## Exhibit A

Basin: 3700



### STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

Inland Fisheries Division
Habitat Conscrvation and Enhancement Program
Eastern District Headquarters
209 Hebron Road
Marlborough, CT 06447
Tel; (860)295-9523



TO:

Sara Radasci, Environmental Analyst III, Inland Water Resources Division

FROM:

Brian D. Murphy, Senior Fisheries Habitat Biologist

DATE:

May 23, 2007

SUBJECT:

Plainfield Renewable Energy LLC, DIV200603081

I have had an opportunity to review permit application materials in support of DIV200603081, for a proposed 37.5 MW biomass gasification power plant in Plainfield/Canterbury, CT. The proposed water diversion will be used to supply non-contact cooling water and spray water to the facility's air pollution control equipment. Water will be withdrawn from the Quinebaug River, ranging from an average day maximum month withdrawal of 0.656 MGD to 0.994 MGD, the maximum daily withdrawal. After re-circulating the Quinebaug River water through a cooling tower five times, approximately 80% of the non-contact cooling water will evaporate with the remainder being discharged back to the Quinebaug River.

The proposed intake and discharge locations are located in a section of the Quinebaug River that is under the backwater influence of Aspinook Pond. Consequently mesohabitats are primarily slow moving deep-water pool and ponded habitats. The fish community in this area is primarily comprised of warmwater pond species such as largemouth bass, smallmouth bass, chain pickerel, bluegill, redbreast sunfish, white perch, yellow perch, yellow bullhead and white sucker. White sucker is the only fluvial dependent species found in this reach of river. This consumptive water diversion is not expected to result in significant losses of instream fish habitats due to the deepwater characteristics of this section of the Quinebaug River. Differences in water surface elevation with the water diversion in place are almost negligible. For example, under extreme low river flows (7Q10), the difference in the water depth due to the diversion is less than 0.01 feet. As a consequence, the diversion will not result in a significant loss of instream habitats under the currently impounded condition.

I do not expect fisheries resources to be adversely affected by the thermal discharge. The single port outfall pipe is located approximately 100 feet downstream from the intake pipe being designed to discharge into the centerline of the Quinebaug River at maximum water depths.

#### Basin: 3700

The thermal plume was modeled under 7Q10, mean river flow, 30Q2 and 7Q2 flow rates. In each case, the thermal plume reduces within a few degrees of the ambient water temperature within 10-20 feet of the discharge point. In addition, at the modeled flows, the discharge plume represents less than 6.4 % of the total river cross-sectional area.

The proposed water diversion intake structure is a cylindrical wedge-wire design with slot openings of 0.125 inch and through-slot water velocities projected to be 0.5 feet per second (fps) or less. The intake structure is a Johnson Model: T-12 HCE screen that is 38 inches in length with a 12 inch diameter pipe. The water diversion intake is not expected to result in significant fish impingement and entrainment losses of resident fish species since the fish community that inhabits this lentic section of the Quinebaug River is mainly comprised of warmwater pond species that construct nests along shallow, shoreline habitats. Thus they are less likely to encounter the water intake. However, future diadromous fish restoration plans for the Quinebaug River call for the provision of a fish passage facility for river herring (blueback and alewife), American shad as well as other diadromous species at the Wyre Wynd Hydroelectric facility located at the Aspinook Pond Dam. Fish passage discussions are now underway with Wyre Wynd since a fish lift was recently constructed at the Tunnel Dam, Norwich (the next dam downstream) and is currently operational having lifted alewives over the dam for the first time in over 100 years. Therefore, diadromous fish runs will soon have access to the base of the Aspinook Pond Dam. Unlike the lentic nest building resident species, the river herrings and American shad belong to the Clupeid family of fish, which spawn and broadcast their eggs in the water column; thus, it is more likely that Clupeid icthyoplankton will be impacted by the water intake. As a consequence, the Inland Fisheries Division recommends that through slot intake water velocities be kept below 0.25 fps to further minimize the threat of impingement and entrainment. The 0.25 fps through slot velocity guideline has been utilized at other new facilities utilizing wedge wire intakes in Connecticut in recent years. We ask that the applicant investigate various wedge wire design alternatives to reduce through intake velocities below the 0.25 fps level. Perhaps the easiest way to achieve this would be through the use of an intake cylinder larger than the one proposed.

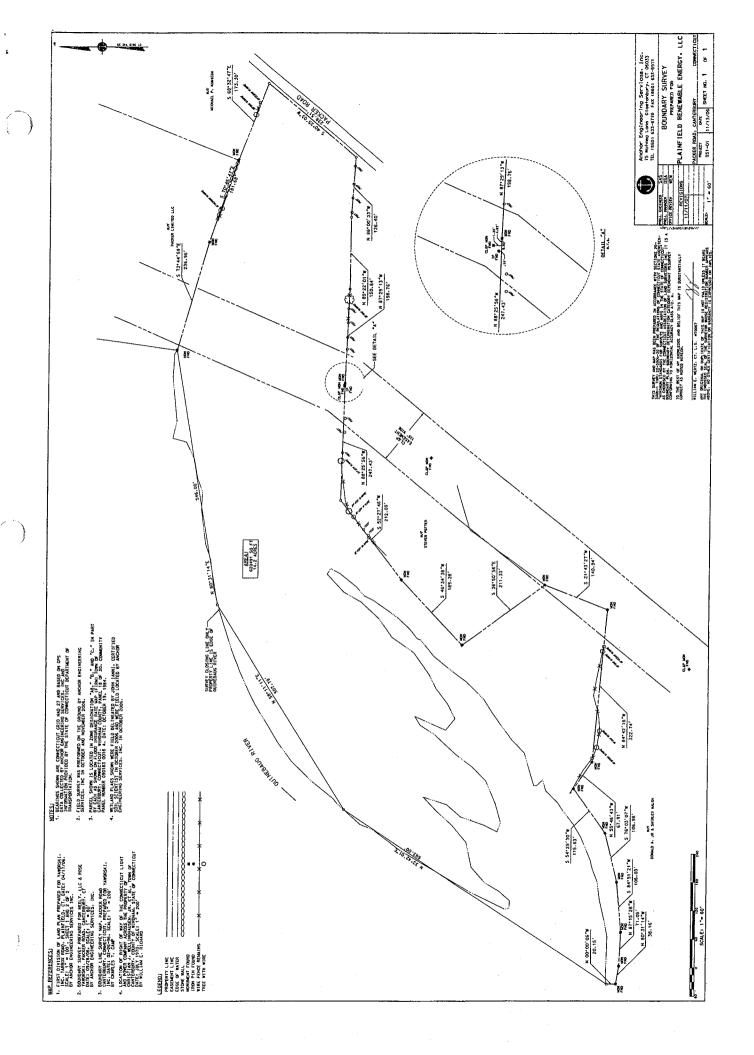
The construction of the intake and discharge will require in-river construction. It is proposed that sheetpile cofferdams will be constructed to isolate work areas. In order to protect the aquatic resources of the Quinebaug River and as a best management practice, any unconfined instream work should be restricted to the period from June 1 to September 30, inclusive. A June 1 through September 30 timeframe can be utilized as an effective mitigation measure for construction related disturbances due to the following reasons: (1) timeframe will serve to protect the spawning, egg incubation, and fry development of resident fishes, (2) timeframe does not interfere with seasonal migratory behaviors, and (3) timeframe coincides with historic low rainfall levels in Connecticut a period in which instream construction activities such as dewatering, excavation, trenching, and cofferdam placement are most effective.

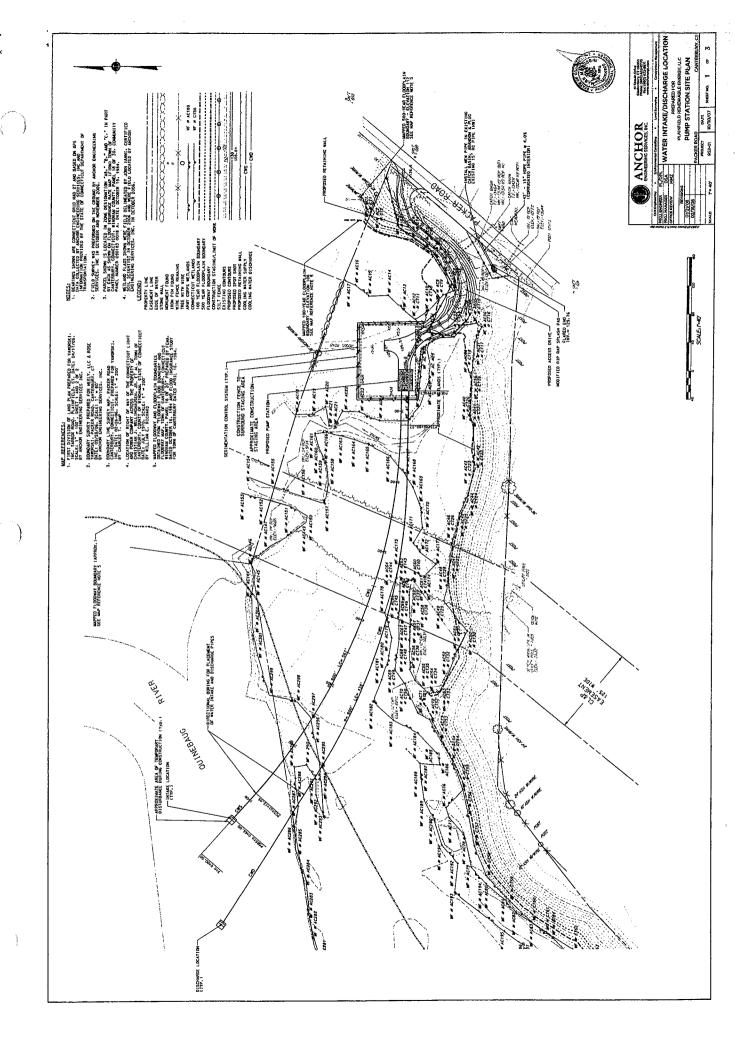
Let me know if you have any questions/comments regarding this review. Thanks.

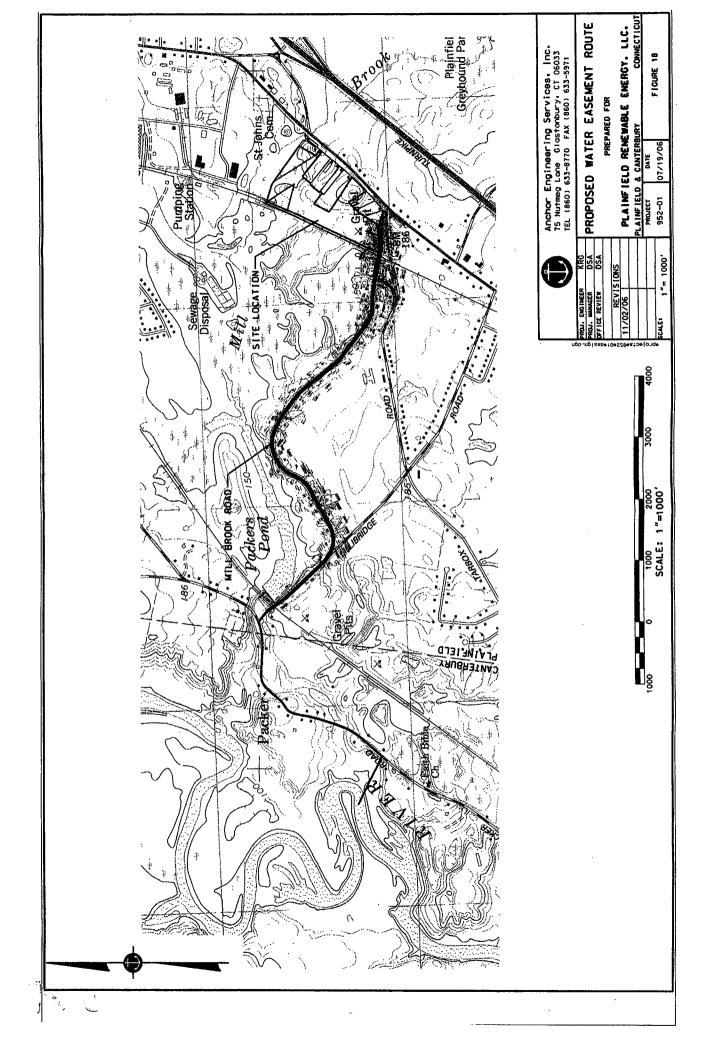
cc. P. Aarrestad

D. Hoskins

### Exhibit B







# Exhibit C

#### AFFIDAVIT OF NEIL A. DUPONT

STATE OF CONNECTICUT	) : ss:	Canterbury	June 12, 2008
COUNTY OF WINDHAM	)	•	

#### Neil A. Dupont, being duly sworn, states:

- 1. I am over the age of eighteen years and understand the obligations of making statements under oath. I have personal knowledge of the facts stated herein.
- I was the First Selectman of the Town of Canterbury, Connecticut from 1995 to 2003 and 2005 through 2007.
- 3. I am familiar with Petition No. 784 Plainfield Renewable Energy, LLC ("PRE") petition for a declaratory ruling no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 37.5 MW Wood Biomass Generating Project, Plainfield, Connecticut (the "Petition"), which Petition was approved by the Connecticut Siting Council on June 7, 2007.
- 4. Over the course of 2006 and 2007, representatives of PRE discussed the Project and the location of the related Pumphouse with me multiple times, in person and over the telephone. PRE kept me timely apprised of changes to the Project, including the change in location of the Pumphouse to the Man-Burch Property. I was fully informed throughout the Connecticut Siting Council Approval Process.
- 5. In or around the summer of 2006, I met with representatives of PRE regarding the Petition and PRE's plans to construct a wood biomass generating project in Plainfield, Connecticut (the "Project") and an intake/outfall structure on property located adjacent to the Quinebaug River in Canterbury, Connecticut (the "Pumphouse"). At that time, I

understood the location of the Pumphouse to be on property owned by Quinebaug Valley Regional Resources, LLC, upstream of what is commonly known as the Yaworski Landfill.

- 6. In early November of 2006, prior to the public hearing on the Project, I was notified by representatives of PRE that the location of the Pumphouse had been changed and that it would be moved to property located 3000 feet to the south on Packer Road, which property was owned by Man-Burch, LLC and commonly known as the Man-Burch property (the "Man-Burch Property").
- 7. I was aware that the Connecticut Siting Council was holding a public hearing regarding the Project on November 16, 2006. I chose not to attend the hearing because I did not have any concerns and did not believe that the Town of Canterbury had any concerns related to the Pumphouse or its operation or location.
- 8. On December 7, 2006, I met with Scott Guilmartin from PRE and Mark Zessin from Anchor Engineering, consultant to PRE working on the Project. At that meeting, we discussed, among other things, the Pumphouse and road and drainage improvements that would be made for the benefit of the Town of Canterbury. We also discussed the size of the pipes to be installed and the water usage from the Quinebaug River. At that time, I was aware that the Pumphouse was to be located on the Man-Burch Property.
- 9. On January 17, 2007, Richard Cody, the Town of Canterbury Attorney, Al Bottello, the Town of Canterbury Public Works Director and I met with Scott Gilmartin and Mark Zessin regarding the Project and the Pumphouse. At that meeting, we discussed, among other things, the location and installation of the waterline and the

reconstruction of Packer Road. I was aware that the Pumphouse was to be located on the Man-Burch Property.

10. On January 22, 2007, I received a copy of a water diversion permit application submitted by PRE to the Connecticut Department of Environmental Protection. The map included in the water diversion permit application depicted the proposed Pumphouse on the Man-Burch Property.

Neil A. Dupont

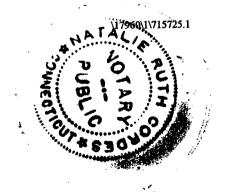
Former First Selectman of the Town of Canterbury

Subscribed and sworn to before me this 12 m of June, 2008

Notary Public

My Commission Expires:

NATALIE RUTH CORDES NOTARY PUBLIC MY COMMISSION EXPIRES APR. 30, 20/ O



### Exhibit D

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### LIST OF RECIPIENTS OF THE PETITION

CITY/	
STATE/	

STATE/ FEDERAL	TITLE	NAME	ADDRESS
Plainfield	First Selectman	Kevin M. Cunningham	Town of Plainfield 8 Community Avenue Plainfield, CT 06374
Plainfield	Planning & Engineering Department (Includes administration of Planning.	Lou Soja	Town of Plainfield
	Zoning, Inland Wetland & Watercourse regulations)	Planning & Engineering Supervisor	8 Community Avenue Plainfield, CT 06374
		Ryan Brais Zoning Officer	Town of Plainfield 8 Community Avenue Plainfield, CT 06374
Plainfield	Conservation Commission Chairman	John Meyer	Town of Plainfield 8 Community Avenue Plainfield, CT 06374
Plainfield	Plainfield Public Library		39 Railroad Avenue Plainfield, CT 06374
Plainfield	Central Village Public Library		51 Black Hill Road Plainfield, CT 06374
Canterbury	First Selectman	Neil Dupont, Sr.	Town of Canterbury 1 Municipal Drive Canterbury, CT 06331
Canterbury	Town Planner/Zoning Enforcement Officer/ Inland Wetlands	Steven Sadlowski	Town of Canterbury 1 Municipal Drive Canterbury, CT 06331
Canterbury	Chair, Planning and Zoning Commission	David Norrell	Town of Canterbury 1 Municipal Drive Canterbury, CT 06331
Canterbury	Chair, Inland Wetlands & Watercourse Commission	John A. Tetreault	Town of Canterbury 1 Municipal Drive Canterbury, CT 06331
Canterbury	Canterbury Public Library		1 Municipal Drive Canterbury, CT 06331
	Plainfield  Plainfield  Plainfield  Plainfield  Plainfield  Canterbury  Canterbury  Canterbury	Plainfield First Selectman  Plainfield Planning & Engineering Department (Includes administration of Planning, Zoning, Inland Wetland & Watercourse regulations)  Plainfield Conservation Commission Chairman  Plainfield Plainfield Public Library  Plainfield Central Village Public Library  Canterbury First Selectman  Canterbury Town Planner/Zoning Enforcement Officer/ Inland Wetlands  Canterbury Chair, Planning and Zoning Commission  Canterbury Chair, Inland Wetlands & Watercourse Commission	FEDERAL TITLE Plainfield First Selectman  Plainfield First Selectman  Plainfield Planning & Engineering Department (Includes administration of Planning, Zoning, Inland Wetland & Watercourse regulations)  Plainfield Conservation Commission Chairman  Plainfield Plainfield Public Library  Plainfield Central Village Public Library  Canterbury First Selectman  Canterbury Town Planner/Zoning Enforcement Officer/ Inland Wetlands  Canterbury Chair, Planning and Zoning Commission  Canterbury Chair, Inland Wetlands & Watercourse Commission  Canterbury Chair, Inland Wetlands & Watercourse Commission  Canterbury Chair, Inland Wetlands & Watercourse Commission  John A. Tetreault

State Plainfield	Senator, 18th District	Catherine Cook	43 Pequot Avenue Mystic, CT 06360-1812
State Canterbury	Senator, 29th District	Donald E. Williams, Jr.	Legislative Office Building Room 3300 Hartford, CT 06106-1591
State Plainfield	Representative, 44th Assembly District	Michael Caron	50 Carter Street Danielson, CT 06239
State Plainfield	Representative, 45th Assembly District	Steve Mikutel	152 Bethel Road Griswold, CT 06351
State Canterbury	Representative, 47th Assembly District	Jack Malone	37 Canterbury Turnpike Norwich, CT 06360-1812
State	Commissioner, Department of Environmental Protection	Gina McCarthy	79 Elm Street Hartford, CT 06106-5127
State	Chairman, Department of Public Utility Control	Donald W. Downes	Ten Franklin Square New Britain, CT 06051
State	Commissioner, Dept of Economic & Community Development	James F. Abromaitis	505 Hudson Street Hartford, CT 06106
State	Chairman, Connecticut Energy Advisory Board	Donald W. Downes	805 Brook Street, Bldg 4 Rocky Hill, CT 06067
State	Connecticut Siting Council	Colin C. Tait Chairman	10 Franklin Square New Britain, CT 06051
Federal	Regional Administrator, EPA New England	Robert W. Varney	Region 1 1 Congress St, Suite 1100 Boston, MA 02114-2023

## Exhibit E

any lot having a total capacity exceeding one thousand (1,000) gallons must meet NFPA-30 standards which require review by the Town Fire Marshall and must meet current Federal E.E. and Connecticut DEP standards for storage tanks. Tanks may be placed above ground or underground based upon ground conditions and proposed use.

No storage tanks for natural gas or propane on any lot shall exceed a total capacity of one thousand (1000) gallons, unless approved by the Zoning Enforcement Officer.

#### 4.10 Existing Lots

The provisions of these Regulations relative to required lot area, required lot width and required frontage shall not prevent the construction of an otherwise permitted building or the establishment of an otherwise permitted use on a lot which, at the time of the adoption of these Regulations (April 5, 1974) and continuously thereafter, was owned separately from any adjoining lot, as evidenced by deed recorded in the Land Records of the Town of Canterbury. However, if the building to be constructed and/ or used cannot meet the front, side or rear yard requirements of these Regulations, a variance shall be secured from the Board of Appeals.

#### 4.11 Restoration of Existing Buildings

Nothing in these Regulations shall prevent the restoration or reconstruction within one (1) year of a building damaged of destroyed by fire, explosion, or accident, subsequent to the adoption of these Regulations, to its condition prior to such damage or destruction nor prevent the restoration of an unsafe wall or structural member.

#### 4.11a Driveways

Driveways shall be suitably paved ten (10) feet or more in from the street, and shall be constructed so as to prevent material from eroding into the street.

#### 4.12 Construction Adjacent to Bodies of Water and Wetland Areas

- **4.12.1** No building except a boat house, pump house, and individual family sauna, shall be located within twenty-five (25) feet of any waterbody, watercourse, or wetland, or if subject to flooding, within twenty-five (25) feet of its highest flood line.
- **4.12.2** No part of any subsurface sewage disposal system shall be located within fifty (50) feet of any moving watercourse or lake, wetland, or pond.
- **4.12.3** No lot or parcel on which inland areas, as defined in Section 22a-39-2 of the Connecticut State Statutes as amended, are located shall be subdivided or re-subdivided until adequate evidence is provided to the Town of Canterbury's Planning and Zoning Commission, that such subdivision or re-subdivision will not adversely effect any designated inland wetland areas. Adequate evidence shall be defined for the purpose of this section to be written record of action by the Town of Canterbury's Inland Wetland Agency indicating that the activities proposed in said subdivision plan will not adversely effect any inland wetland area or that such designation of wetlands on the subject property is incorrect and that wetlands do not, in fact, exist on the subject site.
- **4.12.4** No zoning permit, special exceptions and/or site plan as provided for in Section VIII of these Regulations shall be approved until adequate evidence is provided to the Town of Canterbury's Planning and Zoning Commission that approval of such permit, Special Exception and/or site plan will not adversely effect any designated inland wetland areas. Adequate evidence shall be defined for the purpose of this section to be a written record of action by the Town of Canterbury's Inland Wetlands Agency indicating that the activities proposed in said site plan or special exception will not adversely affect any inland wetland

area or that such designation of wetlands on the subject property is incorrect and that wetlands do not, in fact, exist on the subject site.

The Commission may refer proposed Plans of development to appropriate municipal regional, state or federal agencies for comment and review.

#### 4.13 Prohibited Uses

The following uses are expressly prohibited within the Town of Canterbury:

- 4.13.1 Oil refining
- **4.13.2** Manufacture of explosives, or highly flammable products.
- **4.13.3** Commercial distillation of bones, rendering of fat or reduction of animal matter.
- **4.13.4** Junk yard, refuse disposal area, other than the official town refuse disposal facility.
- **4.13.5** Industrial waste disposal or processing areas other than at the official town refuse disposal facility.
- **4.13.6** Any activity which produces unreasonable noise, odors, vibrations, fumes, electrical interference, or other noxious effects considered objectionable to the residents of the area.

#### 4.14 Soil Erosion and Sediment Control

**4.14.1** Activities Requiring a Certified Erosion and Sediment Control Plan: A soil erosion and sediment control plan shall be submitted with any application for development when the disturbed area of such development is cumulatively more than one-half (1/2) acre.

A single-family dwelling that is not part of a subdivision of land shall be exempt from these Soil Erosion and Control Regulations.

#### 4.14.2 Erosion and Sediment Control Plan:

- To be eligible for certification, a soil erosion and sediment control plan shall contain proper provisions to adequately control accelerated erosion and sedimentation and reduce the danger from storm water runoff on the proposed site based on the best available technology. Such principles, methods and practices necessary for certification are found in the Connecticut Guidelines for Soil Erosion and Sediment Control (1985), as amended. Alternative principles, methods and practices may be used with prior approval of the Commission.
- 2. Said plan shall contain, but not be limited to:
  - A. A narrative describing:
    - 1. the development
    - 2. the schedule for grading and construction activities including:
      - a. start and completion dates
      - b. sequence of grading and construction activities
      - c. sequence for installation and/or application of soil erosion and sediment control measures
      - d. sequence for final stabilization of the project site

# Exhibit F



### STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP USE ONLY

### Certification of Notice Form - Notice of Application

Division
Application No.

I, Daniel Donovan of Plainfield	Renewable Energy LLC
	(Name of Applicant)

, certify that

the attached notice is a true copy of the notice that appeared in **The Norwich Bulletin**(Name of Newspaper)

on 12/26/2006

I also certify that I have provided a copy of the notice to the municipal official(s) listed below as required by CGS Section 22a-6g.

Neil Dupont (Name of Official)

First Selectman (Title of Official)

Town of Canterbury, 1 Municipal Drive, Canterbury, CT 06331 (Address)

Kevin Cunningham (Name of Official)

First Selectman (Title of Official)

Town of Plainfield, 8 Community Avenue, Plainfield, CT 06374

(Address)

Signature of Applicant

1/24/2007 Date

Daniel Donovan, PRE

Name of Applicant (print or type)

Title (if applicable)

TOWNS: Canterbury and Pisinfield Notice is tiereby given that prainted ne newable breigy LLO refer toblicant or 20

State of Connecticut,

ss. Norwich

County of New London.

On this 27th day of December 2006 personally appeared before the undersigned, a Notary Public, within and for said County and State

#### Bette L. Peck, Proof of Publication

of the "NORWICH BULLETIN" a daily newspaper published at Norwich, County of New London, State of Connecticut, who, being duly sworn, states oath that

**TOWNS: Canterbury and Plainfield** 

a true copy of which is hereto annexed, was published in said newspaper in its issue of the 26th December 2006

Subscribed and sworn to before me this 204 h

My Commission Expires \_

# Exhibit G

# Connecticut Department of Environmental Protection Notice Of Public Hearing And Site Visit On Various Environmental Permits

Solid Waste, Permit To Construct and Operate a Solid Waste Facility: Application No. 200602249 Air Point Source Permit: Application No. 200602226 Water Diversion Permit: Application No. DIV-200603081 Water Discharge Permit: Application No. 200702055 and Application No. 200800492

#### **Public Hearing Location, Date and Time**

The Department of Environmental Protection hereby provides notice that it will conduct a public hearing regarding the five permit applications noted above. The hearing will concern the applications submitted by Plainfield Renewable Energy, LLC to construct and operate a 37.5-megawatt (MW) (net) electric power generation facility in Plainfield, Connecticut. A hearing will be held on all five applications as required pursuant to CGS Section 22a-371, 22a-208a, 22a-430(b), and 22a-174-2a(c). All interested persons are invited to attend the public hearing and provide comments. Members of the public may seek to intervene as a party or as an intervenor in the public hearing. Such requests, and the disposition thereof, shall be governed by the provisions of CGS Section 4-177a and subsection (K) of Section 22a-3a-6 of the Regulations of Connecticut State Agencies (the Department's Rules of Practice).

The public hearing will be held at the following location and time:

Place: Town Hall Auditorium Plainfield Town Hall 8 Community Avenue Plainfield, Connecticut 06374

Date: August 13, 2008 (The public hearing may continue on August 14, 2008 at this location at 6:30 p.m. if determined necessary by the Hearing Officer. Notice of continuation will be announced at the hearing on August  $13^{\text{th.}}$ )

Time: 7:00 p.m. (There will be an informational meeting prior to the start of the public hearing, from 5:00 p.m. to 7:00 p.m., so that the public may listen to brief presentations from the applicant and Department representatives, speak with representatives from the applicant and the Department and view the applicant's exhibits on display.)

The public hearing will continue at the Department of Environmental Protection (DEP), 79 Elm Street, Hartford, CT 06106, Russell Hearing Room, 3rd Floor, on August 19, 2008.

Notice of the hearing will also be posted on the DEP website's "Calendar of Events" at http://www.ct.gov/calendar.

Notice is also hereby provided that requesting and participating in a hearing may affect whether a person can obtain judicial review of the Department's final permit decision and that judicial review may be limited to only those application(s) noted above for which holding a hearing is required.

#### **ADA Notice**

In conformance with the ADA, individuals with disabilities who need information in an alternative format, should call TDD (860) 424-3000 or contact Marcia Z. Bonitto, ADA Coordinator, via email: <a href="Marcia.Bonitto@ct.gov">Marcia.Bonitto@ct.gov</a>. Requests for accommodations to attend meetings or hearings held

by the DEP must be made at least two weeks prior to the scheduled hearing date. These accommodation requests may be made directly to Marcia Z. Bonitto, ADA Coordinator, via e-mail: <a href="Marcia.Bonitto@ct.gov">Marcia.Bonitto@ct.gov</a>.

#### Site Visit

The Hearing Officer will also be conducting a site visit where the proposed facility and proposed intake structures and discharges would be located. The site visit will take place on August 12, 2008 at 9:30 a.m., and begin at the location of the proposed facility at the intersection of Mill Brook Road and Norwich Road (State Route 12) in the Town of Plainfield, Connecticut. While this site visit is open to the public, it is not for the purpose of taking public comment, evidence or responding to questions. Anyone interested in attending the site visit will be responsible for arranging their own transportation.

#### **Tentative Determination**

Notice of the Department's tentative determination was published in the Norwich Bulletin newspaper on April 7, 2008 to approve the above-referenced applications submitted by Plainfield Renewable Energy, LLC pursuant to: (1) Connecticut General Statutes ("CGS") Section 22a-208a for a permit to construct and operate a solid waste facility; (2) CGS Section 22a-174 for a permit to construct and operate a source regulated under the Clean Air Act Amendments of 1990; (3) CGS Section 22a-368 for a permit to divert the waters of the state; and (4) CGS Section 22a-430 for a permit to discharge into the waters of the state and to withdraw waters of the state into cooling water intake structures that reflect the best technology available to minimize adverse environmental impacts. The proposed activity and each application and proposed permit are briefly summarized below:

#### The Proposed Activity

The name and address of the permit applicant are: Plainfield Renewable Energy, LLC ("PRE" or "the applicant"), 20 Marshall Street, Suite 300, Norwalk, CT 06854. PRE proposes to construct and operate a 37.5-megawatt (MW) (net) electric power generation facility using fluidized bed biomass gasification to process wood as a source of fuel. The facility will be located on an approximately 27-acre site in an industrial zone located at the intersection of Mill Brook Road and Norwich Road (State Route 12) in the Town of Plainfield, Connecticut. There are two separate operational components of the facility: (1) a volume reduction plant for storing, processing and handling wood biomass; and (2) a power block facility where the biomass is gasified and electricity generated. Operation of the facility will also require the construction, operation and maintenance of a cooling water intake structure to divert up to 893,000 gallons per day of water from the Quinebaug River in Canterbury, Connecticut and a discharge outfall pipe that will discharge to the Quinebaug River. The proposed cooling water intake structure and discharge location is adjacent to the Quinebaug River west of Packer Road, approximately 4,200 feet north of Butt's Bridge Road in the Town of Canterbury, Connecticut. Mitigation for the proposed project's environmental impacts is specifically identified in a mitigation plan entitled "Plainfield Renewable Energy, LLC, Proposed 37.5MW Biomass Facility, Mitigation and Monitoring Plan" submitted as a part of the water diversion and water discharge applications.

#### **The Applications and Proposed Permits**

#### 1. Solid Waste Permit to Construct and Operate, Application No. 200602249

Pursuant to CGS Section 22a-208a, PRE has applied for a solid waste permit to construct and operate a wood biomass gasification plant. In the volume reduction portion of the plant preprocessed biomass, primarily in the form of wood chips with a screen size of four inches or less,

will be received through a double truck scale system, unloaded in hoppers, conveyed, handled, stored in piles located in dedicated areas (outdoors and/or under a canopy structure), screened, mixed and subsequently conveyed for gasification. The power block portion of the facility ("PBF") will house various ancillary equipment designed to process the conveyed biomass (100% clean wood, 100% regulated wood, or any mixture of both), 24 hours per day, 7 days a week, and generate steam and up to 37.5 MW net of electricity. The gasification process also results in the generation of ash residue. The PBF will incorporate various equipment systems, including, but not limited to: a combustor/boiler system; separate bottom / fly ash residue collection system that includes a storage silo; a state-of-the-art air pollution control system; an induced fan and stack system; a steam turbine generator system; water treatment, filtering, clarifier, storage and cooling systems; and a transformer connected to the electrical distribution grid. The outdoor wood chip storage area will have sealed pavement, curbs and a stormwater control system incorporating a storage buffer zone, catch basins, both underground and above ground storage tanks; a pump station; etc.

The Department has made a tentative determination to issue a solid waste permit that regulates the construction of certain portions of the facility, specifies the types of wood that can be used as fuel, and limits the processing and storage capacities of the facility. The proposed permit prohibits the receipt of treated wood chips containing pesticides or preservatives. For the first two years, quarterly compliance audits will be required to be performed by a third party engineer approved by the Department. For the next three years, such audits will be required semi-annually. The proposed permit also requires, among other things, that PRE post a surety bond as a contingency to ensure that all solid wastes authorized at the site will be properly managed.

#### 2. Air Point Source Permit, Application No. 200602226

Pursuant to CGS section 22a-174, PRE has applied for a permit to construct and operate a source regulated under the federal Clean Air Act Amendments of 1990. While the proposed activity will affect air resources, it is the Department's tentative determination that, according to the ambient air impact analysis, the proposed facility will not cause or contribute significantly to any violation of a National Ambient Air Quality Standard or Prevention of Significant Deterioration (PSD) increment. The predicted PSD multi-source ambient impacts for nitrogen dioxide (NO $_2$ ), sulfur dioxide (SO $_2$ ), and PM-10 are presented in the table below:

Parameter	PSD Increment (mg/m³)	Maximum Impact (mg/m³)
SO <sub>2</sub> annual	20	2
SO <sub>2</sub> 24-hr average	91	9
SO <sub>2</sub> 3-hr average	512	46
NO <sub>2</sub> annual	25	4
PM-10 annual	17	2
PM-10 24-hr	30	7

The Department has also tentatively determined that the Lowest Achievable Emission Rate (LAER) for nitrogen oxides (NOx) shall be 0.075 lbs/MMBtu (heat input) with the use of Selective Non-Catalytic Reduction control technology. PRE is required to purchase 210 tons of approved NOx emission reduction credits obtained from an area designated as "serious non-attainment" for

ozone, to offset the potential 174.25 tons of NOx that may be emitted from the entire facility. The Department has also tentatively determined that for air emissions, the best available control technology for this facility will consist of multi-cyclones and fabric filters to control particulate matter and a spray dryer adsorber for controlling acid gases. Toxic air emissions will be controlled by feedstock management as well as the aforementioned air emission control technology and will comply with applicable state and federal standards, subject to annual stack test verification.

#### 3. Diversion of Water, Application No. DIV-200603081

Pursuant to CGS section 22a-368, and section 22a-377(b)-1(b) of the Regulations of Connecticut State Agencies, PRE has applied for a water diversion permit to divert and withdraw water from the Quinebaug River, primarily for cooling water to be used at the power block portion of its facility. Specifically, the applicant proposes to withdraw a maximum of 0.893 million gallons of water per day subject to an annual average day withdrawal limitation of 0.656 million gallons per day from the Quinebaug River in Canterbury, Connecticut. The water diverted from the Quinebaug River will be pumped to the generation facility through a pipeline constructed along Packer Road and Millbrook Road. The proposed diversion will affect the Quinebaug River and approximately 0.22 acres of associated wetlands/watercourse. A tentative determination has been made to authorize the proposed diversion.4. Water Discharge, Application No. 200702055 (NPDES Permit No. CT0030473) and Application No. 200800492 (State Permit No. SP0002426)

Pursuant to CGS section 22a-430, PRE has filed two separate applications. One is for a discharge of wastewater to the Quinebaug River and for the construction and use of the cooling water intake structures to withdraw water from the Quinebaug River (Application No. 200702055); the other is for a discharge of other wastewaters to the groundwater in the Quinebaug River watershed (Application No. 200800492). While two separate applications were filed, the Department is proposing to issue one permit that addresses both applications.

With respect to the proposed discharge to and intake from the Quinebaug River, the Department has been authorized by the U.S. EPA under the federal Water Pollution Control Act to issue a permit for these activities, and as such this permit is considered a National Pollutant Discharge Elimination System (NPDES) permit as well as a state permit. With respect to the discharge to the river, a tentative determination has been made that the proposed system to treat up to 173,571gallons per day of cooling tower blowdown wastewater, prior to discharging to the Quinebaug River, will protect the waters of the state from pollution. This discharge is identified in the proposed permit as Discharge Serial Number (DSN) 101. The proposed permit would require that the applicant submit plans and specifications for the proposed treatment system for the cooling tower blowdown wastewater and such additional information as is necessary to ensure the protection of the waters of the state from pollution. If such plans are approved and the treatment system is constructed in full compliance with the approval, a permit would then be issued.

The proposed permit also contains a limitation regarding the thermal component of the discharge from the cooling tower blowdown wastewater into Quinebaug River. A tentative determination has been made that the proposed thermal limit is consistent with the Connecticut Water Quality Standards and Section 316(a) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(a).

A tentative determination has also been made, pursuant to Section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b), that the proposed location, design, construction and capacity of the cooling water intake structures to withdraw up to 893,000 gallons per day of water from the Quinebaug River, which is identified in the proposed permit as Monitoring Location 101-H and located at Packer Road, Map 62, Lot 12B, Canterbury, Connecticut, reflect the best technology available for minimizing adverse environmental impacts.

With respect to the discharge to the groundwater in the Quinebaug River watershed, a tentative determination has been made that up to 225,000 gallons per day of fire pump test wastewater

(DSN 102), 1,000 gallons per day of fire hydrant test wastewater (DSN 103), 250,000 gallons per day of make-up supply tank drain and overflow wastewaters (DSN104), and 10,000 gallons per day of demineralized water tank overflow wastewater (DSN 105), each discharged not more frequently than once per year, will not cause pollution of the waters of the state.

The proposed permit would also require that all wastewater discharged to both the Quinebaug River and the groundwater in the Quinebaug River watershed meet the applicable effluent limitations and that periodic monitoring be performed to demonstrate that the discharges are not causing pollution.

Type of Treatment, if any, required by Water Discharge Permit

DSN 101 - Treated cooling tower blowdown wastewater - Addition of sodium bisulfite to the effluent to remove total residual chlorine prior to discharge

DSN 102 - Fire pump test wastewater - No treatment is necessary

DSN 103 - Fire hydrant test wastewater - No treatment is necessary

DSN 104 - Make-up supply tank drain and overflow wastewaters - No treatment is necessary

DSN 105 - Demineralized water tank overflow wastewater - No treatment is necessary

Monitoring Location 101-H - Cooling Water Intake Structure - Cylindrical wedge wire screen to minimize impingement and entrainment; intake cooling water treatment (on as needed basis) - Neutralization, Coagulation, Flocculation, Clarification, Filtration (as specified in the applicant's submittals)

Effluent Limits or Conditions in Water Discharge Permit

In the absence of effluent limits specified in either state or federal regulations, pursuant to section 22a-430-4(I) of the Regulations of Connecticut State Agencies, the proposed permit contains effluent limitations for heavy metals that have been determined on a case-by-case basis using Best Professional Judgment. A tentative determination has been made that these limits both meet and are consistent with the state's Water Quality Standards, including the anti-degradation policy. As with other discharge permits, the proposed permit prohibits PRE from discharging any pollutants (i.e., polychlorinated biphenyls, phosphorous, etc.) except as authorized by the permit.

Additional Requirements in the Water Discharge Permit

The proposed permit contains an enforceable compliance schedule that requires PRE to: 1) submit a complete Attachment O (Part B discharge analysis of the permit application) for the Commissioner's review for the final effluent discharged from DSN 101, 102, 103, 104 and 105; 2) conduct a one-year impingement study and up to a two-year entrainment monitoring and evaluation of the cooling water intake structure at such time as the Department provides written notification to PRE that anadromous fish populations are restored in the Quinebaug River upstream of the Aspinook Pond Dam; and 3) conduct seasonal monitoring to verify the degree and extent of the zone of influence of the thermal discharge into the Quinebaug River.

#### Availability of Applications

A copy of the applications submitted by PRE, including any supplemental application submittals for each such application, are available from: Scott Atkin, Vice President Anchor Engineering Services, Inc., 41 Sequin Drive, Glastonbury, Connecticut, between the hours of 8:30 am and 4:30 pm. Telephone Number: (860) 633-8770. In addition, the applications, any supplemental application submittals, and the proposed permits are available for inspection at the following locations during normal hours of operation:

**CANTERBURY PUBLIC LIBRARY** 

1 Municipal Drive

Canterbury, Connecticut 06331

Telephone Number: (860) 546-9022;

and

PLAINFIELD TOWN HALL First Selectman's Office 8 Community Avenue Plainfield, Connecticut 06374 Attention: Tammy Barber

Telephone Number: (860) 230-3001

The applications, supplemental application submittals, information from the Department, and proposed permits are available for inspection at the Department of Environmental Protection Records File Room, 79 Elm Street, Basement floor, Hartford, Connecticut, 06106-5127 from 9:00 am to 11:45 am and 1:00 pm to 2:45 pm Tuesday, Wednesday and Thursday; Telephone Number: (860) 424-4180. Public access closes for the day at 4:00 pm. Please see http://www.ct.gov/dep/fileroom for DEP file review procedures.

#### Availability of Proposed Permits

The proposed permits are available for inspection at the Department's Records File Room, Canterbury Public Library and Plainfield Town Hall, as noted above. Links to the proposed permits are also posted on the DEP website under "Public Participation" at <a href="http://www.ct.gov/dep/publicnotices">http://www.ct.gov/dep/publicnotices</a>.

Questions regarding the proposed permits may be directed as follows:
Solid Waste Permit - Calin Tanovici, Engineering & Enforcement Division (860) 424-3315
Air Point Source Permit - James Grillo, Bureau of Air Management (860) 424-3570
Water Diversion Permit - Sara Radacsi, Inland Water Resources Division (860) 424-3019
Water Discharge Permits - Charles Nezianya, Permitting & Enforcement Division (860) 424-3846

/s/Amey Marrella, Deputy Commissioner Department of Environmental Protection

Published in the Norwich Bulletin on July 12, 2008

**Draft Waste Permit (PDF)** 

**Draft Air Permit (PDF)** 

**Draft Water Diversion Permit (PDF)** 

Draft Water Discharge Permit (PDF)

April 7, 2008 Notice of Tentative Determination and Intent to Issue Various Environmental Permits

## Exhibit H



### STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION



Date: December 3, 2007

#### **MEMO**

To: Sara Radacsi, Environmental Analyst 3

Bureau of Water Protection and Land Reuse

Inland Water Resources Division

From: Mark Lewis, Environmental Analyst 3 MRI

Remediation Division/ Eastern District

RE: Diversion Application for Plainfield Renewable Energy

Water Diversion Application # DIV-200603081 Drainage Basin #3700, Quinebaug River

The Remediation Division has conducted a preliminary review of diversion application # DIV-200603081 to withdraw a maximum of 0.893 mgd of surface water from the Quinebaug River in Canterbury. The withdrawal would be made from land owned by Mann-Birch, LLC, mapped in the Canterbury Tax Assessor's office as Map 62, Lot 12B. Based on the preliminary review, it appears that the effect of the proposed withdrawal on the Division's program interests is negligible, and the Remediation Division plans no further review.

I reviewed the report entitled "Application for Water Diversion Permit for a 37.5 MW Biomass Wood Gasification Power Plant on Behalf of Plainfield Renewable Energy LLC Revised December 29, 2006". Anchor Engineering Services, Inc. of Glastonbury, CT, prepared the report. I also visited the site with you and other staff of the Inland Water Resources Division on February 8, 2007. Plainfield First Selectman Kevin Cunningham and representatives of the applicant also attended the site visit.

The proposed withdrawal location is downstream of the Yaworski Lagoon Federal Superfund site, and the Yaworski Landfill State Superfund site. A groundwater plume of chlorinated solvents originates at the Yaworski Lagoon site, and flows toward the Quinebaug River. Most of this plume flows into the river, but a portion flows underneath the river, so chlorinated solvents have been detected in monitoring wells located on the west side of the river across from the lagoon site. To ensure that contaminated ground water is not used for drinking purposes, DEP and the US EPA have been working for several years with the affected landowners to record on the land records restrictions that would prohibit withdrawal of ground water for purposes other than groundwater monitoring.

The properties affected by the Yaworski Lagoon plume include the Yaworski, Wildowski, McLaughlin and Waskowitz (Ed's Garage properties). All of these except the Yaworski property are located on the west side of the river. DEP and EPA are not attempting to record a restriction on the property where the proposed withdrawal would be located. The proposed withdrawal is located more than 7,000 feet downstream along the course of the river from the southern end of the lagoon property, and more than 2,900 feet downstream of the southern end of the landfill. The straight-line distance between the southern end of the lagoon and the proposed withdrawal is greater than 2,400 feet, measured across the meanders in the river, and the straight-line distance from the southern toe of the landfill to the proposed withdrawal is greater than 800 feet. Considering this, the Remediation Division is satisfied that the proposed withdrawal of surface water from the Quinebaug River will not affect the plume emanating from the Yaworski Lagoon or the Yaworski Landfill.

The Remediation Division does wish to note, however, that the applicant proposes to return to the Quinebaug River the cooling water that is not lost at the power plant as steam. This proposed discharge is not within the Remediation Division's purview. However, in addition to discharge permitting requirements, the DEP Inland Fisheries Division may wish to examine the thermal and chemical effects of the proposed discharge upon fish in the river.

The proposed biomass gasification plant is located on a separate parcel of land on Millbrook Road in Plainfield. The Plainfield parcel is also known as the Gallup's Quarry Federal Superfund site. This property was used for illegal disposal of hazardous waste in 1978. The majority of the waste was removed from the site by DEP in 1978. A plume of chlorinated solvents extends in a northwesterly direction from this site in the direction of Mill Brook. Under the remedy selected by EPA for the site, this plume is being remediated by monitored natural attenuation together with recording of environmental land use restrictions (ELURs) on a portion of the Gallup's Quarry site and of several downgradient properties. The ELUR on the contaminated portion of the Gallup's Quarry site prohibits disturbance of soil or withdrawal of groundwater. The ELURs on the downgradient properties prohibit withdrawal of groundwater. DEP also entered into a covenant- not- to sue with Plainfield Renewable Energy, LLC in August 2006 pursuant to Section 22a-133aa of the Connecticut General Statutes.

Please let me know if you have any questions.