%	41.04%
Total	**100.00%**	**100.00%**	**100.00%**

TABLE 3-1

In anticipation of a CDEP Air Permit condition, the Gasifier will be capable of Startup and Shutdown using two (2) 50 MMBTU/HR over-bed propane burners and one (1) 15 MMBTU/HR under-bed air preheat burner. The over-bed burners will also be available to maintain minimum Gasifier temperature when firing Biomass, also in accordance with anticipated CDEP Facility Air Permit conditions.

In addition, a series of in-vessel heat transfer tubes remove 66 MMBTU of the As-Fired Fuel energy directly from the Gasifier and contribute that energy to the HRSG via a natural convection circulation system.

- ***Fuel Metering/Feed System***

  Fuel metering bins positioned in front of the Gasifier (Figure 3-18) accurately meter fuel into the Gasifier. Fuel enters the metering bins through isolation slide gates from the Pre-Mixer As-Fired Fuel feed conveyor. Metered Fuel is discharged, through combustion isolation slide gates, into the fuel spreaders. The air-swept spreaders are mounted on the Gasifier sidewall and distribute the fuel across the active bed to enhance in-bed heat release.

- ***Gasifier -*** The Gasifier is rectangular and includes a pressure-tight steel shell. The lower vessel (Bed Area) is about 20' wide by 30' long. The upper vessel expands outward to approximately 26' wide by 40' long to accommodate staged combustion. The overall vessel height is about 65'.

- ***Under Bed Air Distribution System*** - Air, required for fluidization and combustion, enters the Gasifier through the fluidizing air plenum. The air is distributed from the plenum through individual air manifolds that extend across the Gasifier's width. Air is distributed across the fluidized bed from the air manifolds through EPI's patented air distribution nozzles. These nozzles are spaced to provide a uniform flow of air through the bed material.

- ***Overfire Air Distribution System*** – Overfire air is delivered through multiple elevations of nozzles located in the walls of the Gasifier above the active bed. Each elevation of nozzles is supplied with air from a dedicated header and damper assembly. In this way, individual control of the overfire air at each elevation is used to optimize the combustion and temperature profile.

- ***Bed Material*** - The bed material is fired refractory clay specifically sized for the application. The refractory bed material is selected for its resistance to thermal shock and abrasion (attrition).

- ***Forced Draft and Preheat Combustion System -*** The forced draft (FD)/preheat combustion system includes the necessary equipment to preheat the Gasifier's fluidized bed and supply the air required for normal operation. This system features an air preheater to augment efficiency.
- ***UFA and OFA Fans*** - The FD System includes two (2) separate Combustion Air fans, an Underfire Air Fan (UFA) that supplies fluidizing air and an Overfire Air Fan (OFA) that supplies overfire air to the Gasifier's vapor (flame) zone air. The UFA fan delivers pressure to force the combustion air through the air pre-heater, fluidizing nozzles and bed material. The OFA fan forces air through the overfire air nozzles. Gasifier combustion products (1700 °F ±50°F) supply energy to the HRSG.
- ***Under-Bed Preheat Burner System*** - The propane fired under-bed preheat burner is rated at 15 MMBTU/HR. The system provides energy to heat the bed material and vapor space to approximately 700°F for Start-up.
- ***Over-bed Burner System*** – The two (2) propane fired over-bed burners each rated at 50 MMBTU/HR are located in the Gasifier's upper vessel region. During startup, the over-bed units compliment the under-bed burner to heat the bed and vapor regions for reduced emission startups. The system can also provide supplemental energy output during operation.
- ***Air Preheater System*** - An air preheater is included to recover energy in the flue gas by transferring it to the Gasifier's combustion air.

- ***Heat Recovery Steam Generator***

  The HRSG will generate 295,000 PPH of superheated steam (665 PSIA/750°F) with a feedwater inlet temperature of 280°F to the Economizer. It is anticipated that this will be sufficient to generate approximately 33.0MW Gross and 29.0MW Net of:

  - A 4.0MW on-Site parasitic load; and
  - 10,000PPH (10MMBTU/Hr) extraction steam.

A gas-to-air preheater is included at the end of the HRSG and before the Spray Dryer to optimize fuel efficiency in the CHP System.

The HRSG uniquely combines heat transfer surfaces in the Gasifier's vapor-space area with evaporative surface areas in the waste-heat style boiler. A dual-stage superheater with a mid-stage water spray attemporator raises and controls the steam to its final superheated temperature.

A bare-tube economizer heats the feedwater to near steaming conditions before entering the steam drum.

- ***Vapor-Space Tubes and Circulation Water System***

  External inlet and outlet headers for the over-bed tubes are attached to Gasifier wall sections. HRSG water from the steam drum is circulated, via natural convection, through the in-vessel tubes and returned to the steam drum for separation of the steam.

- ***Steam Generating System***

  The HRSG incorporates unique design features that enhance system operation while using a wide variety of fuel types. Gasifier flue gas enters the HRSG through a vertical tube, natural circulation, evaporative screen section. Wide tube spacing and relatively cool saturated temperatures reduce the potential for ash bridging and provide initial flue gas cooling. Lower flue gas temperatures reduce fouling of the down stream superheater tubes. The superheater is split into sections with a mid-stage spray type attemporator to control the outlet steam temperature.

  Motorized retractable sootblowers and rotary type sootblowers are provided to maintain tube surface cleanliness. The sootblowers are operated from the Facility Control Room or with a local push-button switch at each unit. Ash cleaned from the tubes falls into the ash hoppers and is continuously removed.

- ***Economizer***

  The economizer is a single pass bare design and includes a non-insulated casing and supports. Flue gas flows downward so ash is de-entrained at the bottom of the unit. Feedwater flows counter-current or upward to prevent steam bubbles from being trapped. The modular unit is fitted with electrically driven rotary sootblowers, operable locally or from the Control Room. Ash cleaned from the tubes falls into the ash hoppers and is constantly removed.

- ***Steam Turbine Generator (STG)***

  The steam turbine generator is rated as follows:

  - ***Steam Turbine***
    - 33.0MW @ 665PSIA/750 °F
    - Extraction Conditions 20,000 PPH @ 72 PSIA/344 °F
    - Exhaust Conditions 275,000-295,000 PPH @ 2.50 Hg/125 °F
  - ***Synchronous Generator***
    - 33,000 kVA
    - 1800 RPM
    - 3 Phase/60 Hz/13.8 kV/0.85 PF

- ***Air-Cooled Condenser***

  The steam exhausted from the STG is ducted to an elevated 6 cell air- cooled condenser. Each cell is equipped with a 250 HP, 2 speed motor. The steam is condensed in the exchanger coils and collected in a condensate drain system below the unit. At this point the condensate is in the deaerator where it is stripped of oxygen and then pumped back to the HRSG feed water system.

  The ACC operates based off of the outside air temperature and the STG load and is controlled by the Facility's Distributed Control System. Naturally during cold winter months very few fans are required to operate in comparison to the hot summer months. Fans are also two-speed for further refinements to control.

Vacuum is achieved by the Hogging Air Ejector System and maintained by the Holding Air Ejector System, also controlled by the DCS.

The ACC becomes the heat sink for the STG, with little or no water makeup required, as would be the case for a water- cooled condenser.

Performance Conditions:

- Exhaust Steam Flow - 275,000-295,000 PPH
- Exhaust Steam Pressure - 2.5 in. HGa
- Exhaust Steam Quality - 98%
- Air Inlet Temperature - 59°F

3.3.7 APC System

Emissions abatement starts in the Gasifier with a) SO_2 reduction through in-bed limestone injection; b) flame zone selective non-catalytic reduction (SNCR) NOx; and c) flame zone destruction hydrocarbons and products of incomplete combustion (PIC's). A Spray Dryer will provide secondary SO_2 control, along withy primary HCL and H_2SO_4 control.

- ***NOX Abatement System*** - Because the EPI Gasifier maintains a uniform and relatively low combustion temperature, very little NOx is formed from the nitrogen in the combustion air. Much of the NOx that is formed in the Gasifier is effectively abated utilizing SNCR. In the SNCR system, aqueous ammonia is injected through multiple injection nozzles into the Gasifier's vapor space where temperatures are controlled within the range of 1600-1800 °F. Ammonia is injected into the Gasifier's vapor space through an array of liquid pressure atomizing nozzles.

  Air from the OFA fan is provided as additional cooling around the injection nozzles. The number and location of the injection nozzles are designed to optimize injection velocities and distribution of the ammonia reagent into the reaction zone of the furnace.

- ***Spray Dry Scrubber System -*** The Spray Dryer vessel is sized to receive the full flow of the flue gas. Nozzles are provided to produce a lime droplet size required for acid gas contact and reaction. Hot acidic flue gas passing through the cloud of alkaline droplets evaporates the moisture of the droplet, reacting with the calcium to produce a dry salt.

  Cooled flue gas passes out of the reaction vessel into a close-coupled fabric filter Baghouse for final acid gas polishing and particulate removal.
- ***Baghouse System -*** Particulate Matter (PM) in the gas stream is captured in a pulse-jet Baghouse system.
- ***Continuous Emissions Monitor System (CEMS)*** - A continuous emissions monitor system (CEMS) is included to monitor stack emissions and provide data reporting. The in-situ system includes monitors for CO, O_2, NOx, and SO_2. A data acquisition system (DAS) is provided.

3.3.8 Ash Handling System

The Facility will be equipped with a pneumatic type ash collection/transport, conditioning, storage, and unloading system. Unlike vacuum systems, this ash pickup system features constant removal of ash from each discharge point. With the high amount of ash in the fuel, this feature creates a significant advantage.

3.3.9 Administration Building

The Administration Building will be a pre-engineered metal building with a footprint of 60’-0” by 100’-0” for the STG and 35’-0” by 60’-0” for the administration area.

This Building will also house the HW Distribution Systems that will provide HW to Kofkoff’s Schwartz Road Farm.

The Administration Building will be a two-story structure.

3.3.10 Poultry Manure Receiving Hall

The enclosed Manure Receiving Hall will be a pre-engineered metal building with a footprint of 90’-0” by 190’-0”.

3.3.11 Biomass Pre-Mixing Building

The enclosed pug mill mixer will be in a building 25’-0” x 50’-0”.

3.3.12 Electrical Building

The Electrical Building will be a pre-engineered metal building with a footprint of 26-0” by 40’-0”. The clear height will be 14’-0”.

3.3.13 Water Pump Building

The Water Pump Building will be a pre-engineered metal building with a footprint of 20’-0” by 40’-0”. The clear height will be 20’-0”.

3.3.14 Fire Pump Building

The Fire Pump Building will be a masonry building with a footprint of 20’-0” by 25’-0”. The clear height at low point will be 10’-0”.

4.0 PROJECT MILESTONE SCHEDULE

Table 4-1 presents a summary of the Project's Milestone Schedule for the Assessment, Development and Construction Phase leading up to an June 2010 CRE Commercial Operation Date. As stated elsewhere in this Petition, this Project Schedule is based upon a CCEF January 2007 selection of CRE as a Project 100 Class I Renewable Energy Project.

TABLE 4-1
PROJECT SCHEDULE
MAJOR MILESTONES SUMMARY

MILESTONE	START	FINISH
BIOMASS FUEL SUPPLY ASSESSMENTS	01 MAY 04	31 DEC 08
TECHNOLOGY SELECTION	16 AUG 04	31 DEC 04
SITE ID, ASSESSMENT & SELECTION	01 SEP 04	15 NOV 05
PROJECT AGREEMENTS	01 MAY 04	31 DEC 04
ID PERMITTING REGIME	03 MAY 04	31 DEC 04
PROJECT ENGINEERING & COST ESTIMATING	01 DEC 04	01 NOV 06
CT SITING COUNCIL PETITION	31 OCT 06	31 DEC 06
CCEF ROUND 2 PROPOSAL SUBMISSION, EVALUATION & SELECTION	15 NOV 06	15 JAN 07
INTERCONNECTION & EPA AGREEEMENTS	31 JAN 07	31 MAR 07
APPROVALS, CERTIFICATIONS & PERMITS	16 JAN 07	31 DEC 07
PROJECT FINANCING	15 OCT 07	15 FEB 08
LIMITED NOTICE-TO-PROCEED ISSUED TO EPC CONTRACTOR	15 OCT 07	
FINAL NOTICE-TO-PROCEED ISSUED TO EPC CONTRACTOR		15 FEB 08
EPC CONTRACTOR COMMENCES PROJECT CONSTRUCTION	15 AUG 08	
FACILITY STARTUP, TESTING & COMMISSIONING	15 APR 10	15 JUN 10
FACILITY COMMENCES COMMERCIAL OPERATION	15 JUN 10	

5.1 Notifications, Actions, Permits, and Approvals

Development and operation of the Project requires the following federal, State, and local regulatory notifications, actions, permits, and approvals.

5.1.1 Anticipated Approvals to be Obtained During Development Phase

5.1.1.1 Town

- Zoning Permit (Planning and Zoning Commission)
  - Site Plan Approval
  - Special Exception Approval
- Inland Wetland Approval
  - Use of Inland Wetlands and Watercourses
  - Aquifer Protection Review
- Board of Selectmen Endorsement (Board of Selectmen)

5.1.1 2 State

- Declaratory Ruling on Exemption from Siting Council Jurisdiction (CT Siting Council)
- EPA Approval (CDPUC)
- Archaeological FONSI (SHPO)
- Air Permit to Construct (CDEP)
- Air Permit to Operate (CDEP)
- Solid Waste Facility Permit (CDEP)
- Interconnection (CDPUC, BL&P and NEISO)
- Method and Manner of Construction (CDPUC)
- Brush Hill Road Curb/Road Cut (CDOT)

5.1.1.3 Federal

- No Hazard to Air Navigation (FAA)
- Section 404 Permit (USACE)/Section 401 CDEP

5.1.2 Anticipated Approvals to be Obtained Just Before or During Construction Phase

5.1.2.1 Town

- Building Permit (Zoning Enforcement Officer)
- Stormwater Management Plan
- Erosion and Sedimentation Control Plan

5.1.2.2 State

- Construction Stormwater Discharge Permits (CDEP)

5.1.3 Anticipated Approvals to be Obtained Just Before or During Operation Phase

5.1.3.1 Town

- Certificate of Occupancy
- Fire Protection Emergency Management Plan

5.1.3.2 State

- Title V Operating Permit (CDEP)
- Industrial Stormwater Discharge Permits (CDEP)
- Spill Prevention Control and Countermeasures Plan (CDEP)
- Emergency Management Evacuation Plan (CDPS)
- Registration for use of Ash as Fertilizer (CDA)

5.1.3.3 Federal

- Registration for Use of Ash as Organic Fertilizer (USDA)
- Risk Management Plan (USEPA)

5.2 Alternatives Considered

5.2.1 No Build Alternative

This alternative would maintain the status quo. Under this alternative, the Project would not be constructed, and Kofkoff would continue meeting its manure management and energy needs in the way that it currently meets them.

This alternative would forego the energy, environmental, and economic benefits of the Project. The foregone values would include a long-term solution to help meet regional energy goals with renewable and sustainable biomass fuel; management of poultry manure and clean wood biomass; and local, State, and regional benefits that will support municipal services, create new jobs, and accelerate economic development in CT.

CRE has developed the proposed Project with cooperation from State, regional entities, and local officials to provide a solution to energy, environmental, agriculture, and economic issues.

Because this alternative would forego all of the benefits that the Project would produce this no action alternative is less preferable than pursuit of the CRE Project.

5.2.2 Alternative Biomass Processing Systems

5.2.2.1 Digester System

CRE considered use of a biological digester as the waste-processing component for the Project. This system alternative was, however, rejected because the technology was untested and not commercially available for processing biomass that included poultry manure biomass. Further, even if such a system could have been modified for development, other constraints existed that warranted rejection of the system after consideration. These constraints included:

- Management of odor, vectors, fugitive pathogens; and
- The large area needed for post- composting of the digestate (digested manure).

After careful review, CRE rejected this alternative.

5.2.2.2 Stoker-fired System

CRE considered use of conventional excess-air stoker-fired boiler systems as the biomass-processing component for the Project. Although such systems represent a widely available commercially demonstrated technology for combusting solid wastes and are cost effective, it was rejected because the technology:

- Has not demonstrated high combustion efficiencies when firing dense wet fuels, producing ash residues with high residual (unburned) carbon content; and
- Would generate higher stack emissions than the proposed fluidized bed gasification technology.

With inferior combustion efficiency and emission profile, the permitting of the proposed Project would have been more difficult and the establishment of a power purchase agreement under the CCEF Project 100 Program may have also been challenging. Consequently, after careful review, CRE rejected this alternative.

5.2.2.3 Fluidized Bed Gasification

CRE considered use of fluidized bed gasification because of its proven design, commercial availability, flexibility in fuel input, and low emission profile. Although this system alternative is substantially more costly to develop, CRE selected this technology for the Project as the best system technology that could meet all required objectives. Consequently, after careful review, CRE selected this alternative.

5.2.3 Alternative Project Sites

5.2.3.1 Bozrah Industrial Park

CRE considered use of the Town of Bozrah's Industrial Park on Stockhouse Road near CT Route 32 for development of the Project. While this Park is located closer to the BL&P interconnection substation than the Candidate Site, and is available for development, it would have been more visible, closer to residential development and would have abutted the Town of Franklin while offering no benefits to Franklin. Furthermore, separated from the Kofkoff farm and near no other thermal demand, this location would have eliminated the Project's high efficiency CHP value. This remote location to all six (6) of Kofkoff's farms would have also required additional transportation and road traffic, and would have strained the sustainable agricultural ecology model that CRE is seeking to develop.

Consequently, after careful review, Clearview rejected this alternative.

5.2.3.2 Kofkoff's Other New London County Farms

CRE considered use of all of six (6) of Kofkoff's New London County farms for development of the Project. Criteria included available acreage, Project buffer, visibility and proximity to residential land use, potential for cogeneration, zoning, inland wetlands, Community acceptance, site constraints, access, roads and traffic, biomass supply, electric interconnection, and water supply. While several of the farms offered potential for development, the Kofkoff's Fitchville Farm, within the Town of Bozrah, was the most acceptable for all of the above criteria. Consequently, after careful review, CRE dismissed five (5) of the farms and selected Kofkoff's 259 - acre Fitchville Farm site for the Project's development.

5.2.3.3 Preferred Alternative – Kofkoff's Fitchville Farm

Consistent with the objectives established, CRE selected the Kofkoff's Fitchville Farm as the preferred Site, and use of fluidized bed gasification as the preferred technology.

5.2.4 Alternative Air Pollution Control Technologies

CRE has conducted comprehensive Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) determinations for the proposed Facility.

For each regulated air pollutant, CRE identified all the feasible emission control technologies, selected the best technologies, and proposed emission limits that are equal to or better than those determined to be BACT or LAER at comparable facilities elsewhere. In summary, air pollutant emissions from the combustion of biomass will be controlled by the Facility's fluidized bed gasification system plus Selective Non-Catalytic Reduction (SNCR) for nitrogen oxides (NO_x), limestone injection to the fluidized bed, and a Spray Dryer Scrubber for sulfur dioxide (SO_2) and other acid gases, e.g., hydrochloric acid (HCl), and a high efficiency fabric filter baghouse for particulate matter (PM), including PM less than 10 (PM_{10}) and 2.5 ($PM_{2.5}$) microns in diameter. The Facility's advanced design, emission controls, and continuous emission monitoring system (CEMS) will assure compliance with emission standards and limits.

5.2.5 Alternative Condenser Cooling Technologies

Clearview and the CRE Project Team members are intimately familiar with the entire range of candidate condenser cooling systems available and applicable to the proposed Project, having previously assessed, selected, specified, purchased, constructed, operated and maintained such systems. These include the following condensers and condenser cooling systems:

- Wet Cooling
  - Once Through Cooling Water
  - Recirculated Cooling Water
    - Evaporative Cooling Towers (ECT)
    - ECT Periodic Blowdown/Makeup Water Exchange
    - Spray Cooling
- Dry Cooling
  - Closed Loop Air Cooling
- Hybrid Cooling
    - Wet/Dry Cooling

CRE's assessment of the candidate condenser cooling systems that could be applied to the Project included the following criteria:

- Environmental Impacts
  - Existing Resources and Infrastructure
  - Visibility

- Emissions
- Noise
- Human Health and Safety
- Traffic and Transportation

- Cost
  - Capital Cost
  - O&M Cost
- Performance and Efficiency
- Reliability

CRE assessment has concluded that the environmental benefits resulting from the application of a closed-loop Dry, Air-Cooled, Condenser Cooling system (ACC), far outweigh the lower capital and O&M costs, as well as an overall higher plant thermodynamic efficiency (fuel [BTUs] input-to-CHP [BTUs] output ratio) associated with both Wet and Wet/Dry Condenser Cooling systems.

- The dry ACC cooling alternative avoids/mitigates all of the following environmental and human health impacts to the local and regional environment and human health:
  - Diversion of the region's potable and recreational water supply resources for industrial cooling purposes. This includes the Norwich Public Utilities public water supply; the Yantic River just south of the Project Site; and local groundwater.

    The alternative wet and wet/dry condenser cooling systems would require:
    - Significant (over 0.5MGD) continuous water demand from one (1) or a combination of these water resources;
    - Daily discharge of cooling water blowdown (approximately 0.1MGD) with higher concentrations of solids, bacteria, metals, organic, inorganic and synthetic compounds, herbicides and pesticides than the raw water supply source.
  - Local and regional air quality. Evaporative cooling towers, an integral part of wet and wet/dry condenser cooling systems, emit particulate matter (PM_{10}/$PM_{2.5}$).

- The visible (liquid water) plume that drifts from wet and wet/dry evaporative cooling towers.
- Ground level fogging, icing and salting of locals roads, as well as electric and communications lines from wet and wet/cry evaporative cooling systems.
- Utilization of limited local and regional landfill space for disposal of solids removed from raw and Recirculated cooling water.

- The results of the noise study performed as part of this alternatives analysis indicate that existing background noise levels; combined with the proposed Project Site's interior farm location, ACC location and orientation and variable speed fan drive specification, will mitigate ACC noise impacts.

5.3 Existing Conditions And Environmental Impacts Of Project

5.3.1 Overview

The Project is being designed and is expected to produce a sustained cycle of benefits for agriculture and farm management, environmental protection, energy reliability, and rural economic development.

The Project will also provide State, regional, and local benefits that will support municipal and community services, create new jobs, and accelerate economic development opportunities in CT. CRE has worked with the State departments of Agriculture and Environmental Protection over the course of the past 31 months to ensure Project compatibility with State policy, and maximum benefits to the environment and public.

CRE has evaluated the following environmental impacts:

- Land Use and Zoning
- Air Quality
- Noise
- Natural Resources and Terrestrial Ecology
- Cultural Resources
- Traffic and Transportation
- Infrastructure
- Construction
- Human Health and Safety
- Socioeconomic Issues

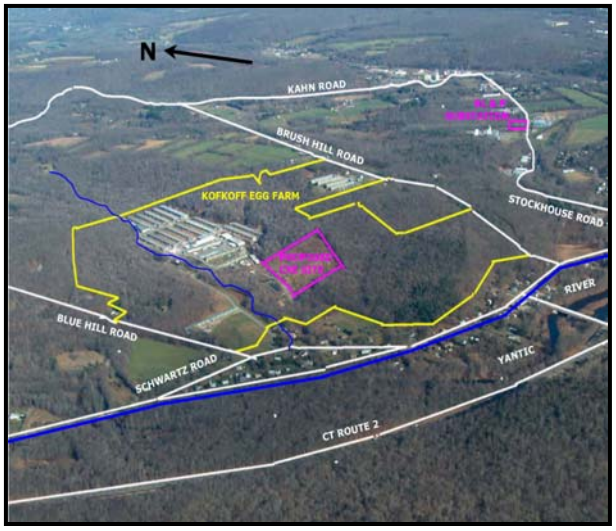
For each environmental consideration, existing conditions and environmental impacts of the Project were evaluated. Mitigation measures have been proposed where appropriate. Additional analysis may be conducted in certain areas as part of continued Project development and permitting, as appropriate.

5.3.2 Land Use and Zoning

5.3.2.1 Existing Conditions

The Town of Bozrah is a rural community located in southeastern CT. It covers an area of 12,645 acres (19.7 square miles), with a population of 2,357 (SECCOG, 2002). The Town has highway connections with numerous urban centers within the State. State Routes 2, 82, 87, 163, and 608 pass through the Town.

Approximately 14 percent of the land in Bozrah is considered developed, with the predominant uses being residential, transportation, and utilities. Approximately 7 percent of the land is in agriculture use. The Project Site is on Kofkoff's Fitchville Farm complex, which is in the hamlet of Fitchville, located in the northwestern portion of the Town. Land uses in this part of the Town are agriculture, medium and low-density residential, commercial, and industrial.



The area surrounding Kofkoff's Fitchville Farm complex is for the most part, either wooded or agricultural land, residences, as well as small businesses and light industry line the hamlet's roads. Kofkoff's Fitchville Farm complex is the hamlet's largest industry and the majority of its Schwartz Road and Brush Hill Road farms are well buffered.

Kofkoff's entire Fitchville Farm complex, including the proposed Project Site is zoned as RU-1 Rural Residential. The Zoning surrounding and adjacent to the Farm, and, therefore, the proposed Project Site, includes: Industrial 80 (east of Brush Hill Road), Commercial and R-2 Residential to the south, and Rural Residential to the north and west.

5.3.2.2 Assessment of Potential Impacts

The entire Project Site is a well-buffered interior parcel of Kofkoff's Fitchville Farm complex. Offsite views of the Project structures are expected to be minimal due to the elevated surrounding topography and vegetation, and the large setback of the Project Site from the Farm's property boundaries. The nearest residences to the proposed Project Site lie about 1,000 feet to the southwest.

Access to the proposed Plant Yard Portion of the Project Site will be from the existing Schwartz Road entrance to Kofkoff's Schwartz Road Farm, and the Wood Yard portion of the Project will be accessed off Brush Hill Road to the west.

The Proposed Project will support the existing Kofkoff Egg Farm operations both as a mixed biomass-to-CHP facility, providing thermal energy to the Farm complex and secure reliable disposal for the 340 TPD/124,100 TPY of poultry manure generated by all six (6) of Kofkoff's poultry farms. As such, the proposed Project is consistent with Kofkoff's current land use of the property. The proposed Project's Mixed Biomass Gasifier is a Permitted Use as a Special Agricultural Building processing poultry manure, while the Project's Steam Turbine Generator Building is also permitted use as Special Exception Utility Company Structure, under the Town's Zoning Regulations. CRE will apply to the Town for Site Plan and Special Exception Review.

The Project is not anticipated to negatively impact the current land use of the Project Site or surrounding areas because it is fully consistent with, and will enhance, the current use of the property as an egg farm. In fact, the Project is expected to provide positive land use benefits.

5.3.3.3 Consistency with Local Land Use Plans

The Project will be located on, and will support, Kofkoff Egg Farms, one of the largest egg farms in New England, with six (6) farms and a 4.5 million-bird population producing 15 million eggs per week. Kofkoff's Farm operations employ approximately 300 and are among the highest taxpayers in several of New London County's rural communities, including Bozrah.

As a relatively small renewable biomass-fueled CHP facility, the Project will clearly meet each of the specific energy strategies set forth in the 2005 State Energy Plan prepared by the CT Energy Advisory Board by:

- Reducing dependence on fossil fuels;
- Supporting energy efficiency;
- Supporting renewable energy technologies;
- Increasing penetration of distributed generation and combined heat and power; and
- Increasing fuel diversity.

Given the above, the proposed Project meets many of the community development goals set forth in the Town of Bozrah's Plan of Conservation and Development (SECCOG, 2002), including the following:

- Protect the natural resources of Bozrah.
- Promote energy conservation in all public and private development in Town.
- Encourage opportunities for more economic development.
- Encourage expansion of existing economic activities.
- Encourage expansion of pubic utilities in areas deemed appropriate by this plan.

5.4 Air Quality

The Project's potential primary sources of air pollutant emissions are the mixed biomass gasifier and the processing of materials (wood, manure, biomass, sand, limestone, lime, and ash). Other potential minimal sources of air pollutant emissions include a fire water pump and a propane storage tank, which should not require air permits.

5.4.1 Regulatory Applicability

The air pollutant emissions from the Project are subject to the Prevention of Significant Deterioration (PSD) and Non-attainment New Source Review (NNSR) regulations.

The Project will also be subject to Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) technology reviews, Maximum Allowable Stack Concentration (MASC) evaluations, and ambient air impact analyses. The PSD regulations require detailed analyses of impacts to ambient air quality, soils, vegetation, and visibility, all of which will be performed in accordance with DEP requirements. The NNSR regulations require the acquisition of nitrogen oxides (NO_x) emission offsets, which will be obtained.

5.4.2 Calculated Emissions of Criteria, Hazardous, and Other Air Pollutants

CRE has performed air pollutant emission calculations (Table 5-1) as part of preparation of the Project's Draft Air Permit Application, which CRE is prepared to file with CDEP upon selection by CCEF as a Project 100 Renewable Energy Project.

The emission calculations are based on worst-case conditions insofar as the pollutant emission factors for wood waste have been assumed to apply to the entire fuel mixture. Emission factors for wood residue combustion in boilers are those from the U.S. Environmental Protection Agency (EPA) document *AP-42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources,* Section 1.6, September 2003, and expected gasifier train performance guarantees provided by the Project's CH_2MHill, the Project's EPC contractor, as well as EPI, the biomass gasifier/boiler supplier and the Project's air pollution control equipment suppliers.

TABLE 5-1
EMISSIONS CALCULATIONS AND ASSUMPTIONS

Fuel Higher Heating Value
Wood plus manure (Btu/lb) (HHV dry basis) 7,080

Maximum Firing Rate
Wood plus manure (lb/hr) (dry basis) 71,852

Maximum Boiler Heat Input (HHV)
Wood plus manure (Btu/hr) 508,700,000

Actual or Proposed Allowable Annual Fuel Consumption
Wood plus manure (lb/year) 629,419,666

Maximum Rated Capacity Hours/Year 8,760

Actual or Proposed Allowable Hours/Year (at maximum capacity)
Wood plus manure 8,760

		Wood Combustion (Includes Startup Emissions)						
		Emission Factor			Potential Emissions		Actual Emissions	Federal HAP
Pollutant	CAS #	Source	Value	Units	(lb/hr)	(ton/yr)	(ton/yr)	(yes)
Criteria								
PM/PM_{10} (filterable)		1	0.02	lb/MMBtu	10.17	44.6	44.6	
PM/PM_{10} (condensable)		1	0.08	lb/MMBtu	40.7	178.2	178.3	
PM/PM_{10} (total)		1	0.10	lb/MMBtu	50.9	222.8	222.8	
SO_2		1	0.06	lb/MMBtu	30.5	133.7	133.7	
CO	630-08-0	1	0.10	lb/MMBtu	50.9	222.8	222.8	
TGNMO		1	0.015	lb/MMBtu	7.63	33.4	33.4	
VOC		2	0.012	lb/MMBtu	6.10	26.7	26.7	
NOx		1	0.075	lb/MMBtu	38.2	167.1	167.2	
Lead	7439-92-1	3	4.80E-05	lb/MMBtu	2.44E-02	1.07E-01	1.07E-01	yes

5.4.3 Regulatory Applicability Review

Based on the Project's potential emission rates, the regulatory applicability review and requirements can be summarized as follows:

- The Project must obtain permits to construct pursuant to the Regulations of CT State Agencies (RCSA) because, absent enforceable permit limits, potential emissions of some regulated pollutants exceed 15 TPY.

- The Project is subject to NNSR review for NO_x because potential emissions exceed the major source threshold of 50 TPY. LAER is therefore required for this pollutant. In addition, the Project must obtain NO_x offsets.
- The Project is not subject to NNSR review for volatile organic compounds (VOC) because potential emissions do not exceed the major source threshold of 50 TPY.
- The Project is subject to PSD review because potential emission rates exceed the major source threshold of 100 TPY.
- Because potential emissions of particulate matter (PM), including PM less than or equal to 10 and 2.5 microns in diameter (PM_{10}, $PM_{2.5}$, respectively), sulfur dioxide (SO_2), carbon monoxide (CO), NO_x, VOC, and hydrochloric acid (HCl) each exceed 15 TPY, BACT is required for these pollutants.
- Because potential PM_{10}, SO_2, CO and nitrogen dioxide (NO_2) emissions exceed 15, 40, 100 and 40 tpy, respectively, emissions of these pollutants are subject to refined dispersion modeling.
- The Project is subject to MASC review, which is discussed below.
- The Project is subject to the following New Source Performance Standards (NSPS):
    - Subpart Db – Applies to fuel combustion steam generating units with a heat input capacity of 29MW (100 MMBTU/HR) or more.
    - Subpart 60.43b(c) – filterable PM emission standard of 0.10 lb/MMBtu for wood-fired sources with an annual capacity factor greater than 30 percent.
    - Proposed (February 28, 2005) Subpart 60.43b(h) – filterable PM emission standard of 0.03 lb/MMBtu for sources that combust coal, oil, wood, or mixtures of those fuels.
    - Subpart 60.43b(f) and 60.48b(a) – Continuous Emissions Monitoring System (CEMS) for opacity.
    - Subpart 60.48b(b) – CEMS for NO_x.

- The Project is subject to Maximum Achievable Control Technology (MACT) requirements because it will emit greater than 10 tpy of a regulated toxic compound (HCl) or 25 TPY of all regulated toxic compounds combined. This includes compliance with a PM emission limit of 0.025 lbs/MMBtu, an emission limit of 0.02 lb/MMBtu for HCl, and a CO emission limit of 400 ppmv corrected to 7 percent oxygen (ppmv @7% O_2)
- The Project is not subject to NO_x Reasonably Available Control Technology (RACT) requirements because it is not an existing source and it will meet the more stringent LAER limit.
    - The Project is not subject to CT's NO_x Budget Program because it will not fire fossil fuels.
- The Project will qualify for the New Unit Exemption under the Acid Rain Regulations because it will not fire fossil fuels.
- The Facility will be required to obtain a Title V operating permit within 12 months of commencing operation.

The Project will meet or be better than all of the applicable requirements.

5.4.3.1 BACT and LAER Reviews

CRE has placed the highest priority to the use of technologies that will control all air pollutant emissions to an extent equivalent to or better than the best-controlled similar source. The determination of the BACT and LAER technologies shows that this priority has resulted in pollutant-by-pollutant technology selections that are equivalent to or better than the LAER technologies. This means that the controls selected are at least as stringent as the best-controlled source permitted anywhere in the U.S. in the past ten (10) years. This fact was derived from an analysis of data from EPA's RACT/BACT/LAER Clearinghouse (the RBLC) from nation-wide determinations made in several states for wood-fired and municipal solid waste-fired emission units.

Air pollutant emissions from the combustion of biomass will be controlled by the Facility's fluidized bed gasification system plus Selective Non-Catalytic Reduction (SNCR) for NO_x, limestone injection to the fluidized bed and a Spray Dryer Scrubber for SO_2 and other acid gases, e.g., HCl, and a high efficiency fabric filter baghouse for PM, PM_{10} and $PM_{2.5}$.

The Facility's advanced design, emission controls and CEMS will assure compliance with emission standards and limits.

5.4.3.2 MASC Evaluation

An analysis of compliance with the Hazardous Air Pollutant MASC regulations was performed. The preliminary analysis shows that the Actual Stack Concentration (ASC) of each pollutant will be less than the applicable MASC.

5.4.3.3 Ambient Air Impact Analyses

CDEP and USEPA have promulgated ambient air quality standards to protect public health and welfare. The CT and National Ambient Air Quality Standards (CAAQS/NAAQS) include Primary Standards, which are set at levels to protect human health, including the health of sensitive subpopulations, such as children or those with chronic respiratory problems. These regulations also contain Secondary Standards set at levels to protect public *welfare*, including economic interests, visibility, vegetation, animal species, and other non-health related concerns. The CAAQS/NAAQS have been set for various concentration averaging periods.

The NAAQS pertain to seven (7) *criteria* air pollutants (Table 5-1): PM_{10}; $PM_{2.5}$, SO_2; NO_2; CO; ozone (O_3); and lead (Pb). In addition, CT has adopted standards for ambient dioxin and hydrocarbon concentrations.

In CT, new or modified sources that require air permits must also demonstrate compliance with PSD increments, which are the maximum allowable air pollutant concentration increases such sources may cause. The PSD increments are designed to assure that there will be no significant deterioration of air quality in clean air areas that meet the CAAQS/NAAQS.

A preliminary assessment of compliance with the CAAQS/NAAQS and PSD increments has been performed for the proposed Project's biomass boiler (by itself) in accordance with CDEP's *Ambient Impact Analysis Guideline*.

The preliminary dispersion modeling results for SO_2, NO_2, PM_{10}, and CO demonstrated that the maximum potential air quality impacts of the proposed Project's biomass boiler will fully comply with the CAAQS/NAAQS and PSD increments, such that the public health and welfare will be protected with an adequate margin of safety for sensitive individuals, and the proposed Project's biomass boiler will not cause any significant deterioration of air quality.

5.5 Noise

A noise assessment was conducted for the Project. The assessment consisted of an ambient noise-monitoring program in the vicinity of the Site in order to characterize the existing noise environment; a qualitative noise impact evaluation to determine compliance with the State's noise level guidance and the Town's noise level requirements; and incorporation of mitigation measures in Site layout and Facility design and specifications.

5.5.1 Existing Conditions

The area surrounding Kofkoff's Egg Farm in the hamlet of Fitchville is, for the most part, either wooded or agricultural land. Residences, as well as some small businesses and light industry line this hamlet's roads. Kofkoff is the hamlet's largest industry and it is fairly well buffered with the proposed Project Site about 1,000 feet from the nearest residences, which lie southwest of the Site.

Monitoring was conducted at multiple locations along the Kofkoff Farm property line and on the Farm during the day and late at night (Figure 5-1).

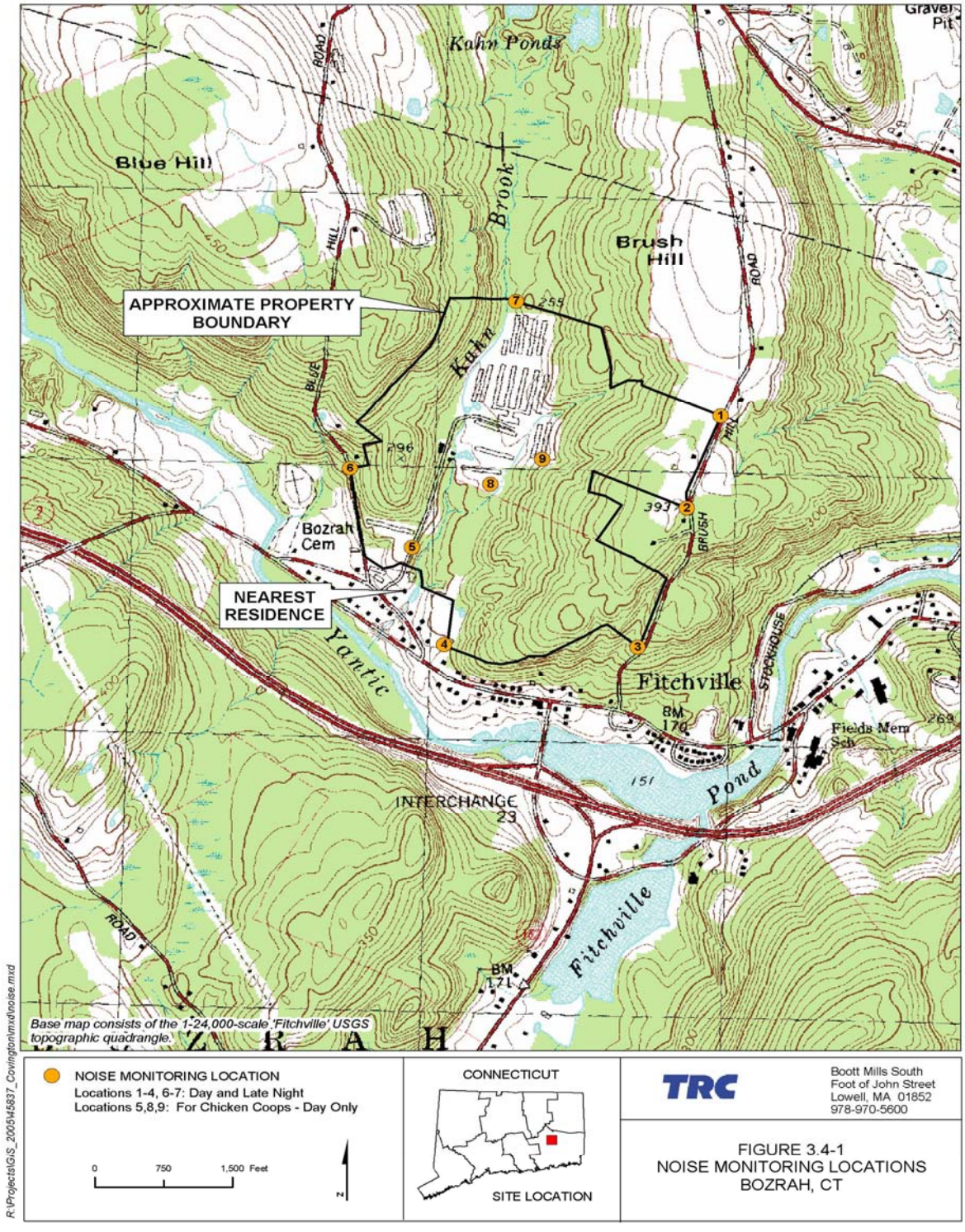


FIGURE 5.4-1 NOISE MONITORING LOCATIONS

Not surprisingly the ambient noise environment along the Farm's property is primarily influenced by traffic:

- To the south, traveling along old (Fitchville Road) and new CT Route 2;
- To the east, traveling along Brush Hill Road; and
- To the west, traveling along Blue Hill Road.

Barn heating and ventilation fan noise can be heard at some locations in the absence of other louder intruding noises.

5.5.2 Applicable Standards/Guidelines

While noise regulations applicable to the Project could be imposed at the Federal, State, and/or Town levels, only the State has applicable regulations.

5.5.2.1 State of Connecticut

CT has noise regulations that limit noise levels based on the following types of land use:

- Class A Land Use Category – Residential
- Class B Land Use Category – Commercial
- Class C Land Use Category – Industrial and Agricultural

Allowable levels are based on a combination of category of the emitter of noise and of the receptor of the noise. Construction noise is exempted from these limitations.

5.5.2.2 Town of Bozrah

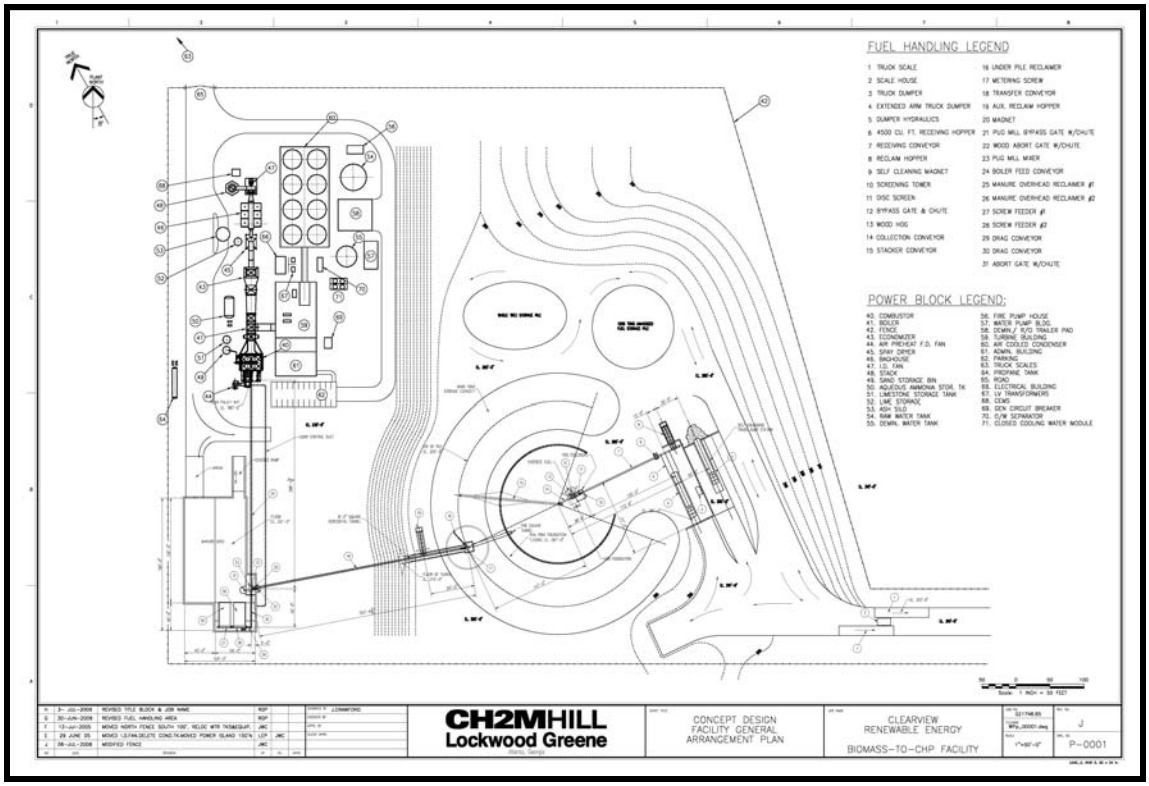
The Town has zoning regulations that prohibit the use of commercial amplifiers and sound equipment for any purpose, except within buildings and so long as it does not create a nuisance. No other type of noise is referenced.

5.5.3 Operational Noise Impacts Assessment and Mitigation

5.5.3.1 Off-Farm Residential Impacts Assessment and Mitigation

The major sources of noise associated with the Project's Plant Yard and Wood Yard are:

- Plant Yard
  - Air-Cooled Condenser;
  - Induced Draft Fan; and
  - Forced draft Fans;
- Wood Yard
  - Wood Hog (Chipper); and
  - Truck/Trailer Tipper



Project noise avoidance and mitigation measures incorporated into the Project's design include the following:

- The Project's siting entirely within Kofkoff's 259-acre Farm providing adequate buffer;
- Enclosing the Plant Yard Steam Turbine in a building;
- Specifying variable speed/variable pitch fans for the Plant Yard's Air Cooled Condenser;
- Specifying silencers on all Plant Yard steam, pressure relief, and blowdown vents;
- Wood Yard Wood Hog noise attenuation specifications; and
- Plant Yard Forced Draft Fan noise attenuation specifications.

Based upon the professional experience and judgment of CRE's noise consultant, TRC Environmental Corporation, these measures are expected to result in compliance with the applicable State noise standards.

5.5.3.2 On-Farm Residential Impacts and Mitigation

The Project is also committed to not adversely affecting the egg laying of the Farm's chickens. Chickens, like people, become accustomed to continuous expected noise but respond adversely to sudden noises.

Kofkoff Farm chickens are housed in large barns that serve to dampen and even block exterior noise. There is also a fair amount of background noise produced within the barns, which serves to mask exterior noise. This interior noise includes noise from fans, feed and waste conveyors, and the clucking of the chickens themselves.

The primary source of noise from the Plant Yard that could potentially impact the Farm's chicken population is the Gasifier/Boiler's steam vents. As noted above, all steam and blowdown vents will be equipped with silencers to prevent this otherwise sudden type of noise. Plant Yard noise from normal operation of the Project will have no impact on the Farm's chickens population.

5.5.4 Summary

The proposed Site is interior to the Farm's 259 acres, which provides significant buffering to the nearest residences at a distance of about 1,000 feet. The Project's final design will include appropriate measures and equipment to reduce Plant Yard and Wood Yard noise to at or below the nighttime limit of 51 dBA for residences imposed by the State. Kofkoff's egg production will not be impacted by the Project.

5.6 Natural Resources and Terrestrial Ecology

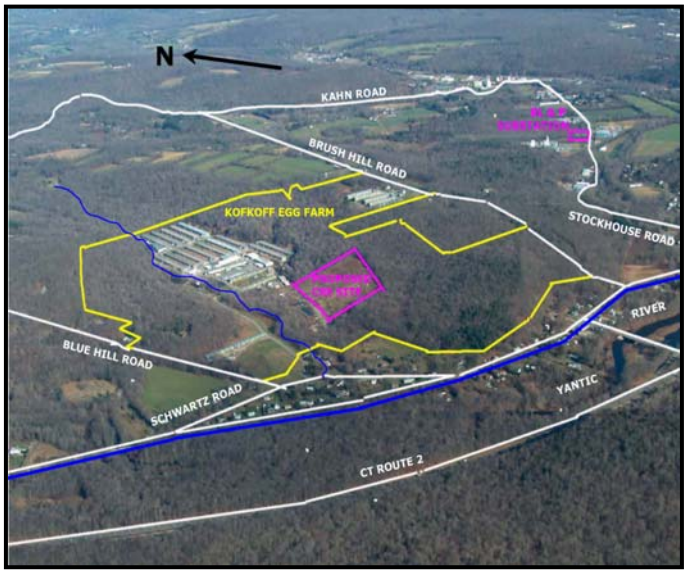
This section addresses the natural resources present on and in close proximity to the Site. This information was primarily obtained from an ecological reconnaissance conducted in January 2005.

To identify the potential occurrence of any state or federally-listed rare species at or in the vicinity of the proposed Site, CDEP Natural Diversity Data Base (NDDB) program maps entitled *State and Federal Listed Species and Significant Natural Communities* were reviewed for the Town of Bozrah. In addition to the map review, the U.S. Fish and Wildlife Service (USFWS

5.6.1 Existing Conditions

The Project Site is well buffered within an interior parcel of the Kofkoff Farm complex.

The Wood Yard access/egress will be from Brush Hill Road, while the Plant Yard access/egress will be from Kofkoff's current Schwartz Road entrance/exit.



The approximate 31 acre Project Site will be situated mainly within a disturbed (cleared and actively machine-worked) portion of the Farm complex. The Project Site is south of the Schwartz Road Farm and east of Kahn Brook, which flows north to south through the egg farm property. Kahn Brook is a tributary to the Yantic River. The main Kofkoff Egg Farm access road extends north from Schwartz Road along the western side of Kahn Brook. There are two existing bridge crossings over Kahn Brook to access the main egg farm facilities.

5.6.1.2 Vegetation

Vegetation on the Plant Yard portion of the Project Site is very limited due to existing disturbances such as tree clearing and mechanized soil grading. There are limited areas of vegetation present.

Vegetation along Kahn Brook includes primarily red maple, slippery elm, spicebush, and northern arrowwood.

The Wood Yard and its proposed access driveway will extend east to Brush Hill Road. The driveway will be located in a primarily wooded upland area containing one or more intermittent drainage channels that emanate from the hillside. The vegetation within this area is primarily mature, deciduous upland forest.

5.6.1.3 Wetlands

The Project Site and immediate vicinity were investigated for the presence of State and federal jurisdictional wetlands and watercourses/waters. Areas that appear to qualify as jurisdictional wetlands were observed along Kahn Brook, located west of the Site. No other areas of apparent wetlands were observed on or near the Site. Detailed wetland delineation will be conducted as part of further Project development and permitting.

East of the Schwartz Road Farm and south of the Brush Hill Road Farm, tributary streams emanate from the glacial till upland soils. These streams flow downgradient to the southwest, eventually joining Kahn Brook. These tributary streams are narrow, likely intermittent in the upper wooded areas of the Farm complex. Therefore, these areas would likely be characterized as watercourses.

5.6.1.4 Wildlife

The CDEP Natural Diversity Data Base (NDDB) program's *State and Federal Listed Species and Significant Natural Communities* map for the Town of Bozrah was reviewed, and the U.S. Fish and Wildlife Service was contacted regarding the potential presence of State- or federal-listed endangered, threatened, or special concern species within the vicinity of the Site.

The Bozrah area NDDB map does not show the presence of any such species or habitats within the Project Site and vicinity. According to the U.S. Fish and Wildlife Service there are no federally-listed or proposed, threatened, or endangered species or critical habitat within the Project Area. Further, during site reconnaissance, no sensitive habitats or any rare, threatened, or endangered species were observed.

Wildlife present on the Plant Yard portion of the Site is expected to be limited due to the previous clearing and on-going grading, disturbance, and general activity in this area. Due to the soil disturbance and lack of vegetative cover, the Site itself does not function as important habitat for biological resources. The disturbances to the Site are expected to limit wildlife use to various avian and small mammal species adapted for disturbed areas. A few bird species, small mammal species (squirrel, chipmunk and mice) and mammals (raccoon, skunk, and deer) may pass through this portion of the Site from the surrounding woodland, but are not expected to normally use this area.

Wildlife along Kahn Brook would likely include those species listed above, which use the surrounding upland and wetland forest communities for vegetative cover, nesting habitat, and food sources. However, due to the presence of an existing nearby active roadway and the Kahn Brook bridge area, utilized by large trucks and machinery, wildlife usage is limited primarily to pass-through and pass-over usage, and very few nesting, foraging, or cover opportunities exist.

Wildlife in the proposed Wood Yard and driveway area is expected to be typical for deciduous, wooded uplands of southern New England.

Bird species would likely include American goldfinch, blue jay, downy woodpecker, hairy woodpecker, common flicker, black-capped chickadee, tufted titmouse, wood thrush, white breasted nuthatch, brown-headed cowbird, red-tailed hawk, barred owl and common screech owl. Mammals using the wooded area likely include gray squirrel, chipmunk, white-footed mouse, raccoon, striped skunk, and white tailed deer.

5.6.2 Probable Impacts of the Project

5.6.2.1 Vegetation

No sensitive plant species were observed on the Plant Yard portion of the Site, including adjacent to Kahn Brook. The Project vicinity (within 1 mile) does not contain any such species or habitats. Significant or unusual plant communities, populations, or individuals are not expected to be adversely affected by the construction or operation of the Project.

The Plant Yard portion of the Site will be located within the existing cleared and heavily disturbed portion of the Site. Due to the extensive amount of disturbance that has previously occurred on this portion of the Site, important plant communities are not present in the vicinity of the areas of development.

A new bridge across Kahn Brook is proposed to access the Plant Yard from Schwartz Road. The proposed bridge will be located south and adjacent to the existing bridge over Kahn Brook. The construction of this bridge will involve limited clearing of riparian vegetation associated with Kahn Brook.

The Wood Yard and driveway will be located to the east and upland of the Plant Yard and connect to Brush Hill Road. While most of the Wood Yard will also be within the existing cleared area, construction of the driveway and the southeast portion of the Wood Yard will require clearing of additional wooded areas.

Any areas that are not part of the permanent paved driveway will be re-vegetated as appropriate with native herbaceous and/or woody vegetation. No sensitive plant species or communities were observed or mapped along the driveway corridor. Therefore, disturbance to the driveway corridor will by typical for this type of development, and will be limited to a discrete driveway corridor. The surrounding wooded vegetation will be maintained along the driveway corridor.

5.6.2.2 Wetlands

Other than the proposed bridge construction, the Kahn Brook wetland corridor will not be affected by development of the Site. A 250-foot buffer will be maintained between the Plant Yard development envelope and the Kahn Brook wetland corridor. The wetland corridor will be protected from indirect impacts such as sedimentation from Project construction through the use of erosion and sedimentation controls around the applicable portions of the Project development envelope. Also, as applicable, the necessary permits will be obtained for any work that qualifies as a jurisdictional activity under the CT IWWA, any wetlands bylaws adopted by the Town of Bozrah, and the US Army Corps of Engineers' federal wetlands permitting program.

One or more intermittent drainage channels in the vicinity of the Wood Yard driveway may qualify as State-protected watercourses under the CT IWWA, and as waters of the US under Section 404. A determination of this status will be made once wetland delineation has been conducted on the Site and approved by the applicable local, state, and federal agencies. Permits will be obtained for any work that qualifies as a jurisdictional activity under the CT IWWA, wetlands bylaws adopted by the Town of Bozrah, and the US Army Corps of Engineers' federal wetlands permitting program.

5.6.2.3 Wildlife

There are no sensitive, significant, or unusual habitats present on the Site. Since the Site is already disturbed, impacts to significant or unusual wildlife habitats on the Site are not expected. Common wildlife species using the proposed Plant Yard, Wood Yard, and driveway area will be displaced both during and after construction. However, due to the abundant, undisturbed woodland surrounding the Project Site, these readily mobile wildlife species will move to these adjacent areas.

5.6.3 Conclusions

The construction envelope for the Plant Yard occurs within a cleared disturbed, area that contains no wetlands or sensitive or protected habitats. Under applicable permits, adjacent wetlands such as Kahn Brook will be protected by maintaining a 250' buffer zone from Site activities, and by the use of erosion and sedimentation controls along Site construction boundaries.

Development of the Wood Yard and driveway will occur mainly within wooded upland, and any activities potentially within or adjacent to regulated resource areas will be subject to permit conditions from local, state, and federal agencies that minimize or mitigate for resource area impacts. Work associated with the proposed Kahn Brook bridge will occur within the vicinity of an existing developed area (existing bridge). This work will also be designed to minimize disturbance of regulated resource areas under applicable permits.

No significant vegetation or plant communities are associated with any of these areas. No significant habitats or wildlife species are present. Therefore, the Project would have minimal adverse impacts to natural resources or terrestrial ecology.

5.7 Cultural Resources

This section examines the potential of the Project to affect archaeological resources on and historic resources near the Project Area.

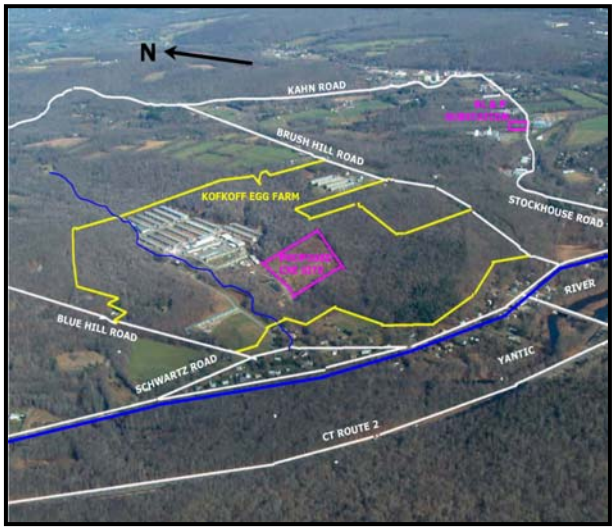
5.7.1 Area of Potential Effect

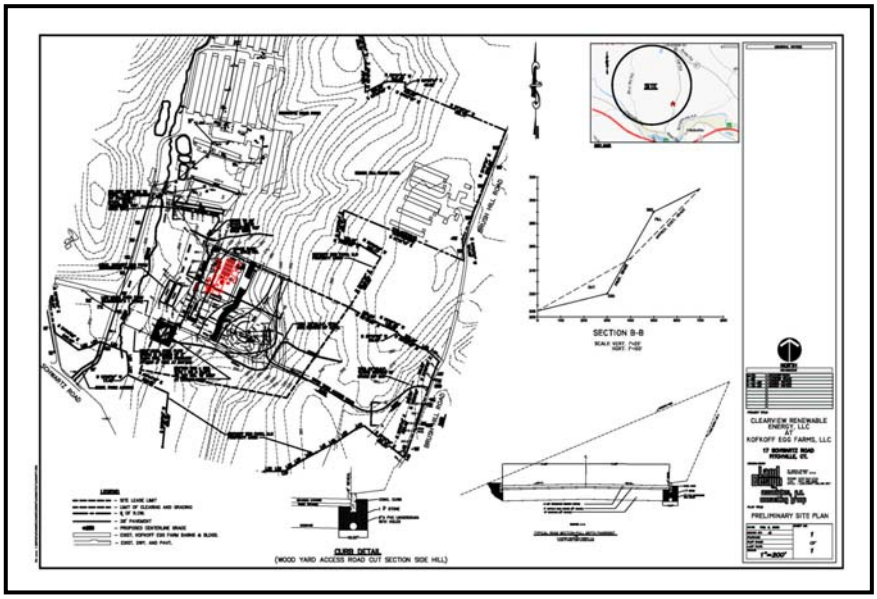
An Area of Potential Effect (APE) for the proposed Project includes all areas where the ground may be disturbed, where land use may change, or any locations from which the undertaking may be visible.

5.7.1.1 Existing Conditions

The proposed Project Site is well buffered as an interior parcel of Kofkoff's Fitchville Farm complex.

The Wood Yard access/egress will be from Brush Hill Road, while the Plant Yard access/egress will be from Kofkoff's current Schwartz Road Farm entrance/exit.





All vegetation has been cleared from the Plant Yard portion of the Project Site in the course of the Fitchville Farm's ongoing operations. The existing surface of this area has undergone significant disturbance due to this clearing activity. The Wood Yard will be located directly east of the Plant Yard, in an area that is also within the cleared area with the sole exception being the southeast corner of the proposed Wood Yard, which is currently wooded. The Wood Yard driveway will extend east to Brush Hill Road. This area is also currently wooded.

5.7.1.2 Archaeological Resources

A cultural resources assessment and literature search was conducted for the Project Area.

Three (3) previous cultural resource surveys were conducted within a one-mile radius of the Project Area. Four (4) prehistoric archaeological sites are located within a one-mile radius of the Project Area. No historic archaeological sites are known to be located in the vicinity of the Project Area.

The cultural resource investigations involved three tasks: (1) preliminary research, including a literature, records, and map search; (2) site visit; and (3) consultation with the CT Office of State Archaeology, the CT Archaeology Center, and the CT Commission on Culture and Tourism – Historic Preservation and Museum Division.

Fitchville Road borders the Project Area to the west by Kahn Brook and to the south, which is upland of the Yantic River. The property slopes upward from southwest to Kofkoff's Schwartz Road and Brush Hill Road farms and east to Brush Hill Road. In addition to this assessment survey on the Project Area, previous cultural resource work has been conducted adjacent to and in the vicinity of the Project Area that involved:

- An archaeological reconnaissance survey of approximately nine acres north of Stockhouse Road. Shovel test pits excavated during this survey, resulted in the recovery of prehistoric artifacts and historic period field scatter material.
- A reconnaissance survey for the proposed replacement of Bishop Road Bridge over Gardner Book and associated approaches determined that the proposed work was unlikely to affect potentially significant cultural resources.
- A reconnaissance survey for a proposed wetland mitigation site located between Route 2 and the Yantic River just south of the Franklin/Norwich towns border. No historic or prehistoric cultural material was recovered.

Background research indicates that four prehistoric archaeological sites exist adjacent to the Project Area or within a one-mile study area.

5.7.1.3 Historic Resources

There is one National Register of Historic Places (NRHP) Listed property and one NRHP Eligible Historic District within a one-mile radius of the Project Area. No known historic resources exist within the Project Area.

- The Bozrah Congregational Church and Parsonage is the Town's only National Register Listed property.
- The Fitchville Historic District is a small mill village of 58 properties, including a millpond and dam, four institutional buildings, several historic commercial buildings, a former gristmill, and 32 homes with associated outbuildings. A number of contributing properties to this District are situated near the Project Area's southern extent on Fitchville Road.

5.7.1.4 Potential Project Impacts and Mitigation

Due to the current condition of the Plant Yard portion of the Project Site, the likelihood that any intact archaeological sites exist in this area is low.

Due to the presence of known archaeological sites in the undisturbed portions of the Project Site, and the area's proximity to existing water sources (an environmental variable most often associated with prehistoric period occupations) the Wood Yard Area and driveway may potentially exhibit a moderate to high sensitivity for cultural resources.

CRE will consult with the CT Office of State Archaeology, the CT Archaeology Center, and the CT Commission on Culture and Tourism – Historic Preservation and Museum Division, and incorporate recommendations for any further investigations as appropriate as part of Project development. The Project will be designed to avoid and/or mitigate impacts to archeological resources. In the event that archaeological resources are encountered during construction, measures will be taken to either avoid or to catalogue and preserve any archaeological resources that may be encountered.

The entire Project Site is well buffered within an interior parcel of Kofkoff's Fitchville Farm complex. Offsite views of the Project structures are expected to be minimal due to the elevated surrounding topography and vegetation, and set back from the property boundaries of the Farm complex.

In conclusion, it is anticipated that the proposed Project will not have any significant adverse impacts on archaeological or historical resources.

5.8 Traffic and Transportation

Field observations were conducted to determine the existing base ground traffic conditions in the vicinity of the proposed Project Site. In order to assess ground traffic impacts from the Project, ground traffic expected to be generated by the Project and existing conditions were reviewed.

5.8.1 Existing Roadways

The following are brief descriptions of the roadways in the vicinity of the Project:

- **Fitchville Road (County Route 608) –** Fitchville Road (old CT Route 2) is a one lane per direction roadway. Fitchville Road travels in an east/west direction and has a posted speed limit of 35 miles per hour (mph) and is under the jurisdiction of New London County.

- **Brush Hill Road –** Brush Hill Road is a one lane per direction roadway traveling in a north/south direction from Old Route 87 to Fitchville Road. Brush Hill Road is under the jurisdiction of the Town of Bozrah.
- **Haughton Road (County Route 612) –** Haughton Road is a one lane per direction roadway traveling in a north/south direction. From the south, Haughton Road extends from Bozrah Street (State Route 163) to Fitchville Road and has a speed limit of 30 mph. Haughton Road is under the jurisdiction of New London County.
- **Schwartz Road –** Schwartz Road is an east/west roadway with one lane per direction. Schwartz Road is under the jurisdiction of the Town of Bozrah.
- **State Route 87 –** In the vicinity of our site, State Route 87 is a one lane per direction roadway traveling in an east/west direction. From the west, State Route 87 extends from Interstate Route 6 in the Town of Andover to State Route 2/32 in the Town of Norwich and has a speed limit of 50 mph.
- **State Route 32 –** State Route 32 is a one lane per direction roadway traveling in a north/south direction. State Route 32 has a posted speed

5.8.2 Site Access/Roadway Volumes

Vehicles destined to the Project's Plant Yard would travel to Schwartz Road via Fitchville Road from:

- The north via Stockhouse, Brush Hill and Blue Hill roads;
- The south via Haughton Road;
- The east via CT Route 2 Exit 22 to Fitchville Road; and
- The west via CT Route 2 Exit 24 to Fitchville Road.

Vehicles destined to the Project's Wood Yard would travel to Brush Hill Road from:

- The north, east and west via CT Route 87; and
- The south and east via Fitchville Road.

A review of the traffic volumes west of the Project Site along Fitchville Road between Brush Hill Road and Schwartz Road, obtained from the State Department of Transportation, indicates that the estimated average annual daily traffic is 2,500 to 3,000 vehicles per day.

With an estimated daytime, weekday peak of 172 vehicle trips the Project would account for a 6 percent to 7 percent increase in traffic to the local road network dispersed throughout the day.

The Project intends to work with the Town's Planning and Zoning Commission to establish designated truck routes for the Plant Yard and Wood Yard.

5.8.3 Construction Traffic

During construction of the Project, two (2) categories of vehicular trips would encompass the construction activity:

- Worker trips; and
- Equipment/supply deliveries.

The maximum projected peak number of construction workers employed at any one time would be approximately 140, with an average number of 120 workers.

Construction would last approximately 14 months.

Two (2) separate access/egress points would be utilized to the Project's construction Site:

- Via Kofkoff Egg Farms' existing entrance/exit at 17 Schwartz Road; and
- Via new Project entrance/exit off Brush Hill Road.

Based on the relatively modest amount of construction-related traffic expected and the two (2) separate construction sites, it is not anticipated that construction activities would result in any significant local traffic impacts.

5.8.4 Probable Impacts of the Project

Based on the small number of trips generated by the Project, the existing volume of traffic, and the satisfactory functioning of the roads, the Project would not have a significant adverse impact on traffic. Based upon field observations, traffic counts and capacity analysis, traffic in the area of the site operates at good levels of service.

The Project will not generate a significant number of trips, and those that will be generated will be distributed across the day, not all entering/exiting at the same time. Truck routes for the Plant Yard and Wood Yard will be determined based upon discussions with the Town's Planning and Zoning Commission. The Project is not anticipated to have a significant impact on traffic operating conditions in the area.

Construction is expected to last approximately 14 months, although the period of peak construction will be only 10 months. There will be two separate access/egress points utilized during construction, which will further disperse the construction traffic. Truck traffic would be spread throughout the day and the maximum number of trucks is estimated to be approximately 15 trucks per day during peak construction. It is not anticipated that construction activities would result in any significant local traffic impacts.

5.9 Infrastructure

Sound water resources management policies and practices have been incorporated into the Project design to minimize water resource related impacts during construction and operation. These include:

- Optimization of water/energy efficiency through CHP, which in addition to electricity will supply thermal energy in the form of hot water to Kofkoff's Schwartz Road and Brush Hill Road farms;
- Selection of a closed loop dry air-cooled condenser for heat dissipation, thereby eliminating requirements for large amounts of water that would have been required for steam turbine exhaust steam cooling;
- Use of internal recycle and reuse systems including boiler blowdown, thereby limiting the volume of wastewater requiring off-site treatment;
- Development and implementation of Best Management Practices (BMPs), including both structural and non-structural controls, to ensure the proper storage, handling and management of fuel, ash or other materials, conditioners or additives; and
- Development and implementation of an erosion and sediment control plan to ensure that applicable site-specific controls are in place and properly maintained throughout the construction and operation periods.

5.9.1 Water Supply

Water will be required for several functions associated with the safe, clean and efficient operation of the proposed Facility. These include process water for the following major components or operations:

- Boiler feedwater (i.e., steam production);
- Emissions control (i.e., Gasifier SNCR and Dry Scrubber lime slurry feed);
- Ash management (i.e., ash conditioning/dust management); and
- General Plant maintenance (i.e., Plant service water).

On an annual basis, Facility water supply requirements are expected to average approximately 60 GPM, with peak instantaneous demands approaching 150 GPM. Facility fire protection requirements are estimated to total 1200 GPM. Potable water requirements are expected to average 1 GPM.

Facility water needs are expected to be satisfied through an interconnect to the Norwich Public Utilities water distribution system via an existing 30", 80 PSIG main located along Fitchville Road. CRE has submitted a formal request to Norwich Public Utilities to confirm that existing supply and distribution system capacity are available to service the proposed Site.

To minimize water supply and wastewater generation rates, the Project will recycle and reuse wastewater streams to the maximum extent practicable. For example, boiler blowdown and the hot water return from Kofkoff's farms will be directed to the Raw Water Storage Tank for reuse. Similarly, low volume process streams (i.e., demineralization reject water and clean floor drains in the Steam Turbine Building) will be reused for Facility Ash conditioning, when available. As a safeguard, the Facility will be equipped with oil/water separators for the pretreatment of collected process wastewaters where lubrication or transformer oils are used or handled.

Demineralization will be performed using reverse osmosis (RO) followed by ion exchange in a mixed-bed polishing unit. Demineralization reject water is expected to total 2 GPM.

5.9.2 Wastewater and Stormwater Management

Low volume process wastewater which is not suitable for on-Site reuse will be collected in a holding tank for off-Site transport and treatment. Off-Site transport will be provided by a certified collector/hauler with ultimate disposal at NPU's regional public treatment works (POTW). Sanitary wastewater from the Facility will be managed in an on-Site subsurface septic system. Sanitary wastewater is estimated to average approximately 1 GPM under all operating conditions.

To ensure that surface water and groundwater resources within the Site vicinity are provided with the highest level of protection, the Facility will utilize state-of-the-art design criteria coupled with structural and non-structural *Best Management Practices (BMPs)* for proper stormwater management. Stormwater BMPs will address erosion and sediment control during construction as well as Facility operation.

5.10 Construction

Project construction is proposed to commence in the Summer of 2008. Construction of the Project will occur in six (6) steps:

- Site preparation and grading;
- Plant Yard and Wood Yard access road preparation and grading;
- Plant Yard and Wood Yard excavations;
- Construction,
- Final Site and roadways grading; and
- Finishing/Site cleanup.

It is anticipated that the total construction of the Project will take approximately 14 months.

5.10.1 Impact Analysis

Some short-term noise impacts may occur during construction activities due to the use of heavy construction and excavation equipment (bulldozers, trucks).

The Project will involve a balanced cut and fill approach thereby avoiding the need for disposal of excavated material.

During construction, stormwater protection measures will ensure that runoff does not contain contaminants or excessive quantities of sediment. Measures will include storage of construction materials outside of existing runoff channels, berms to divert stormwater around disturbed areas, mulching, and silt fences around disturbed areas.

Project materials, equipment, and temporary and permanent utilities will be delivered to the Plant Yard and Wood Yard construction Sites via local roads. No closings of local roads in the Project area are planned in order to accommodate deliveries to the Project Site.

Air quality mitigation measures during construction focus on controlling fugitive dust emission from exposed areas. Dust from exposed soils will be controlled by periodic wetting and covering with straw mulch.

Safety and security measures will be taken during the construction and operation of the Project. During construction, construction barriers will be put in place and flagmen will be utilized to direct traffic and pedestrians safely around any Project-related construction site within public roads.

In summary, Project construction will not have a significant impact on the Project area; however, mitigation measures have been outlined and will be implemented during construction.

5.10.2 Mitigation

During construction, storm water protection measures will ensure that runoff does not contain contaminants or excessive quantities of sediment.

The construction of the Project will require the temporary partial closure of Brush Hill, Fitchville, and Stockhouse roads to connect to the local water and overhead power distribution systems. To avoid adverse impacts from such closures, CRE and its EPC Contractor will work together with State and local public works, transportation, and police agencies to ensure that the road closures are carried out at times, and in a manner, that will minimize disruption to the maximum degree practicable. Possible impact avoidance and mitigation measures will include:

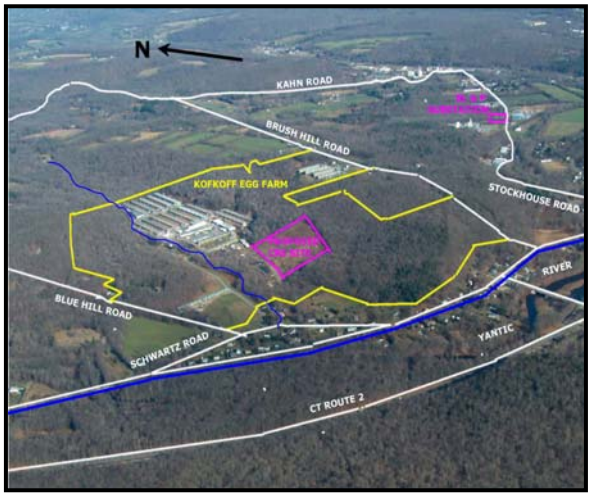
- Scheduling as much of the construction activities as practical/possible for non-peak traffic hours;
- Minimum number of lanes of operation disrupted during peak hour traffic;
- Maintenance and removal of all required temporary traffic control devices to provide for free and safe flow of traffic when not required to facilitate construction; and
- Efficient traffic detour, and alternate routes.

The traffic operation will be critically evaluated during the final design phase to identify the mitigation measures to minimize adverse traffic and Project impacts. All safety and security measures implemented will be planned in coordination with the Town (e.g., police department, fire department, local ambulance services).

5.11 Human Health and Safety

5.11.1 Existing Conditions

The area surrounding the Kofkoff Egg Farm in the hamlet of Fitchville is, for the most part, either wooded or agricultural lands. Residences, as well as small businesses and light industry, line the hamlet's roads.



The Kofkoff Egg Farm is the hamlet's largest industry, and the majority of its Schwartz Road and Brush Hill Road farms are well buffered. The nearest residences to the proposed Project Site lie about 1,000 feet to the southwest of the proposed Project Site. Manure management has become an increasing challenge to US animal farmers generally and CAFOs in particular.

The advance of residential, commercial, and industrial development adjacent to such farming operations, along with federal and state regulations aimed at protecting public health, is influencing how and where farm operations handle, stockpile, and dispose of their animal manures in an attempt to mitigate odors, vectors (flies and rodents), and uncontrolled stormwater runoff.

Regional agricultural farm fertilizer demand is currently Kofkoff's sole method of disposing of the 340 TPD/124,100 TPY of poultry manure generated by its six (6) CAFOs. Historical manure supply and demand has been subject to:

- Seasonality associated with New England agricultural farming;
- Other readily available animal farm manures (e.g. cow);
- The Fuel component of manure transportation costs; and
- Oil and chemical commodity cost influences on bulk chemical fertilizers.

5.11.2 Project Impacts and Mitigation Assessment

5.11.2.1 Manure Management

In addition to its mixed biomass-to-CHP function, the proposed Project would process all 340 TPD/124,100 TPY of the poultry manure generated at all six (6) of Kofkoff's Class 1 CAFOs

Kofkoff would continue to haul the poultry manure generated by each of its farms to the Schwartz Road Farm in covered trailers. The tractor-trailers would proceed directly to the Plant Yard where, upon traveling across a platform weigh scale, each rig would back into the Facility's enclosed Manure Receiving Bay. Facility Gasifier combustion air taken from the Manure Receiving Bay will maintain a negative pressure within the Receiving Bay, thereby preventing any odors from leaving the enclosure. Once inside the Receiving Bay, the driver would roll back the trailer cover and discharge the trailer load of poultry manure into a hopper where it would be conveyed to a mixer where it would be combined with wood chips just prior to being fed into the Gasifier. The entire manure conveying and mixing system would be water- and air- tight.

Upon emptying the trailer load, the driver would replace the trailer cover, exit the enclosed Receiving Bay, and depart the Plant Yard, reweighing the empty rig on the Platform Scale.

Consistent with CDEP and USEPA CAFO regulations and program initiatives, CT CAFO General Permit and CNMP requirements the Project, providing state-of-the-art manure and energy management, will serve as a model for farm operations, renewable energy production, and environmental management.

5.11.2.2 Hazardous Materials Management

Facility operations require use of a variety of materials that must be properly handled, stored, and managed for the safe and efficient generation of steam, electricity, and hot water. Where appropriate, structural or physical design features will be used to minimize the potential for a release of lubricating oils or miscellaneous chemicals.

In addition, standard operating procedures pertaining to the safe and efficient operation of plant equipment and/or spill control devices will be incorporated into the Facility's operations plan. This will include: routine inspection procedures; preventative maintenance programs; and employee training programs.

Facilities for oil or chemical storage will be designed and operated in accordance with standard industry practice and in compliance with state and local regulations or codes, including, where applicable:

- Emergency Planning and Community Right to Know, 40 Code of Federal Regulations (CFR) Section 355-372;
- Chemical Accident Prevention Provisions, 40 CFR Section 68;
- Occupational Health and Safety Act (OSHA) Requirements;
- Fire Protection Emergency Management Plan;
- Emergency Management Evacuation Plan; and
- Clean Water Act section 311 and related petroleum storage contingency planning requirements.

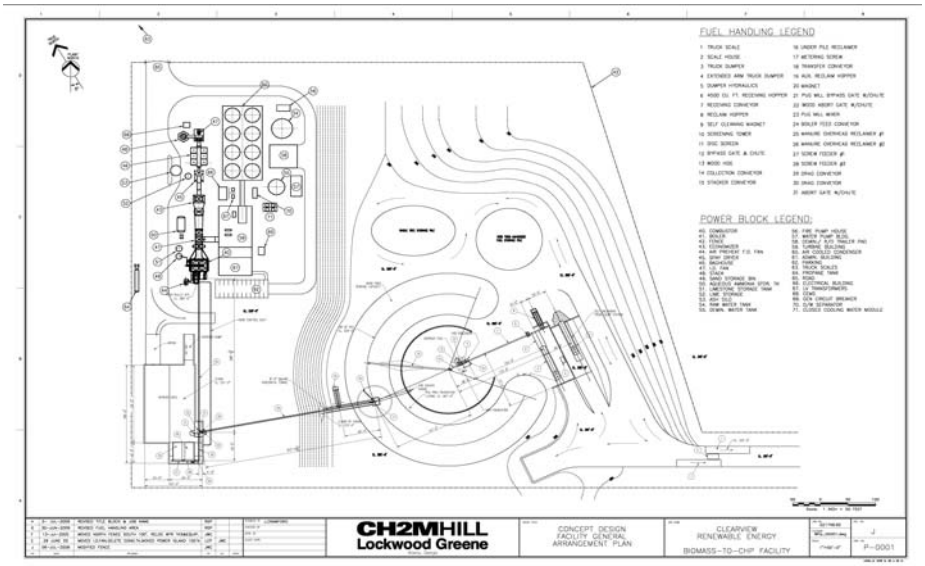
For example, lubricating oils or chemical storage containers will be provided with secondary containment and, where appropriate, audible and visual high level alarms. All piping, fittings and connections associated with the transfer of lubricating oil or chemicals will be fabricated, constructed, and installed in accordance with applicable federal, state, and local codes to minimizes the potential for a release of potentially toxic materials to the ground, groundwater or surface waters.

Procedurally, Facility personnel will complete daily visual inspections, in-depth monthly inspections and satisfy compliance testing requirements. In addition, lubricating oil or chemical unloading operations will be conducted under the supervision of Facility personnel to ensure that proper procedures are followed and that a Facility representative is present in the unlikely event of a spill or release. Prior to transfers, level gauges will be checked to ensure that adequate storage volume is available to accommodate the delivery volume. Mandatory practices will also include hose inspection, securing manifolds and valves, and use of chock blocks to prevent premature disconnect of the delivery vehicle.

Emergency spill control equipment ("Spill Kits") will be available at primary storage and transfer locations. They will contain, as appropriate, sorbent materials (Speedi-dry), sorbent pads, protective clothing and gloves, and safety glasses/goggles. The Facility will also engage the services of and Emergency Cleanup Contractor as an added safeguard in the unlikely event of a spill or release.

5.11.2.3 Fire Protection

The proposed Facility will incorporate a number of fire protection systems to ensure the safety of operating personnel and the general public in the event of a fire or system malfunction. Fire control systems will be designed in accordance with National Fire Protection Association (NFPA) Codes and comply with CT and Town fire protection requirements. The fire protection system will include water based (i.e., hydrants, sprinklers and deluge systems), CO_2 based, and foam based systems.



The primary water based system will be comprised of two (2) "loops" installed around the perimeter of the Project's lower Plant Yard and upper Wood Yard. Multi-port fire hydrants will be positioned at strategic points along each of these loops. The Wood Yard hydrants will be equipped with water cannons.

Sprinkler and deluge systems will also be used. Similar to sprinkler systems, pre-piped deluge systems equipped with directed nozzles provide a water fog of sufficient density to automatically extinguish a fire in a localized area.

An on-Site diesel operated fire pump will also be installed to ensure adequate water pressure is available for fire fighting purposes.

5.11.2.4 Health and Safety

Proper health and safety planning requires owners and operators of a Facility to properly instruct their personnel in the safe and efficient operation and maintenance of installed systems/equipment. Specialized training is also essential to ensure that personnel involved with the management and handling of poultry manure, as well as lubricating oils or chemical storage systems.

Facility personnel responsible for poultry manure and Facility O&M products deliveries during unloading operations and those responsible for regular inspection and maintenance of the receiving and storage systems will be trained in the proper operating procedures for receiving and transfer of product, use of spill containment equipment, and procedures for spill cleanup and reporting.

Employee health and safety training will be conducted upon initial assignment to the Facility and whenever Facility pollution prevention or emergency response plans are modified. Spill prevention briefings will be conducted on an annual basis and address recent developments in pollution prevention practices and emergency response procedures.

5.11.2.5 *Emergency Response*

The Facility will develop contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substance spill. The purpose of the contingency plan is to:

- Establish written procedures for activation of the plan;
- Provide guidance, establish policies and procedures and assign emergency response duties to Facility personnel;

- Provide emergency response agencies with relevant information for responding to an incident at the Facility;
- Identify key resources available for responding to an incident at the Facility; and
- Coordinate emergency communications to potentially affected residents of the community.

The Facility's emergency response team will be trained to one of several standards depending on their assigned Facility response program role.

Employees at the Site who are likely to witness or discover a release will have sufficient training and experience to demonstrate competency in the following areas:

- Understanding the Facility's manure receiving, storage, and retrieval systems and procedures;
- Understanding potential risks associated with oil or hazardous materials in use at the Site;
- Understanding of potential outcomes associated with an emergency created when oil or hazardous materials are present;
- The ability to recognize the presence of oil or hazardous materials in an emergency;
- The ability to identify the type of oil or hazardous material, if possible; and
- The ability to realize the need for additional resources, and to make appropriate notifications.

The CRE Project Team will work with local emergency response agencies during the design process to ensure that a fire emergency or a hazardous substance incident can be fulfilled by local emergency response capacity.

5.12 Socio-Economic Issues

The proposed renewable energy Project will provide substantial local and statewide benefits.

The proposed Facility will be integrated with Kofkoff's Fitchville Egg Farm, as well as Kofkoff's six (6) other egg farms within New London County. As a consequence of this integration, the Project will sustain and likely help grow this regional agricultural business.

The existing Kofkoff Egg Farm operation, one of the largest egg farms in New England, includes:

- Approximately 4.7 million bird population producing 15 million eggs per week;
- Approximately 300 employees with six (6) facilities in five (5) towns within New London County;
- Vertically integrated production, sales, feed manufacturing, and distribution;
- Among the highest taxpayers in several rural communities;
- One of the last remaining commercial egg-laying operations in New England, a deficit production region;
- Among the largest customers of NECR contributing close to 40 percent of this railroad's total revenue; and
- As a Land O' Lakes company, an industry leader and highly respected organization in CT, the US and North America.

The CT Department of Economic Development (CDED) analyzed the economic consequences of the loss of Kofkoff's Egg Farms on the State of Connecticut using the Regional Economic Model (REMI). Using the REMI model, CDED estimated that CT's loss of the Kofkoff Egg Farms would produce a statewide economic impact exceeding $161 million annually.

Together with an estimated $25.7 million impact on consumer prices, the total in-State economic impact for loss of the Farm would be $186.7 million annually.

The continued operation of the Kofkoff Egg Farms will be of economic importance to the communities in which the egg farms are located, and to the regional economy of New England far beyond the dollar values calculated by CDED. As one of the largest customers of NECR, contributing close to 40 percent of the railroad's total revenue, the loss of Kofkoff Egg Farms could easily result in the abandonment of the last of the freight rail service in rural eastern CT. The economic impact of this loss would be substantial and potentially irreversible, with far reaching economic effects to industry and transportation. With operation of the CRE Project, rail service would be expected to continue and/or increase as a result of increased productivity from Farm operations.

The proposed electric interconnection of the Project will be developed in cooperation with BL&P. The on-Site production of 29.0 MW of distributed generation will improve the efficiency and reliability of BL&P's local electric distribution. The interconnection would be configured with a second distribution feeder to substantially improve local electric reliability to BL&P's service area. In addition, as an in-state generation facility located in eastern CT, the Project will support the Southern New England Reliability Project in eastern CT, RI, and MA, and will be positioned to reduce Federally Mandated Congestion Charges (FMCCs) that apply to Connecticut and Southwest Connecticut.

This transmission project will work in conjunction with the Phase 1 and Phase 2 transmission reliability projects to eventually mitigate and reduce, if not to totally eliminate, the dispatch of older uneconomic generation that has been estimated to cost CT rate payers over $300 million per year. While the CRE Project is not located in southwestern CT, the location in eastern CT will nonetheless provide substantial value and economic benefits to the ratepayers of the state and the region.

Direct economic benefits are associated with the Project through construction expenditures estimated at $107.6 million. Temporary construction will involve employment for approximately two years. At the maximum point of construction activities, many skilled craftsmen will be employed on the site, providing a substantial benefit to the local economy.

The Project will also provide full time and part time positions for high quality local employment associated with facility operations. The value of this employment will have both direct and indirect value to the community.

Local property taxes from Kofkoff Egg Farms are now among the highest municipal revenues in several rural communities. The CRE Facility would continue to support Kofkoff's farm operations for long-term operations, so that Kofkoff can continue to provide tax revenues to the municipalities in which its farms are located. In addition, the Project, itself, will provide additional tax revenue to the rural community of Bozrah for municipal operations. Those additional tax revenues can be used by the Town to support community services. The Town of Bozrah has been involved with the planning and development of the Project for the past several months, and considers the Project to be an economic asset to the community.

By fostering a more sustainable approach to agricultural ecology, through the processing of biomass feed stock from multiple sources, and the local production of high value fertilizer, the Project will generate additional local and regional economic benefits. The Project would process approximately 340 TPD of poultry manure. The nutrients recovered from the manure will have significant economic value.
With values of $.20/lb for N, $.25/lb for P, and $.12/lb for Potassium (K), the combined value of the nutrients recovered from the manure would exceed $1.5 million per year. With application to six of the eight large (Connecticut Class 1 General Permit) CAFOs in the State, the Project would represent a substantial reduction of nutrient loading and increased nutrient utilization.

CRE has worked diligently with state, federal, regional, and local public officials to provide a long-term solution to help meet regional energy goals with renewable and sustainable biomass fuel, a long-term solution for management of poultry manure and clean wood biomass that will protect community and environmental resources, and local, state, and regional benefits that will support municipal services, create new jobs, and accelerate economic development in CT. Many Project activities will have positive economic values and will produce jobs and economic stability associated with:

- Regional agri-business;
- Local agricultural economy;
- Facility development and construction trades;
- Biomass fuel acquisition and processing;
- Ash fertilizer production; and
- Local production of energy available for the regional grid.

CRE continues to work with State and regional entities, and local officials to further quantify these economic values. CRE is confident that no other project can provide such a diverse array of economic benefits to the public as the proposed Project.

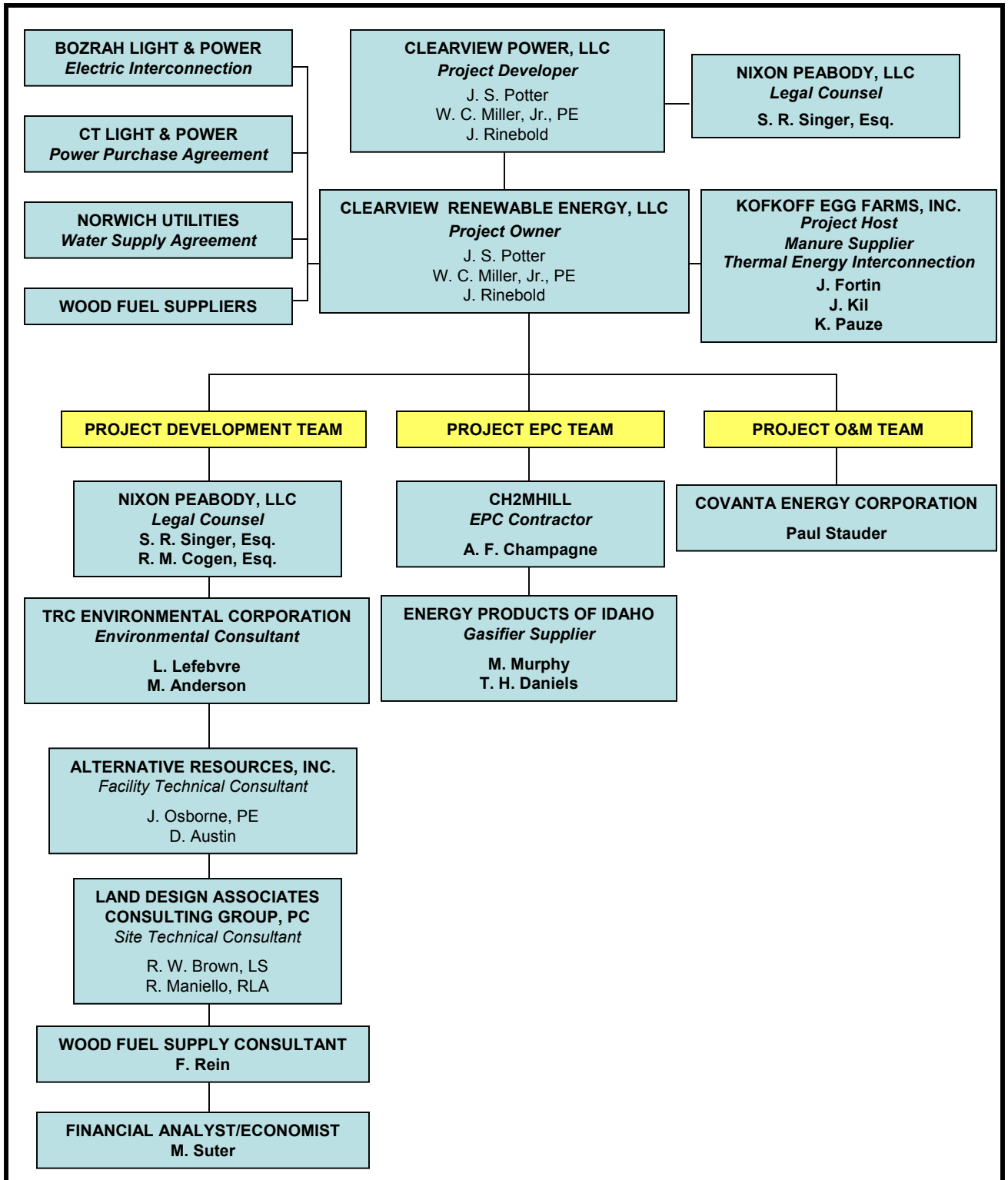
6.1 PROJECT TEAM

Clearview has been responsible for the development of numerous complex power projects for over 30 years. Power projects have multiple complex issues from design, siting, community outreach, finance, etc. No one-development company possesses the broad spectrum of professionals required to complete a development effort. Therefore, we have learned that project development success is determined primarily by the application of a team of uniquely qualified specialists aligned with the specific goal of completing a defined project. In this case, Clearview has created an unparalleled Project team that possesses the requisite capabilities for completing the Project successfully. The Project Organization Chart included herein identifies the Project organizational structure and the individual team members for each Project phase,

- Development Phase
- Construction Phase
- Operating Phase

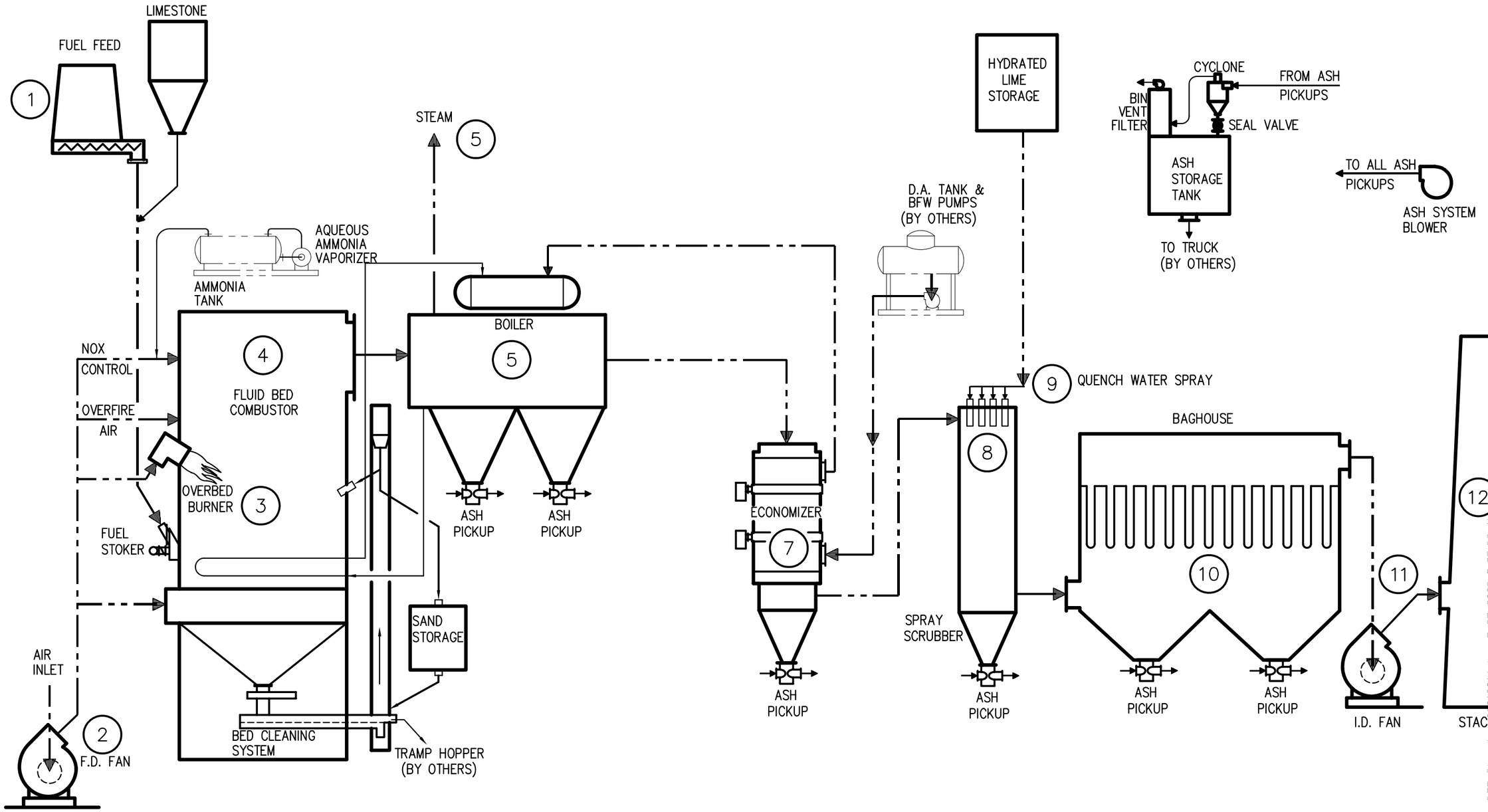
Several of the Project Team members have successfully worked together on five (5) projects collectively valued at over $0.5 billion within the past five (5) years. Several of these Team members have most recently worked on Clearview's highly successful 80MW Pinelawn Power, LLC project that achieved commercial operation during the Summer of 2005 on Long Island, NY. Clearview's deliberate approach to team structuring has consistently resulted in successful Project delivery, including Projects with complex technical and environmental challenges, as well as regional development issues.

Clearview has applied its project team approach to successfully complete the CRE Project for the benefit of the State, region, Town, Kofkoff and CRE.



CLEARVIEW RENEWABLE ENERGY, LLC
KOFKOFF EGGS FARMS BIOMASS-TO-COMBINED HEAT AND POWER PROJECT
PROJECT TEAM ORGANIZATION CHART

PETITION EXHIBITS



CAD DRAWING DO NOT ALTER MANUALLY

MASTER DRAWING REF:

FINAL APPROVAL			DRAWING CHECK		
PROJ. MGR.	DATE		ENGINEER	BY	DATE
ROUTE	BY	DATE	DESIGN BASIS		
DRAWN	DPS	01-24-05	MATERIAL		
CHECKED			STRESS		
DESIGN ENG.			SAFETY/SIGNS		
CIVIL/STRUCT.			DRAFTING	BY	DATE
PIPING/PROCESS					
I & C/ELECT.			DIMENSIONAL		
Q.A.			INTERFACE		
PROJ. ENG.			FAB. METHODS		
ENG. MGR.			PURCHASING		

	DESCRIPTION	BY	CHK.	DES. ENG.	PROJECT
3	REVISED TO REFLECT SCOPE PER PROPOSAL DATED 6.05				
△					ENG/MGR

REVISIONS

SAVED: 06/17/05 2:11 pm
CAD File: J:\PROPOSAL\2004\04067 - CRE CLEARVIEW\02010013.DWG

EPI® Energy Products of Idaho
4006 Industrial Ave. Coeur d'Alene, Idaho 83815
Idaho Energy Limited Partnership

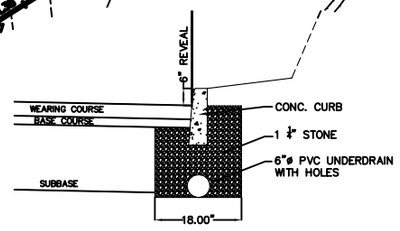
PROCESS FLOW DIAGRAM
CLEARVIEW POWER
BOZRAM, CT 20 MW NET

DRAWING CONTROL INDEX	PROJECT	CODE	SIZE	SHEET	REV No.
	04067	02010	B	1	4

SCALE NONE | TOTAL SHEETS 1

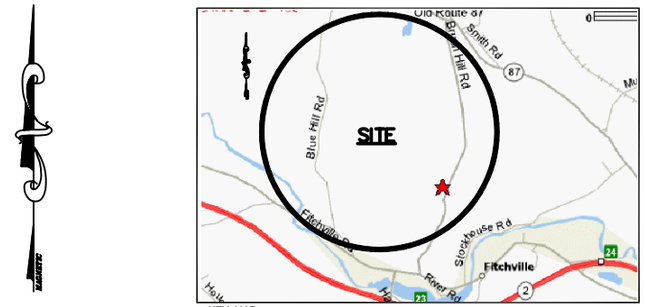
LEGEND

- SITE LEASE LIMIT
- LIMIT OF CLEARING AND GRADING
- ℄ OF R.O.W.
- 28' PAVEMENT
- +280 – PROPOSED CENTERLINE GRADE
- EXIST. KOFKOFF EGG FARM BARNS & BLDGS.
- EXIST. DWY. AND PAVT.

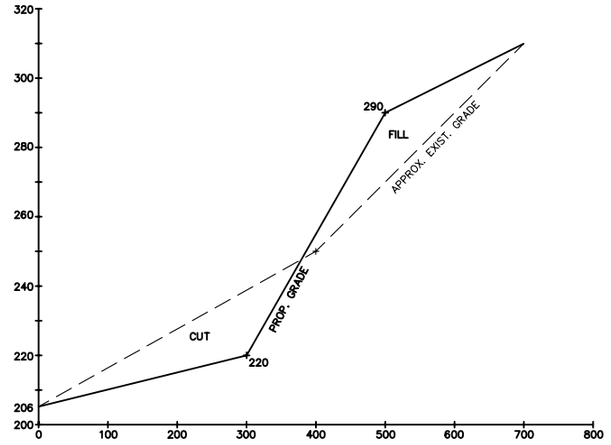


CURB DETAIL

(WOOD YARD ACCESS ROAD CUT SECTION SIDE HILL)

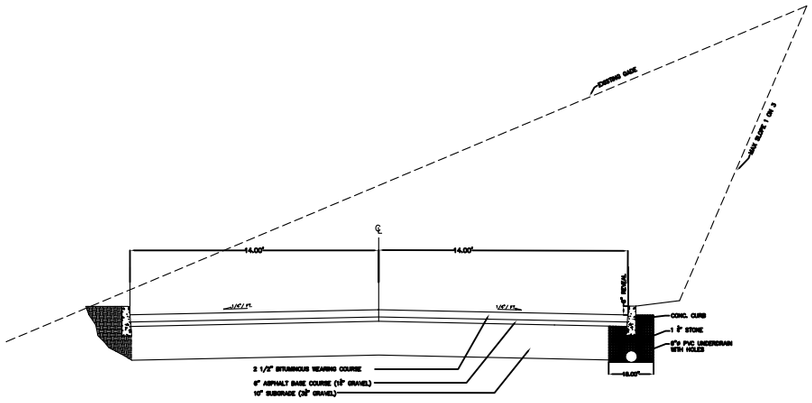


KEY MAP



SECTION B-B

SCALE: VERT. 1"=20'
HORT. 1"=100'



SECTION A-A

TYPICAL ROAD SECTION-FULL DEPTH PAVEMENT
FOR
CLEARVIEW RENEWABLE ENERGY, LLC
PLANT 5 WOOD YARD ACCESS ROADS

GENERAL NOTES:

NORTH

REVISIONS

DATE:	DESCRIPTION:
4-05	ACCESS ROAD
7-12-05	ADDED NOTES
7-18-05	ADDED NOTES

PROJECT TITLE:

CLEARVIEW RENEWABLE ENERGY, LLC
AT
KOFKOFF EGG FARMS, LLC

17 SCHWARTZ ROAD
FITCHVILLE, CT.

CONSULTANT:

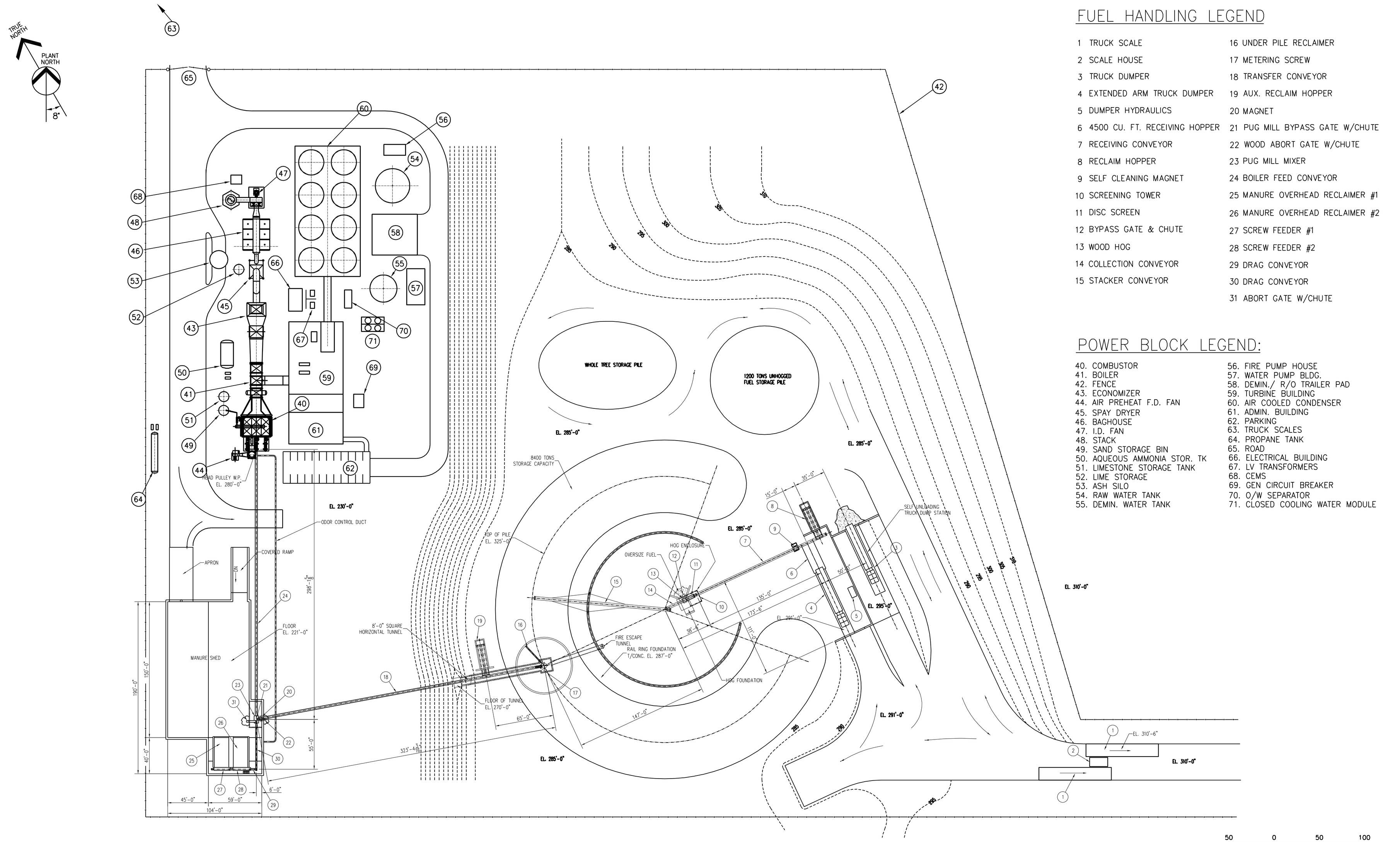
Land Design associates, p.c. consulting group
91 GREEN STREET
HUNTINGTON, NY. 11743
PHONE: (631) 549-4744
FAX: (631) 385-3385
EMAIL - LDACG@OPTONLINE.NET

PLAN TITLE:

PRELIMINARY SITE PLAN

DATE: FEB. 8, 2005	SHEET NO.
DRAWN BY: JC	1
FILENAME:	OF
PLOT NAME:	
LAST PLOT:	
SCALE: 1"=200'	1

File name: I:\SERVER\DRAWINGS\COMMON\ENERGY\CONNECTICUT\CONCEPT1.DWG



FUEL HANDLING LEGEND

1 TRUCK SCALE
2 SCALE HOUSE
3 TRUCK DUMPER
4 EXTENDED ARM TRUCK DUMPER
5 DUMPER HYDRAULICS
6 4500 CU. FT. RECEIVING HOPPER
7 RECEIVING CONVEYOR
8 RECLAIM HOPPER
9 SELF CLEANING MAGNET
10 SCREENING TOWER
11 DISC SCREEN
12 BYPASS GATE & CHUTE
13 WOOD HOG
14 COLLECTION CONVEYOR
15 STACKER CONVEYOR
16 UNDER PILE RECLAIMER
17 METERING SCREW
18 TRANSFER CONVEYOR
19 AUX. RECLAIM HOPPER
20 MAGNET
21 PUG MILL BYPASS GATE W/CHUTE
22 WOOD ABORT GATE W/CHUTE
23 PUG MILL MIXER
24 BOILER FEED CONVEYOR
25 MANURE OVERHEAD RECLAIMER #1
26 MANURE OVERHEAD RECLAIMER #2
27 SCREW FEEDER #1
28 SCREW FEEDER #2
29 DRAG CONVEYOR
30 DRAG CONVEYOR
31 ABORT GATE W/CHUTE

POWER BLOCK LEGEND:

40. COMBUSTOR
41. BOILER
42. FENCE
43. ECONOMIZER
44. AIR PREHEAT F.D. FAN
45. SPAY DRYER
46. BAGHOUSE
47. I.D. FAN
48. STACK
49. SAND STORAGE BIN
50. AQUEOUS AMMONIA STOR. TK
51. LIMESTONE STORAGE TANK
52. LIME STORAGE
53. ASH SILO
54. RAW WATER TANK
55. DEMIN. WATER TANK
56. FIRE PUMP HOUSE
57. WATER PUMP BLDG.
58. DEMIN./ R/O TRAILER PAD
59. TURBINE BUILDING
60. AIR COOLED CONDENSER
61. ADMIN. BUILDING
62. PARKING
63. TRUCK SCALES
64. PROPANE TANK
65. ROAD
66. ELECTRICAL BUILDING
67. LV TRANSFORMERS
68. CEMS
69. GEN CIRCUIT BREAKER
70. O/W SEPARATOR
71. CLOSED COOLING WATER MODULE

NO	DATE	REVISION	BY	CK.	APPR.
H	3- JUL-2006	REVISED TITLE BLOCK & JOB NAME	RGP		
G	30-JUN-2006	REVISED FUEL HANDLING AREA	RGP		
F	13-Jul-2005	MOVED NORTH FENCE SOUTH 100', RELOC WTR TKS&EQUIP.	JWC		
E	29 JUNE 05	MOVED I.D.FAN.DELETE COND.TK.MOVED POWER ISLAND 150'N	LEP	JWC	
J	06-JUL-2006	MODIFIED FENCE	JWC		

DESIGNED BY J.CRAWFORD
CHECKED BY
APPR. BY
CLIENT APPR.

CH2MHILL
Lockwood Greene
Atlanta, Georgia

SHEET TITLE
CONCEPT DESIGN
FACILITY GENERAL
ARRANGEMENT PLAN

JOB NAME
CLEARVIEW
RENEWABLE ENERGY

BIOMASS-TO-CHP FACILITY

JOB NO. 021748.65
FILENAME WPp_00001.dwg
SCALE 1"=50'-0"
REV. NO. J
DWG. NO. P-0001

LGAD_3, ANSI D, 22 x 34 in.

Station No.	Description % moisture	42% mc
1	**Fuel , % Btu (LHV)**	
	manure	5.8%
	silvaculture	94.2%
	Wood - chips	0.0%
	nat gas	0.0%
	Fuel, TPD	
	Chicken manure	342
	silvaculture	1,112
	Wood - Chips	0
	nat gas, M Btu/hr	0.00
	B.D. Blend Analysis	
	Carbon, %:	45.84
	Hydrogen, %:	6.12
	Sulfur, %:	0.06
	Oxygen, %:	41.05
	Nitrogen, %:	0.52
	Chlorine, %:	0.20
	Ash/Other, %:	6.21
	As Fired Moisture, %:	47.88
	As Fired HHV BTU/lb:	4,035
	As Fired LHV BTU/lb:	3,248
	Flowrate lb/hr:	121,164
	H MBtu/hr, LHV:	393.59
	Ash + Lime Flow, lb/hr:	4,268
	Lime lb/hr:	177
2	**FD Fans**	
	Ambient Air lb/hr:	532,700
	Total Air Flow lb/hr:	532,700
	Temp F:	90
	ACFM:	124,600
	Excess Air:	
	UFA Fan	
	Total Air Flow lb/hr:	191,800
	Temp ºF:	90
	ACFM:	46,900
	dPress in WC:	
	Theor Power Hp:	
	OFA Fan	
	Total Air Flow lb/hr:	340,900
	Temp oF:	90
	ACFM:	83,300
	dPress in WC:	
	Theor Power Hp:	
3	**Bed**	
	Surface area, ft2:	0
	Heat trans., MBtu/hr:	0
	Bed Dia, ft:	0.00
	Bed Width, ft:	
	Bed Length, ft:	
	Temp F:	
4	**Vapor Space**	
	Temp F:	1,700
	Surface area, ft2:	
	Heat trans., MBtu/hr:	66
	Velocity fps:	
	Flowrate lb/hr:	649,800
	ACFM:	620,200
5	**Boiler**	
	Gas Flow lb/hr:	649,800
	ACFM:	620,200
	Gas H MBtu/hr:	320.04
	Boiler duty, M Btu/hr:	211.48
	Steam Temp F:	750
	Steam Press (psia):	665
	Steam Flow lb/hr:	295,000
	Ash lb/hr:	1,070

Station No.	Description	42% mc	42% mc	42% mc	42% mc
6	**Multiclone**	Not Used			
	flow, lb/hr:				
	ACFM:				
	Temp, F;				
	Ash drop out, lb/hr:				
	SCR (hot side option)	Not Used			
	gas flow, lb/hr				
	ACFM,				
	Temp, F:				
7	**Economizer**				
	Gas In Temp, F:	663			
	Gas out Temp, F:	340			
	H2O in Temp, F:	280			
	H2O Out Temp, F	471			
	Heat Trans., MBtu/hr:	60.96			
	Ash lb/hr:	0			
8	**Spray dryer inlet**	Note: BY OTHERS			
	inlet flow, lb/hr:	649,769			
	ACFM:	229,745			
	Temp, F;	340			
	moisture, % wt.	15.29%			
	H, MBtu/hr.	49.12			
	dry vol% O2	7.05%			
9	**Quench Water spray**	Note: Subject to final T out scrubber			
	lb/hr	16,229			
	gpm	32			
	hydrated lime, lb/hr	534			
10	**Baghouse**	Note: Subject to final T out scrubber - BY OTHERS			
	flow, lb/hr	665,999			
	ACFM	208,747			
	Temp, F;	240			
	moisture, wt%:	17.36%			
	H, MM Btu/hr	32.38			
	Ash lb/hr:	3,725			
11	**ID Fan**				
	ACFM:	208,747			
	Temp, F:	240			
	SP, in H2O:	18.50			
	BHP	947			
12	**Stack**	Note: BY OTHERS			
	Gas Temp F:	249			
	Gas Flow lb/hr:	665,999			
	ACFM:	211,506			
	Enthalpy MBtu/hr:	34.14			
	Vol (dry)%O2:	7.1%			
	Wt% H2O:	17.4%			
	Overall balance				
	Total energy Input, MBtu/hr HHV:	488.9			
	Boiler Duty, MBtu/hr:	333.5			
	Pred. Efficiency, %:	68.2			

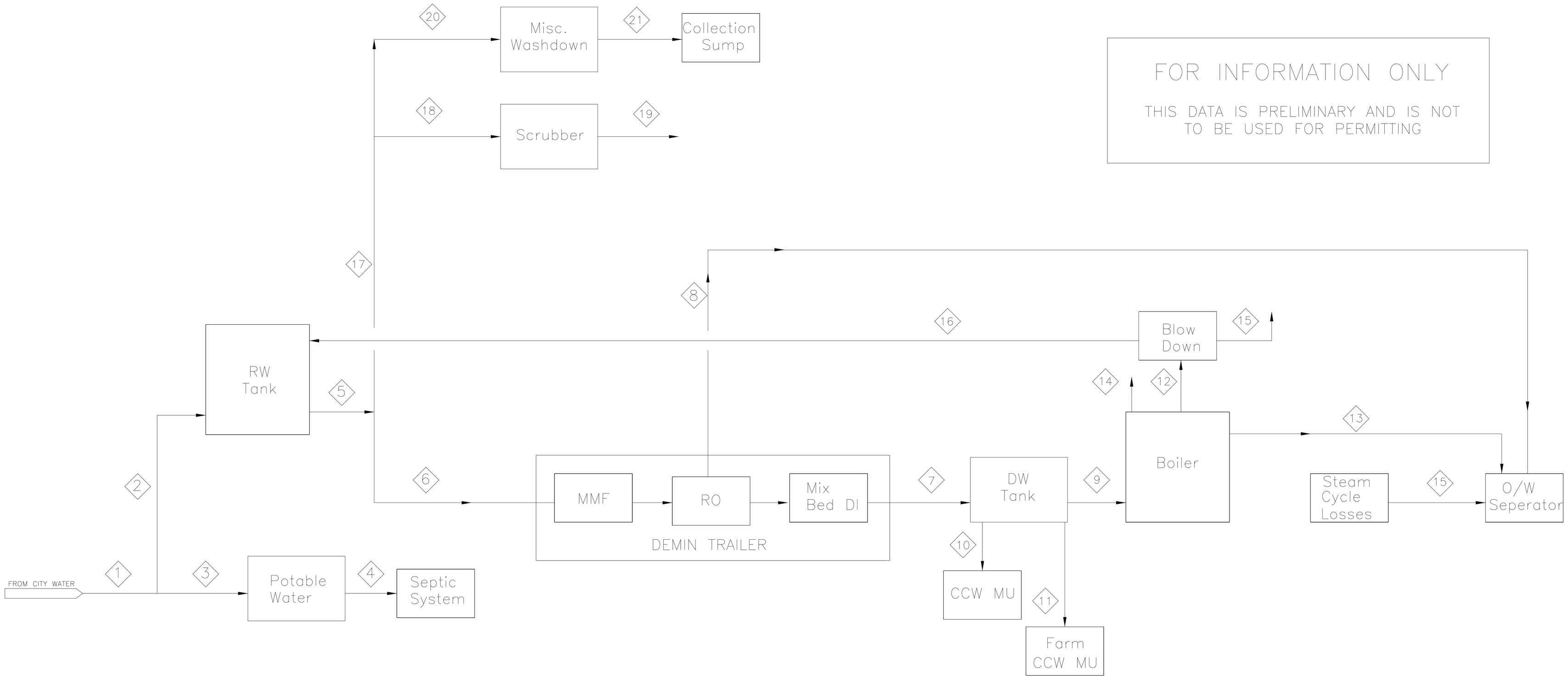
Consummables	
Limestone - lb/hr	177
Ammonia-as aqueous, lb/hr	262
Hydrated Lime - lb/hr	534

Rev 5 **295 K PPh**

Preliminary **Predicted Values - For information only**

	PROJ. MGR.	DATE	**EPI Energy Products of Idaho**
			4006 Industrial Ave. Coeur d' Alene, Idaho 83814
			Idaho Energy Limited Partnership
	BY	DATE	PROCESS FLOW DATA SHEET
ORIGNTR	mlm	05/30/06	Clearview Renewable Energy - CHP Plant
CHECKED			Bozrah, Ct 295 K PPH

PROJ. ENG.			PROJECT	CODE	SHEET	OF	REV
filename	7 7 06	07/07/06	S04067	0201	1	1	5



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	City Water Supply	To RW Tank	To Potable Water Dist.	To Septic	Raw Water Dist.	To Demin Trailer	To DW Tank	Demin Reject	To Boiler Makeup	CCW Makeup	Farm CCW Makeup	Boiler Blowdown	Misc Boiler Losses	Boiler Startup Waste	Blowdown Evaporation	To RW Tank	RW Distribution	To Scrubber	Scrubber Evaporation	Misc Washdowns	Collection Sump
Min Flow (gpm)	44	44	0	0	58	0	0	0	5	0	0	5	0	0	0	16	58	58	58	0	0
Avg Flow (gpm)	60	59	1	1	75	17	16	1	16	0	0	15	0	0	1	16	58	58	58	0	0
Max Flow (gpm)	85	84	1	1	100	38	34	4	32	1	1	27	2	2	3	16	62	58	58	4	4

NO.	DATE	REVISION	BY	CK.	APPR.
B	3-JUL-2006	REVISED TITLE BLOCK, JOB NAME & FLOW DATA	RGP		
A	13-JUN-2005	FOR INFORMATION ONLY-PRELIMINARY	JJT		

DESIGNED BY JJT
CHECKED BY
APPR. BY
CLIENT APPR.

CH2MHILL
Lockwood Greene
Atlanta, Georgia

SHEET TITLE
PRELIMINARY WATER BALANCE

JOB NAME
CLEARVIEW
RENEWABLE ENERGY

BIOMASS-TO-CHP FACILITY

JOB NO. 690021748
FILENAME M-1101A.DWG
SCALE NOT TO SCALE
REV. NO. B
DWG. NO. M-1101A
SHEET 1 OF 1

LGAD_3, ANSI D, 22 x 34 in.

CLEARVIEW RENEWABLE ENERGY, LLC
FACILITY RECEIVING SPECIFICATIONS
FOR
ACCEPTABLE SILVICULTURE WASTE

GENERAL

Clearview Renewable Energy, LLC (CRE) will only accept unadulterated, uncontaminated and pre-Processed Silviculture Wood Waste deliveries from pre-approved suppliers during the hours of 7:00am to 7:00pm daily, Monday through Sunday.

All such Wood Waste deliveries shall be subject to inspection at the points of generation, aggregation and CRE's Fitchville, CT Wood Receiving Yard to assure conformance with these CRE Receiving Specifications.

Any and all Wood Waste not conforming to the Specifications set forth herein shall be subject to rejection and re-loading into the Supplier's truck, trailer or container for return to Supplier at Supplier's expense.

Unprocessed Wood Waste will not be accepted at the Facility.

ACCEPTABLE SILVICULTURE WOOD WASTE

- All species, healthy and diseased.
- All tree sections (branches, bows, trunks, heartwood and bark) except stumps;
- No stumps;
- Only leaves and needles incidental to the whole tree silviculture waste.
- No dirt, sand, ferrous or non-ferrous metals; and
- Pre-chipped to a maximum 10" chip size

CLEARVIEW RENEWABLE ENERGY, LLC
FACILITY RECEIVING SPECIFICATIONS
FOR
ACCEPTABLE WOOD WASTE
FROM
PRE-APPROVED MANUFACTURING & RECYCLING SOURCES

GENERAL

Clearview Renewable Energy, LLC (CRE) will only accept clean, unadulterated and pre-processed Wood Waste deliveries from pre-approved suppliers during the hours of 7:00 am to 7:OO pm daily, Monday through Saturday.

All such Waste deliveries shall be subject to inspections at the points of generation, aggregation and CRE's Fitchville, CT Wood Receiving Yard to assure conformance with these CRE Receiving Specifications as set forth herein.

Any and all Wood Waste not conforming to these Specifications shall be subject to CRE's rejection and re-loading into the Supplier's truck, trailer or container for return to Supplier at Supplier's expense.

Unprocessed Wood Waste will not be accepted at the Facility.

ACCEPTABLE WOOD WASTE

- Clean, dry, unadulterated from the following pre-approved sources:
  - Wood products manufacturers; and
  - Recyclers of:
    - Wood shipping boxes, crates, pallets and skids; and
    - Cable reels;
- No paint, stain, varnish, lacquer, polyurethane, pressure treatment, creosote, etc.;
- No dirt, metal (nails, clips, wire, etc.) and/or plastic attachments, or other foreign matter;
- No laminates; and
- Pre-chipped to a maximum 10" chip size.

CLEARVIEW RENEWABLE ENERGY, LLC
FACILITY RECEIVING SPECIFICATIONS
FOR
ACCEPTABLE WOOD WASTE
FROM
PRE-APPROVED MANUFACTURING & RECYCLING SOURCES

GENERAL

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Unprocessed Wood Waste will not be accepted at the Facility.

ACCEPTABLE WOOD WASTE

- Clean, dry, unadulterated and uncontaminated from the following pre-approved sources:
  - Wood products manufacturers; and
  - Aggregators, recyclers and merchants of:
    - Wood shipping boxes, crates, pallets and skids;
    - Cable reels; and
    - Regulated Wood Fuel as defined by CDEP
- No paint, stain, varnish, lacquer, polyurethane, pressure treatment, creosote, etc.;
- No dirt, metal (nails, clips, wire, etc.) and/or plastic attachments, or other foreign matter;
- No laminates; and
- Pre-chipped to a maximum 10" chip size.

STATE OF CONNECTICUT

DEPARTMENT OF AGRICULTURE

CONNECTICUT GROWN

June 29, 2005

Joel Rinebold
Clearview Renewable Energy
1 Harnish Lane
Wallingford, CT 06492

Re: Ash product from Kofkoff Farms, Bozrah, CT

Dear Mr. Rinebold,

This letter is to confirm that, based upon the analytical data supplied by you, the ash product from Kofkoff Farms could possibly be used as an agricultural liming material or a fertilizer in accordance with Connecticut law. Final approval would be contingent on labeling and directions for use.

Please feel free to contact me should you have any further questions.

Sincerely,

Alton A. Blodgett

Alton A. Blodgett
Control Official
Agricultural Commodities Division
Bureau of Regulation & Inspection

Tel: 860-713-2565
Fax: 860-713-2598
Email: alton.blodgett@po.state.ct.us

Cc: Dr. Bruce Sherman, Bureau Director

Clearview/Kofkoff 06-29-05