CES INC Engineers ◆ Environmental Scientists ◆ Surveyors

LETTER OF TRANSMITTAL

Date: June 2, 2016 **JN:** 10973.002

To: Town of Hampden, Maine
Attn: Code Enforcement
106 Western Avenue
Hampden, ME 04444

Re: MRC/Fiberight Site Plan Review

WE ARE SENDING YOU

☒ ATTACHED ☐ BY EMAIL ☐ UNDER SEPARATE COVER _____

COPIES	DATE	DESCRIPTION
1	2016-06-02	June 1, 2016 Submission

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For Approval
☐ For Your Use
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☐ Approved as Noted
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Remarks:

Copy To: _____ Signed: Sean Thies (gdr)

465 South Main Street
PO Box 639
Brewer, Maine 04412
T 207.989.4824
F 207.989.4881

June 1, 2016

Mr. Peter Weatherbee
Planning Board Chairman
Town of Hampden
106 Western Avenue
Hampden, Maine 04444

Re: MRC/Fiberight Supplemental Submission

Dear Chairman Weatherbee:

We are providing this letter and the accompanying information in support of the application for Site Plan Review for the MRC/Fiberight Solid Waste Processing Facility. Based on feedback we received from the Planning Board at the meeting on May 25th and subsequent review memo from Woodard & Curran dated May 27, 2016.

Included with this letter are:

- Financial Capacity documentation
- Response from Maine Historic Preservation Commission
- Response from Maine Natural Areas Program
- Revised Preferred Truck Route Policy Statement
- Fiberight Compliant Response Protocol
- ecomaine comparison map
- Revised Best Available Control Technology (BACT) Analysis
- PERC comparison map
- Stamped Boundary Survey Plan
- Updated Sheet C103

In addition to the attached materials, we offer the following response to comments included in the Woodard & Curran May 27th review letter.

As discussed with Town staff and Woodard & Curran, there are no comparable facilities in terms of operations as what is proposed. We thought that it would be helpful to provide a comparison to ecomaine as it relates to truck odors and odors from the tipping floor because the two facilities accept similar quantities of waste with similar tipping floor capacity. Both facilities utilize negative air pressure on the tipping floor area. Other aspects of the facilities are not comparable, so additional comparison of control technologies and management practices would not be valid. The following table includes a comparison of distances from the property/facility to adjacent properties/buildings.

Six Locations in Maine | www.ces-maine.com

465 South Main Street
PO Box 639
Brewer, Maine 04412
T 207.989.4824
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	Fiberight Facility	Ecomaine Facility
Distance from truck access to adjacent buildings	85' (to potential future development)	70'
Distance from Property Line to nearest residence	3,000	n/a
Distance from Property Line to nearest commercial building	3,700	n/a
Distance from Property Line to nearest residential zone	750	n/a
Distance from tipping floor to nearest residence	3,500	1900'
Distance from tipping floor to nearest commercial building	4,100	670'
Distance from tipping floor to nearest residential zone	1,100	

Included is a comparison map showing the locations of the proposed facility and the ecomaine facility. There has also been comments expressed by the public of the proposed facility's proximity to residential areas. Included is map showing the location of the proposed facility as well as the PERC facility in Orrington. The PERC facility is a Major Source of air emission facility and as can be seen on the attached map is located closer to Hampden residences and schools than the proposed facility.

The proposed odor inspections will be performed along the property boundaries as those are the locations as defined in the ordinance where nuisance odors are not permitted. The proposed access road will be a public road and is therefore beyond the limit indicated in the ordinance. Moreover, the property boundaries are closer than the access road to the facility, so odor monitoring along the property's boundaries makes practical sense as well. The staff will be appropriately trained to identify odor and intensities.

In regard to the article 4.1.7.13 review comments:

- The proposed Fiberight facility includes two Anaerobic Digester (AD) systems. The tanks are of stainless steel construction and are not vented to the atmosphere. The biogas generated in the AD Plant is a saleable product that Fiberight is going to generate and capture for conveyance to the Bangor Gas pipeline. Odors that would cause a public nuisance at any lot line are not anticipated from the AD plant. The handling of sludges or process residues generated by the AD plant will be handled indoors. Odors will be contained within the building and treated by the odor scrubber system.

- The emissions control systems that are newly proposed are discussed in the revised Best Available Control Technology (BACT) included in this package. The newly proposed control equipment and associated treatment materials will be located indoors.

- The Site Plan (Sheet C103) has been updated to clearly depict the flare and the hybrid thermal oxidizer. The hybrid thermal oxidizer is the control device closest to the processing building.

- The revised BACT analysis includes the proposal provided to Fiberight by John Zink for a flare and hybrid thermal oxidizer gas control system.

- The BACT analysis addresses emissions controls for processes and activities that would be included in the air license. Wastewater handling activities are generally considered to be "Units and Activities defined as Insignificant based on Size or Production Rate" as defined in *MDEP Chapter 115: Major and Minor Source Air Emission License Regulation*.

In regard to the odor complaint response protocol, the Applicants' protocol does not impose any mandatory requirements on the Town. Town staff previously commented that the Town wanted to be informed and have the ability to participate in any protocol, so the document was revised to ensure the Town is timely and periodically notified and updated of a complaint and associated investigation with multiple opportunities for the Town to participate as it deems necessary and appropriate. This protocol also obligates the Applicants to provide details to the Town, such as the specific hotline number and identification of contact person(s), which they are committed to fulfilling. These details will be finalized and provided to the Town prior to operations once the specific hotline is created and specific contact individuals are identified. With respect to a feedback loop to the initial complainant, a copy of the results of an investigation together with any other corresponding report materials will be provided to the complainant by the most efficient and available means (e.g., by email, regular mail, or hand-delivery, depending on the contact information provided). This has been clarified in the updated complaint response protocol enclosed with this letter.

In regard to the location and type of trees greater than 12 inches in diameter, the Applicants' supplemental information provided on May 19, 2016, included a description of the type of vegetation found on the entire parcel that, in combination with the Sheets C101 through C104 (depicting the development envelope) and mitigation plan (depicting the conservation area), identify the location and type of trees on the parcel greater than 12 inches in diameter which satisfies the Ordinance submittal requirements. To the extent that the Planning Board interprets the tree location and type submittal requirement to require a 100% spatial inventory of trees greater than 12 inches, the Applicants respectfully request a waiver of such submittal information because (i) no trees outside the development envelope will be impacted by the Project (except for any conservation management activities as part of the conservation easement); and (ii) all trees, regardless of diameter, will be removed within the development envelope (except for any buffer areas).

In regard to the number of parking spaces that have been provided, the facility operates on three daily shifts with varying numbers of employees on each shift. The shifts will also operate in such a way that some employees could work several days on and then have days off. The total number of employees will be approximately 70. The total number of employees during shift changes is

not expected to exceed 50. Rather than provide parking based on the number of people employed, we have based it on the number actually expected to be at the facility at one time. In this scenario we have provided more than enough parking. This does not require a variance, just an interpretation of the Ordinance that parking requirements should be based on the number of employees at the facility, not the total number of employees hired by the facility. This practical approach sufficiently addresses the object the Ordinance intends to accomplish - i.e., to provide parking for employees who are actually at the facility.

Based on comments from the public at the May 25th Planning Board meeting, we offer the following regarding accident response. As required by the Emergency Planning and Community Right-to-Know Act (EPCRA), Fiberight will be required to report storage of hazardous chemicals whose storage quantity exceeds 10,000 pounds or Extremely Hazardous Substances (EHS) stored in excess of 500 lbs or the Threshold Planning Quantity (TPQ). Each year a facility that exceeds the threshold storage quantities of these materials must submit Tier 2 Chemical Inventory reports to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (Penobscot County Emergency Management Agency), and the local fire department.

If the TPQs for EHSs are exceeded the facility must prepare a Facility Emergency Response Plan as described in M.R.S.A. 37-B § 795. This plan is submitted to the Maine Emergency Management Agency, Penobscot County Emergency Management Agency, and the local fire department. The facility is required to exercise this plan annually.

Please let us know if you have any questions or need additional information. We appreciate the Planning Board's consideration of these materials, and look forward to the Planning Board's meeting on June 8th.

Sincerely,
CES, Inc.

Sean Thies, P.E.
Senior Project Manager

SMT/gdr
Enc.
cc: Greg Lounder, MRC
Jon Pottle, EP

ARGONAUT PRIVATE EQUITY P.O. Box 21468 Tulsa, OK 74121-1468

Telephone: (918) 491-4200
Facsimile: (918) 491-4694

6733 South Yale
Tulsa, OK 74136

June 17, 2015

Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

RE: Fiberight LCC – Financial Capacity Letter

To Whom It May Concern:

Argonaut Private Equity ("Argonaut") is writing this letter in support of Resource Recovery Partnership (RRP), LLC and Fiberight, LLC (the "Sponsoring Parties") related to a proposed advanced waste processing facility to be located in Hampden, ME (the "Project").

Argonaut is considering a potential partnership with RRP to construct the Project. RRP has been working with Fiberight's management and technical team since 2014, and has had the opportunity to visit their Lawrenceville, VA, demonstration plant during that time. We, along with RRP, have also conducted a review of financial projections related to the Project.

We have reviewed the proposed budget for the project (attached hereto), totaling approximately $67 million, and we can confirm that we are interested in providing the required project finance.

This letter is not intended to be a binding commitment to provide financing. A binding financing commitment is subject to various conditions, including successful completion of due diligence activities, including, but not limited to, the Project receiving relevant waste permits from Maine DEP and the Sponsoring Parties entering into an acceptable waste supply agreement with MRC Maine and its charter communities.

Sincerely,

Joey Wignarajah
Vice President

Preliminary Capital Budget – Hampden, ME

Project Directs	
Site development	$2,155,832
Foundations & Concrete	$1,553,692
Building Construction	$3,309,057
Total Real Estate	**$7,018,582**
MRF	$3,933,415
Pulping System	$2,196,771
Recyclables Separation/Transfer	$406,587
Wash System	$3,436,048
Pre-Treatment System	$880,095
Hydrolysis	$8,585,758
A/D feed Prep	$514,614
Anaerobic Digestion System	$5,672,203
Energy Systems	$7,898,055
Cleaning In place	$240,943
Emissions & Odor Control System	$848,583
Digester Gas Clean-up & Compression	$3,411,222
Utilities	$504,428
Valves & Piping (Balance of Plant)	$3,392,915
Total Machinery & Equipment	**$41,921,635**
Steel, Mechanical & Electrical Installation	$15,181,416
Total Installation	**$15,181,416**
Total Project Directs	**$64,121,633**
Engineering, Permits & Project Management	**$2,855,153**
Fees & Working Capital	$0
Total Project Indirects	**$2,855,153**
Total Project Cost estimate	**$66,976,786**

414 South Main Street, Suite 600
Ann Arbor, Michigan 48104
Tel: 734.302.4800 Fax: 734.302.4802

DTE Energy

DTE Energy Resources

June 11, 2015

Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Re: Fiberight LCC – Letter of Intent to Fund

DTE Energy Services is writing this letter to express our interest in funding Fiberight LLC's proposed advanced waste processing facility to be located in Hampden, ME (the "Project") in the event that our due diligence activities described herein proves satisfactory.

DTE Energy Services is engaged in discussions with Fiberight regarding the financing of the design, construction, maintenance and operations of a similar project located in Marion, LA. We have been working with Fiberight's management and technical team since 2014 and we have had the opportunity to visit their Lawrenceville, VA demonstration plant during that time. We have also conducted a review of financial projections related to the Project.

We have reviewed the proposed budget for the project (attached hereto) totaling approximately $67 million and we can confirm that we would have the financial capacity to provide the required financing in the event that the project proves viable.

This letter is not intended to be a binding commitment to provide financing. A binding financing commitment is subject to our successful completion of due diligence activities including, but not limited to, the Project receiving relevant waste permits from Maine DEP and Fiberight entering into an acceptable waste supply agreement with MRC Main and its charter communities as well as the approval of our Board of Directors. We understand that evidence of financing must be provided prior to project construction.

Sincerely,

Karl R. Wittbold
General Manager Business Development

KRW/tas
Enclosure

Preliminary Capital Budget – Hampden, ME

Project Directs	
Site development	$2,155,832
Foundations & Concrete	$1,553,692
Building Construction	$3,309,057
Total Real Estate	**$7,018,582**
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Total Project Cost estimate	**$66,976,786**

MUNICIPAL REVIEW COMMITTEE, INC.

FINANCIAL STATEMENTS

For the Year Ended December 31, 2014

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LOISELLE, GOODWIN & HINDS
CERTIFIED PUBLIC ACCOUNTANTS

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Independent Auditors' Report

To the Board of the
Municipal Review Committee, Inc.

We have audited the accompanying financial statements of the governmental activities and each major fund of Municipal Review Committee, Inc., (MRC) as of and for the year ended December 31, 2014, and the related notes to the financial statements, which collectively comprise MRC's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We did not audit the financial statements of Penobscot Energy Recovery Company (PERC), which represent 29%, 30%, and 22%, respectively, of the total assets, net position, and total additions of the fiduciary fund, Joint Venture of the Charter Municipalities of Municipal Review Committee, Inc. Those statements were audited by other auditors whose report has been furnished to us, and our opinion, insofar as it relates to the amounts included for PERC, is based solely on the report of the other auditors. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes examining the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, based on our audit and the report of other auditors, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and each major fund of Municipal Review Committee, Inc., as of December 31, 2014, and the respective changes in financial position, for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 11 be presented to supplement the basic financial statements. Such information, although not part of the basic financial statements, is required by the Government Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise MRC's basic financial statements. The Schedule of Equity Charter Member Net Position is presented for purposes of additional analysis and is not a required part of the basic financial statements. The schedule has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

Loiselle, Goodwin & Hinds

September 3, 2015
Bangor, Maine

MUNICIPAL REVIEW COMMITTEE, INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
OF THE FINANCIAL STATEMENTS FOR CALENDAR YEAR 2014

This report provides a discussion and analysis of the financial performance of the Municipal Review Committee, Inc. (MRC) and the Joint Venture of the Charter Municipalities of the Municipal Review Committee, Inc. (Joint Venture), for the fiscal year ended December 31, 2014. Please review it in conjunction with the financial statements and associated notes that follow this section.

1.0 Financial Highlights

Municipal Review Committee, Inc.

- Received $292,792 in total revenue in 2014, compared to $292,977 in total revenue in 2013. Dues from members amounted to $223,972 in 2014, compared to $225,571 in 2013.
- Total expenses in 2014 were $1,028,280, compared to $650,533 in 2013.

Joint Venture

- Distributed $4.097 million to Charter Municipalities, thereby achieving the target values for per-ton waste disposal costs in the first two quarters of $51 per ton for the Equity Charter Municipalities and $54 per ton for the New Charter Municipalities, and in the last two quarters of 2014 of $55 per ton for all Charter Municipalities.
- Represented the Equity Charter Municipalities regarding their ownership interest in the PERC partnership (25.5214 percent of the limited partnership shares, which constitute 90 percent of all shares).
- Maintained a balance of $22.077 million, including accrued interest, in the Tip Fee Stabilization Fund as of the end of 2014 and managed the investment of the fund balance. The MRC remains positioned to utilize the Tip Fee Stabilization Fund to stabilize tipping fees through and beyond the expiration of existing business arrangements for waste disposal in 2018.
- Maintained the balance in the MRC Operating Budget Stabilization Fund at $1.53 million, including accrued interest, by the end of 2014 and managed the investment of the fund balance. The MRC Operating Budget Stabilization Fund provides supplemental support to the MRC's budget for administration of the Joint Venture, which budget is managed separately, and serves as a source of funds to stabilize dues assessments, provide for continuation of the MRC mission after 2018, and prepare for unforeseen events.
- Held a total Net Position for the benefit of the Charter Municipalities of $34.910 million at the close of 2014.

2.0 Overview of the Financial Statements

The basic financial statements are presented herein in a format that is consistent with the requirements of the Governmental Accounting Standards Board.

Municipal Review Committee, Inc.

The financial statements present the following two different views of MRC:

1. The Governmental Funds Balance Sheet / Statement of Net Position (Balance Sheet) identifies and presents values for the General Fund assets and liabilities of MRC as of the end of the calendar year. The Balance Sheet also identifies and presents adjustments for assets that are not currently available for application to expenditures, and identifies and presents net position after application of the adjustments.

The key General Fund assets shown on the Balance Sheet include the following:

- Cash, which is held in a checking account at Key Bank.
- Membership Fees Receivable, which refers to the dues members owe MRC based on tons of municipal solid waste delivered to PERC.
- Receivables from Bangor Hydro and PERC, with which MRC has agreements with for providing various services.

The Balance Sheet presents prepaid insurance, options to purchase land, and website design costs as assets that are not currently available for use to meet expenditures.

The General Fund fund balance is shown on the Balance Sheet as unrestricted and unassigned.

The net position presented on the Balance Sheet includes the value of prepaid insurance and capital assets, which are not currently available for use to meet expenditures, i.e., available within 60 days of year end.

2. The Statement of Governmental Fund Revenue, Expenditures and Changes in Fund Balances / Statement of Activities (Income Statement) identifies and presents revenues and expenditures/ expenses over the course of calendar year 2014. The Income Statement also identifies and presents the changes in the General Fund Balance over the course of 2014.

   The General Fund revenues shown on the Income Statement include the following:

   - Membership Fees.
   - Revenue from the PERC Monitoring Agreement.
   - Reimbursements of expenses and interest income.

   The Income Statement presents as adjustments to expenditures the change in prepaid insurance, acquisition and depreciation of capital assets, and change in accrued vacation for the year.

Joint Venture

1. The Statement of Fiduciary Net Position (Balance Sheet) identifies and presents values for the Fiduciary Fund assets and liabilities of the Joint Venture as of the end of the calendar year.

   The Fiduciary Fund assets shown on the Balance Sheet include the following:

   - Cash and cash equivalents, which are held in a Custody Account at Bangor Savings Bank.
   - The Tip Fee Stabilization Fund and the MRC Operating Budget Stabilization Fund, which are invested in a set of bonds of varying maturities and managed by an investment advisor, Peoples United Bank.
   - Accrued interest on the Investments as of year-end.
   - The Equity Charter Municipality investment in PERC, which is accounted for using the equity investment method. Included in the value of PERC is the Charter Municipalities' share of the reserve funds held by the Trustee as part of the security for PERC's outstanding debt.

2. The Statement of Changes in Fiduciary Net Position (Income Statement) identifies and presents increases and decreases in Fiduciary Net Position over the course of calendar year 2014.

The Fiduciary Fund additions shown on the Income Statement include the following:

- Performance Credits as a result of PERC operations that were distributed to MRC on behalf of the Charter Municipalities.
- Partnership earnings as a result of a part ownership of PERC.
- Interest income and changes in investment fund values.

The Fiduciary Fund deductions shown on the Income Statement include the following:

- Quarterly distributions of cash paid to the Charter Municipalities.
- Operating transfers from the Operating Budget Stabilization Fund to MRC, to be used by MRC for administrative expenses and for expenses associated with planning for the fulfillment of the MRC mission after the existing arrangements expire in 2018. The MRC made such transfers in 2014 in the amount of $686,000.

3.0 Analysis of Overall Financial Position and Results of Operations

Municipal Review Committee, Inc.

MRC's net position decreased $49,488 or 45.88% in 2014. The following table summarizes this change.

	Governmental Activities		Total % Change
	2014	2013	
Cash	$ 9,604	$ 57,411	(87.38)%
Membership Fees Receivable	56,438	56,502	(0.11)%
Options to Purchase Land	85,000	20,000	325.00%
Other Assets	28,924	27,954	3.47%
Total Assets	179,966	161,867	11.18%
Current Liabilities	121,589	54,002	125.16%
Total Net Position	$ 58,377	$ 107,865	(45.88)%

MRC's changes in net position are summarized in the following table.

	Governmental Activities		Total % Change
	2014	2013	
Membership Fees	$ 223,972	$ 225,571	(0.71)%
Other Revenue	68,820	67,406	2.10%
Total Revenues	292,792	292,977	(0.06)%
Total Expenses	(1,028,280)	(650,533)	58.07%
Transfers from Fiduciary Fund	686,000	329,000	108.51%
Change in Net Position	(49,488)	(28,556)	(73.30)%
Beginning Net Position	107,865	136,421	
Ending Net Position	$ 58,377	$ 107,865	

Joint Venture

The MRC manages the assets of the Charter Municipalities in order to achieve two key objectives. First, MRC seeks to distribute sufficient cash on a quarterly basis to the Charter Municipalities in order to reduce their net cost for disposal of waste at the PERC facility to a pre-determined system-wide average per-ton net cost known as the "target value." In the first two quarters of calendar year 2014, the target values were $51 per ton for Equity Charter Municipalities and $54 per ton for New Charter Municipalities. In the last two quarters of calendar year 2014, the target value was $55 per ton for all Charter Municipalities. Second, MRC seeks to position the Charter Municipalities to continue to achieve target

values to be determined by the MRC Board of Directors through 2018 by (a) ensuring that the Facility maintains its performance in providing waste disposal services; (b) maintaining an appropriate ownership position in the PERC partnership; (c) setting aside sufficient funds in the Tip Fee Stabilization Fund, and (d) managing other net position.

The Joint Venture's net position increased from $34.50 million to $34.91 million, or 1.19%, in 2014. The following table summarizes these changes.

	Fiduciary Activities		Total % Change
	2014	2013	
Cash and Investments	$25,586,174	$25,324,817	1.03%
Investment in PERC	10,300,414	10,200,747	0.98%
Total Assets	35,886,588	35,525,564	1.02%
Tipping Fee Rebates Payable	976,380	1,025,551	(4.79)%
Total Net Position	$34,910,208	$34,500,013	1.19%

The Joint Venture's changes in net position are summarized in the following table.

	Fiduciary Activities		Total % Change
	2014	2013	
PERC Performance Credits	$ 3,872,626	$ 4,322,347	(10.40)%
Share of PERC's Net Income	1,118,652	107,072	944.77%
Investment Income	153,120	(45,278)	-
Total Additions	5,144,398	4,384,141	17.34%
Total Deductions	4,734,203	4,678,329	1.19%
Change in Net Position	410,195	(294,188)	-
Beginning Net Position	34,500,013	34,794,201	
Ending Net Position	$34,910,208	$34,500,013	

MRC distributed sufficient cash in each of the four quarters of 2014 to achieve the target values as shown in the following table:

Quarter	*1*	*2*	*3*	*4*
Tip fee, prior quarter	$74.75	$76.00	$77.00	$77.00
Distribution to Equity Charter Municipalities	$23.75	$25.00	$22.00	$22.00
Net disposal cost for Equity Charter Municipalities, system weighted average	$51.00	$51.00	$55.00	$55.00
Target value for Equity Charter Municipalities	$51.00	$51.00	$55.00	$55.00
Distribution to New Charter Municipalities	$20.75	$22.00	$22.00	$22.00
Net disposal cost for New Charter Municipalities	$54.00	$54.00	$55.00	$55.00
Target value for New Charter Municipalities	$54.00	$54.00	$55.00	$55.00

All values are in dollars per ton.

By the end of 2014, the balance in the Tip Fee Stabilization Fund was $22.077 million. Based on the funds available as of the end of 2014 and the anticipated Performance Credits and PERC partnership distributions (assuming that the PERC facility will continue to perform as it has in the past few years), MRC has projected that the Charter Municipalities will have sufficient resources to continue to achieve the target values through 2018.

A key purpose of the Tip Fee Stabilization Fund is to position the Charter Municipalities to realize the benefits of affordable, long-term, environmentally sound disposal of MSW beyond 2018. Maintaining the existing target value unchanged, however, would draw down most of the balance in the Tip Fee Stabilization Fund by 2018, thereby undermining the capability to achieve MRC's mission beyond 2018.

Thus, at its October 2010 meeting, the MRC Board of Directors voted to adopt a Target Value Step Increase Implementation Plan to implement an increase in target values on an annual basis through 2018. This plan established increased target values for the Equity Charter Municipalities as follows:

$46 per ton as of July 1, 2011
$48 per ton as of July 1, 2012
$51 per ton as of July 1, 2013
$55 per ton as of July 1, 2014
$59 per ton as of July 1, 2015
$63 per ton as of July 1, 2016
$67 per ton as of July 1, 2017

The target value for the New Charter Municipalities was set at $54 per ton through July 1, 2014, and then set at $55 per ton for the remainder of 2014. From 2015 and thereafter, the target values for the New Charter Municipalities are the same as the target values for the Equity Charter Municipalities per the schedule set forth above.

The intent of these increases is to avoid a spike in disposal costs; prepare the Charter Municipalities for post-2018 disposal costs; and, to maintain funds in reserve for use in enhancing the negotiating position and capacity of MRC to make available the best possible post-2018 arrangements for management of MSW for the Charter Municipalities.

4.0 Significant Transactions

MRC managed the following transactions on a routine basis during the year:

- Receipt of Performance Credits from PERC on a monthly basis.
- Receipt of partnership distributions from PERC on a monthly basis.
- Distribution of cash to Charter Municipalities to achieve the target values on a quarterly basis.
- Transfer of funds from the Custody Account to the Tip Fee Stabilization Fund in the fourth quarter of 2014.
- Transfer of funds to the MRC Operating Account from the Custody Account in the first, third and fourth quarters of 2014.

5.0 Capital Assets and Debt Administration

MRC had no outstanding debt in 2014.

MRC no longer receives payments of principal and interest on the promissory note from Bangor Hydro, as had been the case in 2008 and in prior years. Bangor Hydro made the last payment of principal and interest on the Note in May 2008.

6.0 Economic Factors and Significant Foreseeable Future Conditions

MRC notes the following significant foreseeable future conditions with the potential to affect performance in 2014 and beyond:

- Facility Maintenance Costs. The facility operator, acting for PERC, LP, is planning to incur major maintenance expenditures for the Facility to ensure that operations continue through and beyond 2018. Implementation of capital and maintenance investments in the Facility's major processing and production systems will continue to be an integral factor in maintaining economic performance in 2015 and thereafter. The total cost of the investments required to sustain economic performance has increased in recent years. There is no assurance that the level of future investment in capital and major maintenance projects at the Facility as required to maintain current levels of performance will not exceed projections in the coming years, or that performance will be maintained at current levels.

  As a facility with a nameplate generating capacity of more than 20 MW, the Facility is required to comply with new requirements for the reliability and security of the regional electric grid, as overseen by the Northeast Power Coordinating Council (NPCC), the North American Electricity Reliability Corporation (NERC) and other related organizations of applicable jurisdiction. These requirements, which can require changes to physical plant as well as development and documentation of operating procedures, continue to evolve and expand. There is no assurance regarding the nature of the full set of NPCC and NERC requirements that the Facility might be required to implement, nor is there assurance regarding the cost and impact on performance of satisfying such requirements.

- Waste Acquisition. In 2014, PERC received 312,315 tons of municipal solid waste (MSW). The MSW included 119,344 tons of MSW from commercial and spot market arrangements to supplement the 179,493 tons of MSW reported by PERC as delivered by Charter Municipalities and 13,478 tons of MSW delivered by other municipalities. MSW deliveries to PERC by Charter Municipalities increased by 345 tons (0.2 percent) from 2013 to 2014, and, per PERC's records, fell short by 4,759 tons of the guaranteed annual tonnage (GAT) that the Charter Municipalities, in aggregate, were obligated to deliver to PERC in 2014 to avoid shortfall penalties. Such shortfall does not account for MSW delivered to PERC that originated within the boundaries of Charter Municipalities but was credited to the accounts of commercial haulers. Whether such shortfall penalties will be assessed in 2015 for shortfalls in 2014 and prior years, and the magnitude of such penalties, had not been finalized as of this writing.

  Quantities of MSW available to the PERC facility have declined for a number of reasons, including lingering effects of the economic downturn; waste reduction or diversion through pay-as-you-throw and similar programs; and increased recycling resulting from new single-stream programs. There is no assurance that MSW from the commercial and spot market arrangements will continue to be available to PERC in the future in the same quantities as it was acquired in the past, nor is there assurance that the quantities of MSW delivered by the Charter Municipalities, which include significant amounts of MSW originating from commercial sources within their borders and delivered to the account of the municipalities, will not decline from delivery levels in prior years. Thus, there is no assurance that the Charter Municipalities will not be exposed to further delivery shortfall penalties in future years. Moreover, there is no assurance that the Charter Municipalities will not be exposed to reduced Performance Credits and distributions of cash from the PERC Partnership due to reduced economic performance at PERC as a result of declines in waste deliveries.

- Competition with other disposal facilities. PERC actively competes with other disposal facilities to acquire MSW as needed to allow the facility to operate at capacity. Competing disposal facilities at the start of 2014 include two other operating municipal waste combustion facilities in Maine;

operating landfills that are permitted to accept MSW in Maine; and facilities that are located outside of Maine. Failure of PERC to attract sufficient MSW to allow the facility to operate at capacity, or loss of significant quantities of MSW to competing disposal facilities, could have a significant adverse impact on the economic performance of PERC in 2015 and thereafter, and could adversely affect the capability for Charter Municipalities to achieve the target values through 2018.

The competitive market for disposal of MSW in Maine changed dramatically in 2013 due to the following events:

1. The Maine Energy Resource Company (MERC) facility in Biddeford was shut down permanently at the end of 2012. The MERC facility had previously accepted for disposal about 120,000 tons per year of MSW generated in Maine and nearly 170,000 tons per year of MSW from other states. Such MSW must now be managed through other facilities.

2. The Juniper Ridge Landfill in Old Town applied for and received approval from the Maine DEP to amend its operating license to allow acceptance for disposal, under a number of stated conditions, of unprocessed in-state MSW that had previously been accepted at the Maine Energy Resource Company (MERC) facility in Biddeford. The license amendment was requested by a corporate affiliate of Casella Waste Systems, Inc. (Casella), which operates the Juniper Ridge Landfill, and which owned and operated the MERC facility, through corporate affiliates.

3. In light of the above, the PERC partnership, PERC's private owners, and Casella negotiated a new contract (the Casella-PERC Contract) regarding delivery of MSW to the PERC facility from in-state sources, including MSW that had previously been delivered to the MERC facility.

The new Casella-PERC contract would have Casella deliver up to 100,000 tons per year of MSW to the PERC facility, including up to 30,000 tons per year of MSW that had previously been delivered to the MERC facility from in-state sources. Thus, the new arrangements provides additional assurance that the PERC facility will be able to secure sufficient MSW to operate at or near its full capacity with maximum reliance on MSW generated within Maine and with reduced reliance on MSW imported from other states. Actual deliveries from Casella's affiliated companies in 2014 were on the order of 68,000 tons and did reduce reliance on other sources of out-of-state MSW to enable the PERC Facility to operate at or capacity. Nonetheless, there is no certainty that the PERC facility will not face shortfalls in the availability of MSW as required to operate at full capacity. Such circumstances might have a significant adverse impact on the economic performance of PERC in 2015 and beyond.

Environmental regulation. Many aspects of the operation of the Facility are subject to stringent regulation of the Maine Department of Environmental Protection (the DEP) and by other federal, state, and local agencies. Thus, there is always a risk that changes in applicable law, regulations, or regulatory policies and enforcement practices will have an adverse impact on the Facility's performance or the economics of continuing Facility operation. The Facility works diligently to comply with all applicable environmental laws, regulations, permits, and policies. In addition, MRC works jointly with PERC on an ongoing basis to monitor potential changes in applicable laws, regulations, permits, and policies in order to identify initiatives that might have an adverse impact on the Facility and to ensure that such impacts are recognized and given due consideration. Nevertheless, there is no assurance that the Facility will not be adversely affected in the future by changes in applicable law, regulation, regulatory policy, or enforcement practices.

The products of combustion at the Facility that are emitted to the atmosphere include, among other things, carbon dioxide, which is considered a contributor to global warming and, pursuant to a 2009 ruling of the U.S. Environmental Protection Agency, is also considered a regulated pollutant. The contribution to global warming by the Facility's emissions of carbon dioxide is more than offset by

two factors of its operation. First, the Facility combusts municipal solid waste that, had it been deposited in a landfill, might have caused emission to the atmosphere of methane and other greenhouse gases with a greater overall contribution to global warming than the carbon dioxide emitted from the Facility. Second, the Facility generates electricity from the combustion of waste that displaces a like amount of electricity that might have been generated from combustion of fossil fuels at facilities with emissions that contribute proportionately more to global warming than the Facility. Nonetheless, both the U.S. Congress and the U.S. Environmental Protection Agency are considering new measures to control carbon dioxide emissions and global warming that might have an adverse impact on Facility operations. There is no assurance as to what the nature or magnitude of such impacts might be.

- Electric utility regulation. In 2014, approximately 58 percent of all revenue realized by PERC was in the form of payments for electricity purchased by Bangor Hydro pursuant to a Power Purchase Agreement (PPA) that was originally executed in 1984 and is expected to remain in effect through March 31, 2018. Such purchases undertaken pursuant to the PPA in 2013 were at prices generally in excess of market rates for electricity and associated products. In recognition of the PPA prices for electricity and related contract terms, in 1998 the PPA was amended to provide cost mitigation to Bangor Hydro. Such amendment was reviewed and approved by the Maine Public Utilities Commission (the Maine PUC), which has regulatory jurisdiction over Bangor Hydro and its power purchase arrangements. The Maine PUC ruled that the above-market purchases of electricity by Bangor Hydro pursuant to the PPA qualify as "stranded costs" and has set forth a procedure for recovery of such costs on an ongoing basis. Nevertheless, there is no assurance that the Facility might not be adversely affected in the future by changes in the regulatory treatment of electricity purchases pursuant to the PPA or by changes in the procedures for recovery of stranded costs.

- Emerging technologies. The MRC is aware of numerous new technologies that are being developed to process and dispose of municipal solid waste, including approaches that utilize new equipment for mixed waste processing, sorting, pelletization, gasification, pyrolysis, plasma arc destruction, anaerobic digestion, thermal de-polymerization and for other purposes. Several reference facilities utilizing these technologies are being constructed and operated in the United States on a commercial basis. Although there are no facilities applying such technologies to solid waste management that are operating or under construction in Maine, it is possible that such a technology will be developed and emerge in the future with adverse economic consequences on the PERC Facility. MRC continues to work with the private partners in PERC to monitor and evaluate the emergence of such technologies from the perspective of (a) modifying the PERC facility to incorporate such technology; or (b) evaluating whether a facility incorporating such technology might be developed as a successor for managing MSW currently delivered to the PERC facility after the existing disposal agreements expire in 2018.

- Post-2018 planning initiative. The MRC is proceeding with development of a new facility to manage MSW originating in its member municipalities after the existing disposal agreements expire in 2018. To this end, the MRC has selected a developer of an emerging technology, Fiberight, Inc. (Fiberight), that would own and manage design, permitting, financing, construction and operation of the new facility on a site secured by the MRC. The MRC has also taken steps to secure commitments from its member municipalities to consider participation in the facility being developed.

  At this time, the MRC intends to have its member municipalities manage their MSW through delivery to the PERC Facility through and into 2018 in accordance with the existing disposal agreements. Nonetheless, the MRC recognizes that its efforts to evaluate and develop alternatives after the disposal agreements expire in 2018 might have impacts on the performance of the existing facilities and under the existing arrangements prior to their expiration in 2018. There is no assurance as to what the nature or magnitude of such impacts might be.

There has been disagreement between the private and public sector partners in the PERC Partnership regarding the preferred course of action after 2018 and the management of funds related to the future of the PERC Facility. The partners have disagreed regarding expenditure of partnership funds on professional and legal services; on government relations and lobbying regarding legislation that might affect the competitiveness of the PERC Facility after 2018; and on related matters. As 2018 approaches, additional disagreements might occur regarding expenditures on capital projects or improvements to the PERC Facility related to life extension or continued operations after 2018. There is no assurance as to what the nature or magnitude of the impacts might be of such disagreements or expenditures on the economic performance of the PERC Facility. In this context, the MRC has filed suit in federal court against the private general partner in the PERC facility to seek recovery of certain funds that such general partner diverted from the PERC Partnership without what the MRC would consider to be proper authorization. There is no assurance as to the costs or results of such suit or how such results might affect future cash flows from the PERC Partnership or to the MRC.

7.0 Contact Information

More information on MRC and the Joint Venture may be obtained at MRC's administrative office, 395 State Street, Ellsworth, ME 04605.

MUNICIPAL REVIEW COMMITTEE, INC.
GOVERNMENTAL FUNDS BALANCE SHEET / STATEMENT OF NET POSITION
DECEMBER 31, 2014

	General Fund	Adjustments	Statement of Net Position
ASSETS			
Cash - Checking Account	$ 9,604	-	$ 9,604
Membership Fees Receivable	56,438	-	56,438
Accounts Receivable - Bangor Hydro	14,658	-	14,658
Reimbursements Receivable - PERC	2,640	-	2,640
Prepaid Insurance	-	$ 10,750	10,750
Capital Assets:			
Options to Purchase Land	-	85,000	85,000
Website Design Costs	-	876	876
Total Capital Assets	-	85,876	85,876
Total Assets	$ 83,340	96,626	179,966
LIABILITIES			
Accounts Payable	$ 103,830	-	103,830
Accrued Payroll	2,906	-	2,906
Accrued Vacation	-	14,853	14,853
Total Liabilities	106,736	14,853	121,589
FUND BALANCES / NET POSITION			
Fund Balances:			
Unassigned	(23,396)	23,396	-
Total Liabilities and Fund Balances	$ 83,340		
Net Position:			
Invested in Capital Assets		85,876	85,876
Unrestricted		(27,499)	(27,499)
Total Net Position		$ 58,377	$ 58,377

The accompanying notes are an integral part of these financial statements.

MUNICIPAL REVIEW COMMITTEE, INC.
STATEMENT OF GOVERNMENTAL FUND REVENUE, EXPENDITURES, AND CHANGES IN FUND BALANCES / STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED DECEMBER 31, 2014

	General Fund	Adjustments	Statement of Activities
REVENUE			
Membership Fees	$ 223,972	-	$ 223,972
PERC Monitoring Agreement	58,056	-	58,056
Reimbursements for PERC Oversight Committee Expenses	10,560	-	10,560
Interest Income	204	-	204
Total Revenue	292,792	-	292,792
EXPENDITURES / EXPENSES			
Current:			
Legal Fees	176,700	-	176,700
Payroll Costs	127,889	$ 6,583	134,472
Consulting - Resource Management	100,810	-	100,810
Legislative Advocacy and Communications	55,570	-	55,570
Administrative and Miscellaneous	37,945	584	38,529
Insurance	11,750	(1,206)	10,544
Audit Fee	11,500	-	11,500
Occupancy	8,400	-	8,400
Post-2018 Planning:			
Consulting	175,754	-	175,754
Legal	148,230	-	148,230
RFEI Process	61,991	-	61,991
Communications	61,984	-	61,984
DEP Process	39,024	-	39,024
Other	4,772	-	4,772
Capital Outlay:			
Option to Purchase Land	65,000	(65,000)	-
Total Expenditures / Expenses	1,087,319	(59,039)	1,028,280
EXCESS (DEFICIENCY) OF REVENUE OVER EXPENDITURES BEFORE OTHER FINANCING SOURCES AND USES	(794,527)	794,527	-
OTHER FINANCING SOURCES AND USES			
Transfers from the MRC Operating Budget Stabilization Fund of the Joint Venture of the Charter Municipalities of Municipal Review Committee, Inc.	686,000	(686,000)	-
EXCESS (DEFICIENCY) OF REVENUE OVER EXPENDITURES	(108,527)	108,527	-
TRANSFERS FROM FIDUCIARY FUND	-	686,000	686,000
CHANGE IN NET POSITION	-	$ (49,488)	(49,488)
FUND BALANCE / NET POSITION - January 1, 2014	85,131		107,865
FUND BALANCE / NET POSITION - December 31, 2014	$ (23,396)		$ 58,377

The accompanying notes are an integral part of these financial statements.

MUNICIPAL REVIEW COMMITTEE, INC.
STATEMENT OF FIDUCIARY NET POSITION
JOINT VENTURE OF THE CHARTER MUNICIPALITIES
OF MUNICIPAL REVIEW COMMITTEE, INC.
DECEMBER 31, 2014

	Fiduciary Fund
ASSETS	
Custody Account	$ 1,977,458
Tip Fee Stabilization Fund	22,020,353
MRC Operating Budget Stabilization Fund	1,526,966
Accrued Interest Income	61,397
Investment in PERC	10,300,414
Total Assets	35,886,588
LIABILITIES	
Tipping Fee Rebates Payable	976,380
NET POSITION	
Held for the Benefit of the Equity Charter Municipalities of Municipal Review Committee, Inc.	$ 34,910,208

The accompanying notes are an integral part of these financial statements.

MUNICIPAL REVIEW COMMITTEE, INC
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
JOINT VENTURE OF THE CHARTER MUNICIPALITIES
OF MUNICIPAL REVIEW COMMITTEE, INC.
FOR THE YEAR ENDED DECEMBER 31, 2014

	Fiduciary Fund
ADDITIONS	
PERC Performance Credits	$ 3,872,626
Interest and Dividend Income	234,968
Net Earnings from Investment in PERC	1,118,652
Appreciation (Depreciation) of Investments	(81,848)
Total Additions	5,144,398
DEDUCTIONS	
Rebates of Tipping Fees	4,048,203
MRC Operating Budget Stabilization Fund Transfers to General Fund	686,000
Total Deductions	4,734,203
CHANGE IN NET POSITION	410,195
NET POSITION - January 1, 2014	34,500,013
NET POSITION - December 31, 2014	$ 34,910,208

The accompanying notes are an integral part of these financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Municipal Review Committee, Inc. (MRC) was organized as a nonprofit corporation in 1991 to better ensure the continuing availability to its members of long-term, reliable, safe, and environmentally sound methods of solid waste disposal at a stable and reasonable cost. It was formed by municipalities with waste disposal agreements with Penobscot Energy Recovery Company Limited Partnership (PERC). Its members (also known as Charter Municipalities) include counties, refuse disposal districts, public waste disposal corporations, municipalities, and other quasi-municipal entities. Only municipalities within the State of Maine may be eligible for membership upon execution of a waste-disposal agreement with MRC.

MRC's Board of Directors is elected by the Charter Municipalities, and must be persons who, at the time of their election, are either elected or appointed officials, employees, or legal residents of the Charter Municipalities. As of December 31, 2014, MRC's membership was made up of 86 "Equity" Charter Municipalities and 47 "New" Charter Municipalities.

MRC's financial statements are prepared in accordance with generally accepted accounting principles (GAAP). The Governmental Accounting Standards Board (GASB) is responsible for establishing GAAP for governmental nonprofit entities through its pronouncements (Statements and Interpretations). The more significant accounting policies, established in GAAP and used by the Reporting Entity, are discussed below.

A. Financial Reporting Entity

The financial reporting entity is comprised of the following:

Primary Government	Municipal Review Committee, Inc.
Component Unit	Joint Venture of the Charter Municipalities of Municipal Review Committee, Inc.

These financial statements present the activities of MRC (the primary government) and its component unit. As defined by GASBS No. 14, component units are legally separate entities that are included in the primary government's reporting entity because of the significance of their operating or financial relationships with the primary government. However, as the relationship between MRC and its component unit is fiduciary in nature, the component unit's activities are reported in a fiduciary fund and are not blended with the activities of MRC.

Municipal Review Committee, Inc.

MRC acts as a liaison for and as a representative of its members with the PERC and Emera Maine, f.k.a. Bangor Hydro-Electric Company (Bangor Hydro). In performing this function, MRC:

- Reviews PERC's monthly and annual financial performance and operating reports.
- Reviews PERC's quarterly tipping fee adjustments.
- Reviews projected and documented utilization of the Capital Maintenance and Reserve Account (CMRA) monies.
- Oversees the CMRA.
- Reviews and verifies PERC's calculation of cash and performance credits to be provided to MRC's members and PERC.

- Reviews PERC's compliance with performance standards.
- Participates in the Oversight Committee of the PERC Partnership.
- Enforces the priority lien MRC's members have on the CMRA monies in the event of termination of PERC's operations.
- Identifies alternative waste disposal options that may be implemented following termination of the members' waste disposal agreements with PERC, including, but not limited to, developing, financing, and/or operating a new integrated solid waste disposal facility to serve the Charter Municipalities.
- For members who elected as of September 30, 1998, to become "Equity" Charter Municipalities:
  1. Purchases, sells, and otherwise deals with the members' limited partnership interest in PERC, as well as the Net Cash Flow from the ownership of PERC; and
  2. Receives and/or directs the cash distributions from PERC known as performance credits and determines the allocation, use, and application of those funds.

Joint Venture of the Charter Municipalities of Municipal Review Committee, Inc.

The Joint Venture of the Charter Municipalities of Municipal Review Committee, Inc. (Joint Venture) is an organization that resulted from a contractual arrangement among certain members of MRC (known as Equity Charter Municipalities), PERC, and Bangor Hydro. It was formed to pool resources of the Equity Charter Municipalities for the long-term goal of handling the disposal of their present and projected volumes of nonhazardous municipal solid waste at a stable and reasonable cost. Those resources are administered by MRC. New members (known as New Charter Municipalities) do not have an ongoing financial interest in the Joint Venture and do not participate in the purchase of a limited partnership interest in PERC.

In 1998, the waste disposal agreements of the Equity Charter Municipalities were amended and restated, and extended to 2018, as part of a settlement that involved the refinancing of PERC's outstanding debt and the renegotiation of a power purchase agreement between PERC and Bangor Hydro, which purchases the electrical output of PERC's waste-to-energy facility ("Facility.") In exchange for certain guarantees, the Equity Charter Municipalities negotiated to receive the following:

Performance Credits from Facility operations. The Charter Municipalities are entitled to receive one-third of the Net Distributable Cash generated from the operation of the Facility, which is known as Performance Credits. Through September 2000, 15% of the Performance Credits were required to be deposited into a restricted cash account, which could only be used for acquisitions of PERC. The Performance Credits are now being directed to the Joint Venture without any requirement for deposit into a restricted account.

Warrants to purchase 1,000,000 shares of Bangor Hydro. The Equity Charter Municipalities received warrants to purchase Bangor Hydro common stock at a price of $7.00 per share. During the year ended December 31, 2001, the then remaining unexercised 700,900 warrants were exchanged for a $13,667,550 promissory note from Bangor Hydro.

Bangor Hydro $2,000,000 reserve. The Equity Charter Municipalities were entitled to receive $2,000,000 from Bangor Hydro over a four-year period. This cash was deposited into a restricted cash account, which could only be used for acquisitions of a limited partnership interest in PERC.

One-third of $10,000,000 in reserves. The Charter Municipalities are entitled to receive one-third of three reserves upon PERC's repayment of its outstanding debt. These reserves were held as collateral for the bondholders. The debt was refinanced during the year ended December 31, 2012, and the requirement for PERC to maintain $10,000,000 in the reserve accounts was reduced to $2,000,000. MRC has received one-third of the released funds.

The waste disposal agreements of the Equity Charter Municipalities provide that the interests acquired in PERC be allocated among themselves based on their respective shares of cumulative Performance Credits and other cash flows and reserves. To facilitate this allocation, MRC allocates resources among the municipalities on the basis of actual tons of acceptable waste delivered to PERC each quarter.

In an effort to stabilize the net cost of the disposal of the Charter Municipalities' solid waste, rebates of tipping fees are paid to the Charter Municipalities on a system-wide average basis to offset the difference between the tipping fee paid and the applicable target price.

B. Basis of Presentation

Government-Wide Financial Statements

The government-wide financial statements (i.e., statement of net position and the statement of activities) display information about the reporting entity as a whole. They include all funds of the reporting entity except fiduciary funds. The governmental activities are financed by administrative fees paid by members and operating transfers from the fiduciary fund's Operating Budget Stabilization Fund.

Fund Financial Statements

The fund financial statements of the reporting entity are organized into funds, each of which is considered a separate accounting entity. Each fund is accounted for with a separate set of self-balancing accounts that constitute its assets, liabilities, fund equity, revenues, and expenditures/ expenses. The funds have been organized into two categories: governmental and fiduciary.

Governmental. The General Fund is the Entity's only governmental fund. It is used to account for all activities except those legally or administratively required to be accounted for in other funds.

Fiduciary. Fiduciary funds are used to account for assets held for the benefit of other parties that generally are not used to finance the governmental entity's own operations.

C. Measurement Focus and Basis of Accounting

The government-wide financial statements are reported using the *economic resources measurement focus* and the *accrual basis of accounting.* Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. The accounting objective is the determination of changes in net position and financial net position. All assets and liabilities (whether current or noncurrent) are reported.

The governmental fund financial statements are reported using the *current financial resources measurement focus* and the *modified accrual basis of accounting.* Revenues are generally recorded as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Entity considers revenues to be available if they are to be collected within 60 days of the end of the current fiscal period. Expenditures are generally recorded when a liability is incurred, as under accrual accounting.

The accounting objective of governmental funds is the presentation of the sources, uses, and balances of the Entity's expendable financial resources and related liabilities. The revenues associated with the current fiscal period and susceptible to accrual are the membership fees, PERC monitoring agreement, and reimbursements. All other governmental fund revenues are considered measurable and available only when the Entity receives cash.

The fiduciary fund financial statements are reported using the *economic resources measurement focus* and the *accrual basis of accounting.* The accounting objective is the measurement of the changes in net position and financial position. All assets and liabilities (whether current or noncurrent) are reported.

D. Assets, Liabilities, and Equity

Membership Fees Receivable. Annually, the Board of Directors determines an administrative fee necessary to support the Entity's oversight duties. Each member pays its proportionate share based upon waste tonnage delivered to PERC. Membership Fees Receivable represents uncollateralized amounts due from members for the administrative fees.

Accounts Receivable – Bangor Hydro. During the year ended December 31, 1998, MRC completed negotiations to restructure the contractual relationships among MRC, its members, Bangor Hydro, and PERC through March 31, 2018. The agreement requires Bangor Hydro to pay MRC $10,000 each calendar quarter to cover costs associated with monitoring PERC's operations. This amount is adjusted once each year to reflect changes in the Consumer Price Index.

Custody Account. The Custody Account is the operating cash account of the Joint Venture. All deposits made to and held in this account are invested in Federated Government Obligations Money Market Fund. This investment is carried at fair value based on quoted market prices.

Tip Fee Stabilization Fund. In 2001, the Board of MRC voted to set aside a portion of the Performance Credits received each quarter into an investment account for future distributions to Charter Municipalities. In 2003, the Board voted to temporarily suspend additional purchases of PERC and to transfer to this Fund amounts in the Custody Account when they exceed a certain minimum balance. The investments in this account are carried at fair value based on quoted market prices.

Operating Budget Stabilization Fund. In 2004, the Board of MRC voted to establish this investment account from certain funds that the Joint Venture had received from the general partner of PERC. These investments may be used to provide MRC with funds each year through March 31, 2018, for balancing its annual operating budget in the event of contingencies. The investments in this account are carried at fair value based on quoted market prices.

Net Position. Equity in government-wide financial statements is classified as net position. Net position is further classified as invested in capital assets, restricted, and unrestricted. Capital assets are assets that are associated with governmental activities and arise from expenditures of governmental fund resources. Restricted net position consists of equity with constraints placed upon its use either by (1) external groups such as creditors or the laws and regulations of other governments, or (2) law through constitutional provisions or enabling legislation.

Equity in fiduciary fund financial statements is also classified as net position. This net position is not divided into the three categories used in government-wide financial statements. It simply reports the difference between the fund's assets and liabilities, and is shown as "Net position held for the benefit of the Equity Charter Municipalities of Municipal Review Committee, Inc."

Fund Balance. Governmental fund equity is classified as fund balance. The fund balance is further classified as restricted, committed, assigned, or unassigned. Restricted funds consist of amounts that are legally restricted by external parties or laws for a specific purpose. Committed funds consist of amounts that can only be used for a specific purpose pursuant to constraints imposed by the Board. Assigned funds represent tentative plans for future use.

2. DEPOSITS AND INVESTMENTS

a. Custodial Credit Risk—Deposits

Custodial credit risk is the risk that in the event of a bank failure, the entity's deposits may not be returned to it. The Entity does not have a deposit policy for custodial credit risk. As of December 31, 2014, $103,508 of the Entity's deposits held in banks totaling $5,286,831 was exposed to custodial credit risk as follows:

Uninsured and uncollateralized	$103,508

The Entity has not experienced any losses in the past. Management believes it is not exposed to any significant risk on its uninsured and uncollateralized cash deposits.

b. Credit Risk, Concentration of Credit Risk, and Interest Rate Risk—Investments

The following schedule summarizes the Fiduciary Fund's investments at December 31, 2014:

		Investment Maturities (in Years)			Weighted Average Maturity
	Market Value	Less Than 1	1-5	6-10	
U.S. Treasury Notes	$ 3,502,550	$ 999,960	$ 2,502,590	-	2.20 years
U.S. Government Agency Bonds:					
Federal Home Loan Bank	10,460,875	3,863,325	6,597,550	-	1.75 years
Federal Farm Credit Bank	3,465,437	755,050	2,710,387	-	1.79 years
Federal National Mortgage Association	253,418	-	253,418	-	1.88 years
Total Bonds	14,179,730	4,618,375	9,561,355	-	1.76 years

	Market Value	Investment Maturities (in Years) Less Than 1	1-5	6-10	Weighted Average Maturity
Money Market Mutual Funds:					
Federated Government Obligations Tax-Managed Fund	$ 596,868	$ 596,868	-	-	49 days
Total Mutual Funds Totals	$18,279,148	$6,215,203	$12,063,945	$ -	

Maine statutes authorize the Entity to invest its municipal revenues in all obligations of the U.S. government and its instrumentalities, in U.S. agencies within the three highest ratings issued by nationally recognized statistical rating organizations, in repurchase agreements secured by U.S. obligations, and in shares of registered mutual fund companies that invest in U.S. obligations. The Entity invests only in instruments allowed under Maine Law; however, it does not invest in any subordinated debt.

Credit Risk. Credit risk exists when there is a possibility the issuer or other counterparty to an investment may be unable to fulfill its obligations. The Entity's investments in the bonds of U.S. Agencies were all rated Aaa, AAA, and AAA by Moody's Investors Service, Standard & Poor's, and Fitch Ratings, respectively. The money market mutual funds were both rated Aaa-mf and AAAm by Moody's Investors Service and Standard & Poor's, respectively.

Concentration of Credit Risk. Concentration of credit risk exists when the investments in any one issuer exceed 5% of total investments. However, no concentration of credit is deemed to exist for investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds. MRC does not have a policy for managing its concentration of credit risk. The investment in bonds issued by Federal Home Loan Bank and Federal Farm Credit Bank amount to 57.23% and 18.96%, respectively, of total investments.

Interest Rate Risk. Interest rate risk exists when there is a possibility that changes in interest rates could adversely affect an investment's fair value. In accordance with its investment policy, the Entity limits the weighted average maturity of its investment portfolio to within two years of the duration of a benchmark based on blended values of the Barclay's Agency 1-3 Year Index and the Barclay's U.S. Government Intermediate Bond Index.

3. INVESTMENT IN PERC

The Entity accounts for its investment in PERC under the equity method, that is, at cost adjusted periodically by the Entity's share of PERC's earnings or losses, and increased by contributions made and decreased by the distributions received. During the year ended December 31, 2014, the Entity received a distribution of $1.019 million.

The Partnership has a limited life extending to December 31, 2018, unless further extended by a vote of all partners. Profits and losses, including gains and losses upon sale or refinancing, are allocated among the partners in accordance with their ownership percentages. The difference between the cost of the investment in the PERC partnership and the underlying equity in the

partnership's capital when acquired, approximately $1,000,000, is accounted for as goodwill not subject to amortization.

The ownership interests of the partners of PERC at December 31, 2014, are as follows:

	General Partners	Limited Partners
USA Energy Group, LLC	10.0%	42.7%
Equity Charter Municipalities of MRC	-	23.0%
PERC Holdings, LLC	-	24.3%
Total	10.0%	90.0%

Summarized financial information of PERC at December 31, 2014, and for the year then ended, is as follows:

ASSETS	
Cash and cash equivalents	$ 7,728,797
Accounts receivable, prepaid expenses, and other assets	4,108,171
Restricted funds	3,044,045
Property, plant, and equipment, net of accumulated depreciation	31,076,268
Total assets	$45,957,281
LIABILITIES AND PARTNERS' CAPITAL	
Accounts payable, accrued expenses, and other liabilities	$ 3,515,881
Note payable	5,029,835
Total liabilities	8,545,716
Partners' capital	37,411,565
Total liabilities and partners' capital	$45,957,281
STATEMENT OF INCOME	
Revenues	$36,659,716
Operating expenses	31,489,059
Operating income before interest and other financing costs	5,170,657
Interest and other financing costs	(300,442)
Net income	$ 4,870,215

4. OPTIONS TO PURCHASE LAND

As part of its post-2018 planning initiative, the Entity has acquired options to purchase tracts of land in Greenbush, Argyle, and Hampden, Maine. The options allow the Entity to purchase land at a predetermined amount during initial two- or three-year and successive terms. The options will automatically renew for either two or three successive one-year terms, provided that additional option consideration is paid. The option price and any additional consideration may be applied toward the purchase price.

5. SCHEDULE OF EQUITY CHARTER MUNICIPALITY NET POSITION

MRC allocates most of the Joint Venture's cash inflows among the Equity Charter Municipalities on the basis of actual tons of acceptable waste delivered to PERC each quarter. Each individual

acquisition of PERC has been allocated among the Equity Charter Municipalities based on the allocation for the calendar quarter the purchase was made. The distributions PERC makes to its partners are allocated among the municipalities based on each municipality's respective ownership of PERC at the time of the distributions.

Some of the Joint Venture's assets have not been allocated among its members yet, such as the undistributed profits of PERC. These assets will be allocated in the calendar quarter that they are converted to cash. However, for purposes of this schedule, the allocation of these assets has been estimated based on the cumulative allocations of the allocated assets. The actual allocations that will be made in the future may be different than that presented here, since it will generally be allocated based on the allocation for the quarter in which the cash is received.

6. INCOME TAXES

The Organization is tax exempt under Section 501(a) of the Internal Revenue Code as an organization described in Section 501(c)(3), and is classified by the Internal Revenue Service (IRS) as other than a private foundation. However, the Internal Revenue Code may subject an organization to tax on unrelated business taxable income. It is Management's opinion that the Organization had no unrelated business taxable income during the year ended December 31, 2014.

The Organization is required to file Form 990 (Return of Organization Exempt from Income Tax), which is generally subject to examination by the IRS and state authorities up to three years from the due date. Forms 990 for 2010 to 2013 were open to examination as of December 31, 2014.

7. RETIREMENT PLAN

MRC has sponsored a SIMPLE IRA plan for its employee and matches 100% of the employee's deferred compensation up to 3% of the employee's compensation. The expense for the year ended December 31, 2014, was $2,632.

8. OPERATING LEASE

During the year ended December 31, 2012, the Entity entered into a 13-month lease for office space in Ellsworth, Maine beginning December 1, 2012, at a rate of $450 per month. Rental expense under this lease for the year ended December 31, 2014, amounted to $8,400. There are no further minimum lease payments remaining under this lease.

9. INSURANCE

The Entity is exposed to a variety of risks in the ordinary course of its daily activities. Some of these risks include workers' compensation, legal, and fiduciary liabilities. MRC has purchased commercial insurance policies to cover potential claims.

MUNICIPAL REVIEW COMMITTEE, INC.
SCHEDULE OF EQUITY CHARTER MUNICIPALITY NET POSITION
DECEMBER 31, 2014

Albion	$ 175,886	Mattawamkeag	$ 83,782
Alton	71,442	Midcoast SWD	1,592,677
Atkinson	23,823	Mid-Maine SWD	903,920
Baileyville	332,179	Milford	233,819
Bangor	5,896,061	Millinocket	620,980
Bar Harbor	1,172,612	Milo	268,502
Blue Hill/Surry	787,215	Monson	47,264
Boothbay RRDD	1,047,267	Mt. Desert/EMR	1,428,789
Bradley	94,618	Newburg	109,402
Brewer	1,611,767	Old Town	965,122
Brooks	54,448	Orland	85,001
Brownville	151,553	Orono	860,601
Bucksport	492,891	Otis	41,930
Burnham	117,555	Palmyra	136,761
Carmel	197,361	Parkman	38,467
Central Penobscot	374,033	Penobscot Co.	177,838
China	388,324	Pleasant River SWD	268,869
Clifton	69,555	Plymouth	103,388
Clinton	509,773	Reed Plantation	19,370
Dedham	89,543	Rockland	1,149,158
Dover-Foxcroft	424,465	Sangerville	106,493
Eddington	182,485	Searsport	251,303
Enfield	158,442	Stetson	91,686
Fairfield	611,180	Steuben	112,432
Glenburn	363,025	Stonington	197,891
Gouldsboro	174,038	Thomaston Group	777,687
Greenbush	111,745	Thorndike	59,688
Guilford	267,480	Troy	44,240
Hampden	703,333	Union River SWD	69,237
Hancock	120,359	Unity	165,236
Hermon	601,905	Vassalboro	304,844
Holden	189,506	Veazie	155,754
Jackson	23,970	Verona	60,514
Lamoine	120,091	Waldoboro Group	665,748
Lee	78,783	Waterville	2,142,822
Levant	178,363	Winslow	683,374
Lincoln	776,693	West Gardiner	247,456
Lucerne	51,064	Winthrop	621,891
Mariaville	27,936		
Mars Hill	193,501	Total	$ 34,910,208

The Equity Charter Municipality Net Position is not available for immediate withdrawal due to various restrictions, designations, and other limitations on their withdrawal, direction, and application. Please refer to Management's Discussion and Analysis and the accompanying notes for additional information.

COVANTA
Powering Today. Protecting Tomorrow.

Steven B. Weber, P.E.
Vice President
Business Development

Covanta Energy, LLC
445 South Street
Morristown, NJ 07960
Tel 862.345.5332
Fax 862.345.5150
Cell 862 485 3339
Email sweber@covanta.com
Website www.covanta.com

December 18, 2015

Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

RE: Fiberight LCC – Financial Capacity Letter

Dear Sir/Madam,

Covanta Energy, LLC is writing this letter in support of Fiberight LLC's proposed advanced waste processing facility to be located in Hampden, ME (the "Project").

Covanta Energy, LLC is engaged with Fiberight to support the development, financing, construction and operation of the Project, leveraging our 30+ years experiencing converting municipal solid waste into clean renewable energy, recycling metals and other commodities, and helping communities meet their goals for environmental stewardship and sustainability. Since the summer, we have been working with Fiberight's management and technical team and we visited their Lawrenceville, VA demonstration plant as part of our diligence efforts. Covanta conducted a review of financial projections related to the Project and we executed a term sheet for a long-term strategic partnership with Fiberight which starts with the Project.

We have reviewed the proposed budget for the project (attached hereto), totaling approximately $67 million, and we can confirm that we are interested in supporting Fiberight with project finance in the form of an equity investment in the Project.

This letter is not intended to be a binding commitment to provide financing. A binding financing commitment is subject to successful completion of due diligence activities, including, but not limited to, the Project receiving relevant waste permits from Maine DEP, and Fiberight entering into an acceptable waste supply agreement with MRC Maine and its charter communities which, as we understand, is very close to completion.

Sincerely,

Steven B. Weber, P.E.
Vice President, Business Development

Attachment
Cc: M. Mulcahy
S. Tralins
M. De Castro

Preliminary Capital Budget – Hampden, ME

Project Directs	
Site development	$2,155,832
Foundations & Concrete	$1,553,692
Building Construction	$3,309,057
Total Real Estate	**$7,018,582**
MRF	$3,933,415
Pulping System	$2,196,771
Recyclables Separation/Transfer	$406,587
Wash System	$3,436,048
Pre-Treatment System	$880,095
Hydrolysis	$8,585,758
A/D feed Prep	$514,614
Anaerobic Digestion System	$5,672,203
Energy Systems	$7,898,055
Cleaning In place	$240,943
Emissions & Odor Control System	$848,583
Digester Gas Clean-up & Compression	$3,411,222
Utilities	$504,428
Valves & Piping (Balance of Plant)	$3,392,915
Total Machinery & Equipment	**$41,921,635**
Steel, Mechanical & Electrical Installation	$15,181,416
Total Installation	**$15,181,416**
Total Project Directs	**$64,121,633**
Engineering, Permits & Project Management	**$2,855,153**
Fees & Working Capital	$0
Total Project Indirects	**$2,855,153**
Total Project Cost estimate	**$66,976,786**

CES INC

Engineers ◆ Environmental Scientists ◆ Surveyors

March 5, 2015

RECEIVED
MAR 23 2015
AND SCANNED

RECEIVED
MAR 09 2015
By 0275-15

Mr. Earle G. Shettleworth, Jr., Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065

Re: Proposed Waste Processing Facility and Access Road | Hampden, Maine

Dear Mr. Shettleworth:

CES, Inc. is assisting with the design and permitting of a proposed waste processing facility and associated access road in Hampden, Maine. We respectfully request your review of the site and its immediate surroundings for the potential presence of structures or areas of historical significance to the Maine Historical Preservation Commission.

The site is located on Cold Brook Road in Hampden, Maine. The site is undeveloped and accessed via a gravel road. There are no buildings or structures on or adjacent the project site greater than 50 years of age. Proposed site improvements consist of the construction of a waste processing facility and improvements to the access road. For your reference, the site location is indicated on the attached portion of the U.S.G.S. 7.5' Bangor, Maine quadrangle map.

Your response can be emailed to rstamand@ces-maine.com), faxed to 207-989-4881, or mailed to CES, Inc., 465 South Main Street, P.O. Box 639 Brewer, Maine 04412. If you have any questions, please do not hesitate to contact us.

Sincerely,
CES, Inc.

Roger St.Amand, CSS, LSE
Project Manager

RSA/gdr
Enc.

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney
Kirk F. Mohney,
Deputy State Historic Preservation Officer
Maine Historic Preservation Commission

3/18/15
Date

Six Locations in Maine | www.ces-maine.com

465 South Main Street
PO Box 639
Brewer, Maine 04412
T 207.989.4824
F 207.989.4881

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

March 9, 2015

Roger St. Amand
CES, Inc.
465 South Main Street
Brewer, ME 04412

Re: Rare and exemplary botanical features in proximity to: #10973.003, Waste Processing Facility and Access Road, Hampden, Maine

Dear Mr. St. Amand:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received March 5, 2015 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Hampden, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Don Cameron
Ecologist
Maine Natural Areas Program
207-287-8041
don.s.cameron@maine.gov

Project: #10973.003, Waste Processing Facility, Hampden, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Bicknell's Sedge						
	E	S1	G5	1931-06-26	1	Old field/roadside (non-forested, wetland or upland)
Estuary Bur-marigold						
	SC	S3	G4	2004-08-21	11	Tidal wetland (non-forested, wetland)
	SC	S3	G4	2005-09-20	12	Tidal wetland (non-forested, wetland)
	SC	S3	G4	2005-09-19	34	Tidal wetland (non-forested, wetland)
Horned Pondweed						
	SC	S2	G5	2006-08-17	18	Tidal wetland (non-forested, wetland)
Mudwort						
	SC	S3	G4G5	2005-09-20	28	Tidal wetland (non-forested, wetland)
	SC	S3	G4G5	2005-09-19	36	Tidal wetland (non-forested, wetland)
	SC	S3	G4G5	2004-08-21	27	Tidal wetland (non-forested, wetland)
Orono Sedge						
	T	S3	G3	1908-07-07	2	Old field/roadside (non-forested, wetland or upland)
Parker's Pipewort						
	SC	S3	G3	2005-09-20	10	Tidal wetland (non-forested, wetland)
	SC	S3	G3	2005-09-19	36	Tidal wetland (non-forested, wetland)
	SC	S3	G3	1937-08-23	11	Tidal wetland (non-forested, wetland)
	SC	S3	G3	2004-08-21	3	Tidal wetland (non-forested, wetland)
Purple Clematis						
	SC	S3	G5T5	1916-08	14	Non-tidal rivershore (non-forested, seasonally wet),Hardwood to mixed forest (forest, upland)
Pygmyweed						
	SC	S2S3	G5	2005-09-19	26	Open water (non-forested, wetland)
	SC	S2S3	G5	2004-08-21	2	Open water (non-forested, wetland)

Project: #10973.003, Waste Processing Facility, Hampden, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
	SC	S2S3	G5	1990	3	Open water (non-forested, wetland)
Raised Level Bog Ecosystem						
	<null>	S4	GNR	2002	12	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)
Showy Lady's-slipper						
	T	S3	G4	1906-07-13	25	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)
Sparse-flowered Sedge						
	SC	S3	G5	1905-06-25	11	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)
Spongy Arrowhead						
	SC	S3	G5T4	1937-08-16	24	Tidal wetland (non-forested, wetland)
	SC	S3	G5T4	1958-08-20	23	Tidal wetland (non-forested, wetland)
	SC	S3	G5T4	2004-08-21	5	Tidal wetland (non-forested, wetland)
	SC	S3	G5T4	2006-08-17	45	Tidal wetland (non-forested, wetland)
	SC	S3	G5T4	1990	25	Tidal wetland (non-forested, wetland)
Water Pimpernel						
	SC	S3	G5T5	2005-09-20	17	Tidal wetland (non-forested, wetland)
	SC	S3	G5T5	2004-08-21	3	Tidal wetland (non-forested, wetland)

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SU Under consideration for assigning rarity status; more information needed on threats or distribution.

SNR Not yet ranked.

SNA Rank not applicable.

S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

GNR Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/dacf/mnap

MRC/FIBERIGHT TRUCK ROUTE POLICY

This Preferred Truck Route Policy directs trucks to utilize certain identified state and federal highways as depicted in the Identified Haul Routes Plan to avoid the intersection of Route 1A and Western Avenue and secondary streets and roads of Hampden. This Truck Route Policy also directs all trucks to comply with all applicable solid waste transport laws, including solid waste containment regulations. *See e.g.,* 06-096 C.M.R. Ch. 411, 38 M.R.S. § 1304, and 29-A M.R.S. §§ 2351-2397. Failure to adhere to this policy will result in a warning to transporters and/or report to the MainDEP, MaineDOT, or other appropriate authority (depending on the scope and nature of the incident). The procedures to do so will be by phone or electronically, and be documented at the Facility. Multiple and/or intentional violations of transport laws may result in suspension or prohibition of a specific hauler.

This Preferred Truck Route Policy and corresponding Identified Haul Routes Plan will be provided to all contractors that transport solid waste to the Fiberight facility, and be available at the facility itself and provided to drivers. In addition, municipalities or other entities that send solid waste to the Fiberight facility will be provided with this Preferred Truck Route Policy and associated Identified Haul Routes Plan, with a written request to require all contractors hauling for such municipalities or entities to incorporate and follow this Preferred Truck Route Policy and Identified Haul Routes Plan (as part of any pre-qualification process and actual contracts with transporters). The purpose of this Policy is to a) ensure trucks comply with all applicable transport laws, including but not limited to MaineDEP and MaineDOT solid waste containment and transport laws and regulations; and b) travel on identified haul routes that avoid developed areas of the Town of Hampden.

FIBERIGHT COMPLAINT RESPONSE PROTOCOL

PURPOSE

The purpose of this Complaint Response Protocol is to establish a clear written process for Fiberight and MRC to receive, respond to, and address complaints regarding the Fiberight facility in the Town of Hampden, Maine, which will also include oversight by the Maine Department of Environmental Protection ("MDEP"). This complaint response protocol is in addition to monitoring protocols already required for the facility. The protocol is designed to ensure persons have a clear understanding of the following:

(1) How to submit a complaint and who to contact;
(2) How complaints are documented and processed;
(3) How complaints are investigated, including oversight by the MDEP and the opportunity for the Town of Hampden to participate;
(4) The time period in which complaints are processed, investigated, and addressed; and
(5) The process for corrective actions, if necessary.

COMMUNICATIONS AND INFORMATION PROVIDED TO THE TOWN OF HAMPDEN

Fiberight and MRC will separately designate a contact person (and alternative contacts) for the Town of Hampden to communicate with regarding the Fiberight facility. This contact information will be provided in writing prior to construction of the facility, and be periodically updated as necessary during construction and operations. Fiberight and MRC will also continuously update the Town of Hampden regarding the appropriate contact person(s) at MDEP that are responsible for oversight of the Fiberight facility.

As further detailed below, the Town of Hampden will promptly be notified of any complaints received by Fiberight, MRC, or the MDEP, and be continuously updated on the processing, investigation, and response to a complaint. The Town of Hampden will be provided with corresponding information (including log books, investigations, reports, etc.) on a periodic basis and whenever requested by the Town of Hampden (whether the request is to Fiberight or MRC).

A graphical flow chart of how complaints are received and processed is also provided (see flow chart below).

MDEP OVERSIGHT

MDEP will have regulatory oversight and authority regarding construction and operation of the Fiberight facility to enforce the State of Maine statutory and regulatory standards for solid waste processing facilities. As noted above, MRC and Fiberight will provide the Town with

the contact information of the appropriate contact person(s) at MDEP who are responsible for oversight of the Fiberight facility.

MRC OVERSIGHT (IN ADDITION TO MDEP)

In addition to the MDEP, MRC will have contractual oversight of the facility's operations as detailed in the Lease between MRC and Fiberight and included in the Town of Hampden application.

DESCRIPTION OF COMPLAINT RESPONSE PROTOCOL

1. MRC/Fiberight Representatives Specifically Designated to Receive and Process Complaints. Fiberight and MRC shall specifically designate and train representatives to receive and process complaints.

2. Manner of Receipt. Complaints may be received either electronically or via phone at the Fiberight facility using a 24/7 phone hotline. If a complaint is received by MRC, it shall be promptly forwarded to the Fiberight facility to the designated representative(s) trained to receive and process complaints. Fiberight and MRC shall also provide the Town of Hampden with contact information for individuals designated to receive complaints at Fiberight and MRC, as well as alternative contacts, in the event that the Town of Hampden receives a complaint so the Town may forward the complaint to these designated individuals for receipt and processing.

3. Initial Information Collected. Upon receipt of a complaint at the Fiberight facility, initial information shall be collected and documented in a complaint report (see below), including: The caller's name and address; date and time of the complaint; meteorological conditions, and whether the caller would like someone to visit them at the location of the complaint to verify the odor. The Town of Hampden will be notified of all complaints. The complaint is also documented in a log book that will be periodically provided to the Town of Hampden and upon request.

4. Commencement of Investigation. Fiberight staff shall relay the complaint information to the appropriately trained facility response staff for follow-up action. The Town of Hampden will be contacted and given a reasonable opportunity to participate in the odor complaint investigation and response. The methodology, personnel, professionals, and/or equipment utilized to investigate a complaint will be tailored to the type, scope, and nature of the complaint. The MDEP will have regulatory oversight of the complaint investigation techniques and Fiberight's response to a complaint, including any corrective actions taken.

5. Site Visit. If a visit is requested, the appropriate staff member should note the conditions observed during the visit. At a minimum, the following should be noted;

time since original complaint was received, wind direction, meteorological conditions, distance from the facility, and odor noted. (see complaint report below). The Town of Hampden will be contacted and given a reasonable opportunity to participate in the site visit.

6. Facility Inspection. In either case where a visit is requested or not requested, facility staff will perform an inspection of the facility to attempt to identify/locate potential sources of odor that may have generated the complaint. Upon completion of the inspection appropriate corrective measures will be taken as required. The Town of Hampden will be contacted and given a reasonable opportunity to participate in the inspection of the facility.

7. Notice of Site Visit/Inspection & Response. Following the site visit (if requested) the inspection and response, written notification will be submitted to the Town of Hampden, MRC, and MDEP detailing the source of the odor and the corrective actions taken to address the complaint.

8. MDEP Written Report. If MDEP determines that the facility created an off-site odor nuisance, Fiberight will submit a written report to the Department detailing the cause of the odor, follow-up actions taken, as well as plans for future treatment, minimization, and control of nuisance odors. This report will be submitted within 30 days.

9. Complainant Response. A copy of the written report and/or investigation documentation will be provided to the complainant upon completion of the investigation.

ODOR COMPLAINT REPORT

FIRST PAGE TO BE FILLED OUT AT THE TIME OF THE COMPLAINT

Date: _____ Time: _____

Name of caller:_____

Contact information for the caller:_____

Location of complaint: _____

MRC Notified? YES / NO

Date: _____ Time: _____

Town Of Hampden Notified? YES / NO

Date: _____ Time: _____

Hampden to attend investigation?

MDEP Notified? YES / NO

Date: _____ Time: _____

MDEP to investigate?

Does the caller wish to have the odor verified? YES / NO

Meteorological Conditions

Wind Direction? _____

Wind Speed? _____

Temperature? _____

Precipitation? _____

Cloud Cover (circle one)? Clear Sky / Partly Sunny / Broken Sky / Cloudy

****

TO BE FILLED OUT BY RESPONDER.

Was a visit to the caller requested?	YES / NO
Date and time of visit or N/A:	_____
Distance of the complaint from the facility:	_____
Was an odor noted?	YES / NO
Was the caller's location downwind of the facility?	YES / NO
Is there anything unusual happening at the facility?	YES / NO
Any unusually odorous waste loads delivered?	YES / NO
Was a follow-up inspection conducted at the facility?	YES / NO
Source of Odor Complaint Identified.?	YES / NO

If "YES" provide additional information:_____

_____

_____

_____

What steps were taken to correct identified odor source(s)?:_____

_____

_____

_____

_____

ODOR COMPLAINT

TOWN OF HAMPDEN

- COMPLAINT DIRECTED TO FIBERIGHT (ONLINE or REPORTING LINE)
  - FIBERIGHT INITIATES COMPLAINT RESPONSE PROTOCOL
- FIBERIGHT INITIATES COMPLAINT RESPONSE PROTOCOL
- NOTIFICATIONS
  - MUNICIPAL REVIEW COMMITTEE (LEASE HOLDER)
  - FIBERIGHT (FACILITY OPERATOR)
    - FIBERIGHT INITIATES COMPLAINT RESPONSE PROTOCOL

FIBERIGHT ONLINE COMPLAINT OR 24-HR HOTLINE

- FACILITY PERSONNEL IMMEDIATELY INVESTIGATES ODOR COMPLAINT (EITHER ON OR OFF SITE)
  - FIBERIGHT INITIATES COMPLAINT RESPONSE PROTOCOL
- IMMEDIATE ELECTRONIC OR VERBAL NOTIFICATIONS
  - MUNICIPAL REVIEW COMMITTEE (LEASE HOLDER)
  - MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
  - TOWN OF HAMPDEN

FACILITY PERSONNEL IMMEDIATELY ATTEMPT TO VERIFY ODOR COMPLAINT (EITHER ON OR OFF SITE)

- FACILITY PERSONNEL TAKE IMMEDIATE INVESTIGATION AND APPROPRIATE RESPONSE ACTIONS, HAMPDEN IS NOTIFIED
- FIBERIGHT SUBMITS WRITTEN REPORT TO MRC, MDEP AND HAMPDEN AS SOON AS POSSIBLE FOLLOWING INVESTIGATION OF THE ODOR COMPLAINT.
- SUBMIT ODOR COMPLAINT REPORT TO TOWN OF HAMPDEN, MRC AND MDEP

SENSIBLE SOLUTIONS

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465 South Main Street
PO Box 639
Brewer, Maine 04412
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CES INC

BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

SOLID WASTE PROCESSING AND RECYCLING FACILITY
HAMPDEN, MAINE

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JN: 11293.001

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SECTION 1.0 | INTRODUCTION

Chapter 115 of the Maine Department of Environmental Protection (MDEP) regulations requires a new or modified facility to include, with the Air Emission License Application, a demonstration that the emission source in question will receive Best Available Control Technology (BACT) to control emissions from applicable sources. BACT is defined by MDEP as a process where an emission limitation based on the maximum degree of reduction for each pollutant emitted from or which results from, the new or modified emissions unit which MDEP reviews on a case by case basis taking into account energy, environmental and economic impacts, and other costs, determines if achievable for such emissions unit through application of production processes or available methods, systems, and techniques including fuel cleaning or treatment or innovative fuel combination techniques for control of each pollutant. In no event shall application of BACT result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Part 60 and 61 or any applicable emission standard established by MDEP. If MDEP determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard, or combination thereof may be prescribed instead to satisfy the requirement for the application of BACT. Such a standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

The Criteria Pollutants that will be emitted from the boilers and control devices at the proposed facility are particulate matter (PM_{total} /PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), volatile organic compounds (VOCs), and hazardous air pollutants (HAPs) including metals. These pollutants have been evaluated in this analysis.

SECTION 2.0 | PURPOSE

The purpose of this document is to provide an analysis of control technologies by using a “top-down” approach to identify the best technology solution, allowing for environmental, energy, and economic considerations. This analysis has been performed for the two boilers associated with the facility’s municipal solid waste processing operations anticipated to run approximately 7,920 hours per year.

Fiberight, LLC (Fiberight) and the Municipal Review Committee (MRC) have followed the “top-down” methodology for determining BACT for the operation of the close-coupled gasifier boilers. As described in EPA’s draft New Source Review Workshop Manual (October 1990), the five steps of a top-down BACT analysis are:

1. Identify all available control technologies applicable to the proposed source.
2. Eliminate technically infeasible options.
3. Rank remaining control technologies by control effectiveness.
4. Evaluate the most effective controls and document results, including a case-by-case consideration of energy, environmental, and economic impacts.

5. Select BACT.

Steps 1 through 5 have been completed for PM, VOCs, SO_2, CO, NO_X, HAPs, and heavy metals emissions associated with the boiler operations at the Facility.

SECTION 3.0 | APPLICABILITY

Chapter 115 of MDEP regulations requires a new or modified facility to include with the Air Emission License Application, a demonstration that the emission source in question will receive BACT to control emissions. Officials at MDEP's Bureau of Air Quality have been consulted regarding this project and have indicated that a BACT analysis is required.

SECTION 4.0 | FACILITY DESCRIPTION

The proposed Fiberight facility will consist of a 144,000 square foot building constructed on a 90+/- acre undeveloped parcel located on the east side of Coldbrook Road in Hampden, Maine (see Site Location Map attached to the Application). Proposed operations for the facility will include receipt and processing of municipal solid waste (MSW). Received MSW will initially be sorted to remove oversized items (i.e., masonry, furniture, domestic appliances, carpets, etc.) that have little to no recycling value and would occupy volume further along the process. MSW will then be conveyed to the Primary Sort Trommel where the oversized material is separated from MSW which will be screened and processed. The portion of the MSW not screened out by the Primary Sort Trommel will continue forward to Secondary Screening where the "fines" (food waste, glass, some paper, and plastic) will be separated from the "overs" (plastic containers, cardboard, and larger papers). The overs will be fed forward to the pulper feed tipping floor, while the unders are conveyed to the Fines Processing System. From that stage forward, the various portions of the waste stream will be sorted for recyclables including: aluminum, ferrous and other metals, plastic containers, film plastics, and glass and processed to create bio-methane and biomass fuel. Sugars may be used for conversion into biofuels or for production of bio-methane. Bio-methane will be piped into the Bangor Gas natural gas pipeline located adjacent and to the east of the facility. Sugars or some portion thereof, may be sold in the future as feedstock for manufacturing process facilities. The solids remaining following the hydrolysis process are transferred to the boilers for fuel. Fiberight anticipates approximately 80 percent of all incoming waste to the facility will be converted into renewable fuels and recyclables which will be sold on the commodities market and the remaining 20 percent will be oversize items, process residues, glass, and grit to be disposed off-site at a secure landfill. The general site and process configuration is presented in **Attachment A** of the license application.

Fiberight has submitted a Non-waste Determination Application for Non-Hazardous Secondary Material (NHSM) to the United States Environmental Protection Agency (EPA) in reference to the Post-Hydrolysis Solids (PHS) fuel. The application was submitted in accordance with 40 CFR Section 241.3(c) to demonstrate the PHS fuel meets the legitimacy criteria and is not a solid waste. Based on the self-determination that the fuel is a non-waste NHSM, Fiberight does not anticipate operating under the CISWI regulations.

Two close-coupled gasifier/boilers and turbines will be used to meet the heat and power needs of the facility. The boilers will be used to produce steam for process and building heat and for power generation by steam turbines. The boilers will be supplied by Hurst Boilers, Inc. The boiler fuel will consist of primarily PHS generated during processing of the MSW. Each boiler is rated for a heat input of approximately 48 MMBtu/hr. Each boiler will fire approximately 5.62 tons per hour (tph) PHS at 41% moisture. The boiler system is equipped with an integral gasifier. The system is equipped with a fuel feed that introduces the fuel to the gasifier and is exposed to heated under-fire air. The gas containing the combustible organics is generated in an oxygen deficient environment that allows combustible organics to be released from the fuel without combustion occurring. The released gases are conveyed to the combustion area of the unit which is in close proximity to the boiler tubes. Over fire air is introduced to the gases with sufficient oxygen to cause combustion to occur. The combustion releases heat that is transferred to the boiler tubes. This system is different from a typical gasification unit as the released combustible gases remain in a closed system rather than being transferred to a separate boiler unit for combustion. Natural gas or bio-methane will be used at startup of the units. A schematic of the close-coupled gasifier boiler is attached as **Figure 2**. A summary of expected emissions is included in **Attachment B** of the license application.

The receiving, pulping, and materials recovery facility (MRF) portion will be maintained under negative pressure by two fans rated at approximately 50,000 ACFM. The fans will draw ambient air from the processing area where the exhaust from each fan will be treated by one of two VOC/odor scrubber trains. The scrubber train will consist of one Duall Model F105-202s Cross Flow scrubber which will precede a Duall Model PT510-132 Packed Tower Scrubber. The scrubber's primary purpose will be to treat the fan exhaust and prevent odor from entering the atmosphere, but will also collect nuisance dust in the ambient air stream. The scrubbers are the odor and VOC emission control for the receiving area and the processing area prior to the wash stage. A schematic of the scrubbers system is attached as **Figure 3**. A summary of expected emissions is included in **Attachment B** of the license application.

Tail gas generated during the generation and treatment of biogas for sales and distribution will be thermally treated. The anaerobic digestion plant will generate approximately 1,200 standard cubic feet per minute (scfm) of bio-gas. This feed gas will be approximately 70% methane (CH_4) and contain 500 ppm hydrogen sulfide (H_2S). The feed gas is piped to the Pressure Swing Absorption (PSA) that is used to condition the bio–methane to Bangor Gas' specifications prior to introduction into the pipeline. During normal operations, the tail gas generated during gas clean-up will be piped to a John Zink ZBRID system for Low Btu Gases. Fiberight anticipates a maximum of 386 scfm of tail gas will be generated from feed gas treatment. The tail gases will consist of approximately 11% CH_4 and contain 1,000 ppm H_2S. In order to maintain combustion of the tail gas, additional Btu's will be added by introducing feed gas as supplemental fuel in the ZBRID unit.

During process upset conditions, feed gas will be thermally oxidized in an enclosed flare. Process upsets may include inadequate gas quality or downtime of the PSA. The facility's proposed flare is expected to operate less than 36 days per year.

The enclosed flare and ZBRID will emit CO, NOx, SO_2, PM, VOCs, and HAPs.

The flare/ZBRID system is the emission control device for the PSA gas clean-up and during biogas generation process upset conditions. The flare is designed with sufficient capacity to combust 100% of the potential maximum biogas generation of 72,000 standard cubic feet per hour (SCFH). A summary of expected emissions is included in **Attachment B** of the license application.

SECTION 5.0 | ANNUAL EMISSION ESTIMATES

Emissions from the Fiberight processing facility are primarily the result of the two boilers. The boilers generate CO, NO_X, SO_2, PM, VOCs, and HAPs. The Maximum Potential to Emit (PTE) estimates have been calculated using information provided by Fiberight, assuming the facility will be actively processing waste approximately 8,322 hours per year (95% of the available annual hours). The PTE calculations and the boiler operational parameters spec sheet are attached in **Appendix B** of the license application.

TABLE 5-1
FIBERIGHT, LLC
MAXIMUM POTENTIAL TO EMIT

Criteria Pollutants (Ton/Year)							
	Flare	Thermal Oxidizer Hybrid	Boiler #1	Boiler #2	Scrubber #1	Scrubber #2	Total
Carbon Monoxide (CO)	6.91	2.90	43.59	24.90			**78.3**
Oxides of Nitrogen (NOx)	1.52	1.45	19.82	11.32			**34.1**
Sulfur Dioxide (SO2)	2.67	25.21	13.88	7.92			**49.7**
Particulate Matter (PM)	0.54	1.55	5.94	3.39			**11.4**
Particulate Matter < 10 µm (PM 10)	0.54	1.55	4.36	2.49			**8.9**
Particulate Matter < 2.5 µm (PM 2.5)	0.54	1.55	3.96	2.26			**8.3**
Volatile Organic Compounds	0.17	0.50	2.58	1.47	2.89	2.89	**10.5**
Ammonia	0.10	0.29	0.00	0.00	0	0	**0.4**
Lead	0	0	0.85	0.85	0.00	0.00	**1.71**
hydrochloric acid	0	0	1.16	1.16	0.02	0.02	**2.36**
Mercury* (lb/yr)	0	0	0.82	0.82	0.00	0.00	**1.64**
Total HAPS	0.06	0.18	5.56	3.18	0.15	0.15	**9.3**

As has been previously discussed with the MDEP Air Bureau, the PHS as a fuel source is unique and no emission factors currently exist. The boiler manufacturer (Hurst) was able to guarantee emissions factors for criteria pollutants based on the ultimate fuel analysis but not for HAPS. In order to generate the PTE calculations for HAPs emissions, appropriate emission factors needed to be selected. Fiberight compared the PHS to traditional fuels in order to determine which was most similar. The preliminary evaluation determined that biomass

emission factors (AP-42 Section 1.6) were the most representative emission factors to use for calculation of HAPS emissions. The following discussion summarizes the justification for the use of biomass emission and where applicable, the use of fuel specific emission factors.

PTE calculations for organic HAPs were based on AP-42 emission factors. Volatile HAPs were calculated based on AP-42 Section 1.6. Laboratory data is not available for these components and volatile HAPs would be expected to be destroyed during combustion in the boilers.

Table 5-2 presents the results of the PHS sampling and analysis. The average value of the dataset for each analyte was compared to the upper limit of the published EPA data. The two referenced EPA databases, both compiled by EPA's Office of Air Quality Planning and Standards (OAQPS), include approximately 12,000 contaminant analyses performed on wood/biomass samples prior to combustion. The results of the comparison demonstrate that the PHS is generally within the upper limits of the published wood/biomass contaminant levels. The PHS data set consists of multiple sets of analysis that were conducted on limited production runs of PHS from the Lawrenceville Facility. The analysis was performed on "loose" PHS and on PHS that was shipped to an outside third party to be briquetted. In some instances, the results of testing were not consistent with biomass constituents.

While the PHS is generally consistent with the ranges of contaminants in wood/biomass published by the EPA, the heavy metal contaminant concentrations in the PHS varied sufficiently from biomass to warrant using contaminant concentrations from laboratory data rather than the AP-42 emission factors. The results of metals (including mercury), chloride (precursor to hydrogen chloride), and potential SO_2 were calculated from PHS fuel analysis results. The average of the contaminant concentration values from each dataset was used to calculate the annual PTE for each constituent. The use of average actual contaminant concentration and 100% emission rate from the combustion chamber of the boiler results in PTE calculations that are conservatively high and protective of human health and the environment.

The sulfur concentrations exhibited one outlier which was significantly larger than the remainder of the test results. The tests conducted for the presence of sulfur ranged from 700 ppm to 7,200 ppm. The test yielding 7,200 ppm was considered an outlier and was not included in the dataset.

TABLE 5-2
FIBERIGHT, LLC
PHS ANALYSIS SUMMARY

	PHS[1]		EPA Sources[2]	
			Literature Sources	OAQPS Databases Data for Wood and Biomass
	Upper limit (PPM)	Average (PPM)	Upper Limit (PPM)	Upper Limit (PPM)
Antimony	43.6	11.3	26	6
Arsenic	3.3	1.31	6.8	298
Beryllium	2	0.53	n/a	10
Cadmium	5.18	2.04	3	17
Chlorine	1,380	968	2600	5400
Chromium	94.7	38.7	130	340
Cobalt	13	3.61	24	213
Lead	1,040	365	340	229
Manganese	205	94.4	840	15800
Mercury	0.767	0.351	0.2	1.1
Nickel	70.9	31.0	540	175
Selenium	3.95	1.38	2	9
Sulfur (dry basis)	2,870	1,980	8700	6100
BTU/lb (dry)	8923	8100	8000[3]	

[1] Results of five PHS sampling events.
[2] Upper limit for Wood & Biomass Materials from a combination of EPA data and literature sources, as presented in the EPA document *Contaminant Concentrations in Traditional Fuels: Tables for Comparison, November 29.2011*, available at http://www.epa.gov/rcra/contaminant-concentrations-traditional-fuels-tables-comparison.
[3] AP-42 Section 1.6.1 btu/pound for dry wood

Metals: The metals testing results were shown to be in a wide range, and it is suspected that the main reason was for this is that the material sampled was limited and depending on the actual small fraction of the sample testing, as well as the volatility of the material, yielded varied results. It is anticipated that in a full scale production facility such as in Hampden, Maine, the results will on average be consistently lower.

SECTION 6.0 | IDENTIFICATION OF CONTROL ALTERNATIVES

Proposed control measures are primarily directed at limiting NOx, VOC, and PM emissions as these constituents are the pollutants of concern associated with these types of operational units.

6.1 Nitrogen Oxides (NOx)

The production of NOx in a combustion system is primarily the result of nitrogen present in the fuel or it is generated due to high operation temperature (thermal NOx) during combustion. The manufacturer of the drying system assumed nitrogen content of 0.45% in the fuel for their emissions estimates. Thermal NOx is typically formed at a temperatures greater than 2,370ºF and is not expected to be a significant contributor to the overall NOx emissions from this project.

The following are available NOx control mechanisms:

Combustion Controls: It may be possible to set operational parameters (excess air, recycled air, burner inlet temp, etc.) to minimize NOx emissions from the unit. In addition, PHS is low in bound nitrogen. There is little to no financial impact from using combustion controls and no additional environmental impacts. This is a technically feasible method for reduction of NOx.

Selective Catalytic Reduction (SCR): SCR is an add-on NOx control device placed in the exhaust stream following the boiler and involves injecting ammonia (NH_3) or urea into the flue gas in the presence of a catalyst. The NH_3/urea reacts with NOx in the presence of a catalyst to form water and nitrogen. The presence of condensable organics and/or high concentrations of particulates may have a masking effect on the catalyst surface causing a reduction or cessation of catalyst activity. The SCR also functions better on systems with steady operational loads. Load fluctuations can cause variations in exhaust temperature and NOx concentration which can create problems with the effectiveness of the SCR system. SCR systems will also require reheating of the exhaust stream. The gas exiting the boiler system is anticipated to be approximately 275ºF. The gas will need to be reheated to between 400ºF and 800ºF to effectively control NO_x by SCR. This will require additional combustion which will increase both operational cost and emissions. A typical SCR system will provide control between 70% and 90%. SCR systems are typically found in boilers exceeding 100 MMBtu/hr heat input. Due to lack of space for placement of a catalyst and insufficient boiler size to effectively operate SCR, this option is technically infeasible.

Selective Non-Catalytic Reduction (SNCR): SNCR relies on the injection of ammonia or urea into the flue gas but unlike SCR, does not use a catalyst. The injection site and temperature affect the control efficiency of this system. The reagent must be injected at a point in the system that operates at an optimum temperature between 1600°F and 2100°F, and provides sufficient residence time for the injected ammonia to react with the NO_x. The Hurst Boiler system is designed with an injection point following the afterburner in order to allow for SNCR. SNCR application has proven effective in NO_X reduction in biomass boilers of similar size. Cost of the SNCR is an operating expense that will be driven by the variation of NO_X reduction requirements and reagent use. Through operational controls, the system can be optimized to reduce operation cost associated with an SNCR. Hurst provided a controlled emission rate estimate of 0.10 MMBtu/hr. This system is technically feasible.

Proposed NOx BACT

Fiberight is proposing to utilize SNCR for both boilers and will represent BACT for NO_X emissions. Use of this control system will allow the facility to attain emission levels below the Minor Source Threshold of 100 tons per year.

6.2 Particulate Matter (PM):

Particulate Emissions will be generated by the boilers from combustion of post hydrolysis solids (PHS). The raw material feed rate and combustion of residues will be the primary contributor to PM emissions from the facility. The following is a discussion of the available PM control devices:

Cyclone/Multiclone: A cyclone or multiclone is a dry mechanical collector utilizing centrifugal and inertial forces for particulate/dust collection. Cyclones use the velocity differential across the cyclone to separate particles of various sizes. A multiclone uses several smaller diameter cyclones to improve collection efficiency for smaller particles. Cyclone collectors may be used in series with each other, as a pre-filtration system in front of higher efficiency systems, or for product separation and reclamation.

Cyclones are simple and inexpensive to operate and dependent on design criteria, can provide control efficiencies adequate to meet certain emission goals. Typically, cyclones provide a reduced efficiency as particulate size decreases. Correctly designed cyclones can potentially provide control efficiency up to 95% on PM <10µm but efficiency reduces for particles below PM10.

Fabric Filters/Baghouses: Fabric filters in various configurations are capable of control efficiencies exceeding 99% for particulate matter varying in aerodynamic diameter. In the application of the boilers proposed for the Fiberight facility, the relatively low moisture content of the emissions (approximately 13%) would not be expected to result in condensable particulates and subsequent overloading of associated fabric filters. Operation of these units, when compared to other controls, is relatively simple and offers a large number of fabrics and configurations that can be customized to better suit the specific process. The use of a baghouse also allows the collected material to be easily removed from the hopper for disposal.

Electric Static Precipitator (ESP): ESPs are widely used for the control of particulates from a variety of combustion sources including wood combustion. An ESP is a particle control device that employs electric fields to charge the particulates and remove them from the gas stream onto oppositely charged collector plates. There are a number of different designs that achieve very high overall control efficiencies. Control efficiencies typically average over 98% with control efficiencies almost as high for particle sizes of one micrometer or less. ESPs are available as a dry electrostatic precipitator or a wet electrostatic precipitator (WESP). The method of collection is the same in both systems with the primary difference being the use of water to remove the PM from the collection media in the WESP system. The advantage of dry systems is that they may have a lower capital cost and reduced waste disposal problems. Wet systems may be less expensive to operate and are slightly more efficient at capturing very small particles but would add an additional wet waste stream.

As discussed in EPA's *Wet Electro Static Precipitator* and *Dry Electro Static Precipitator* fact sheets, ESPs are physically large units which will not provide the control over large

particle size distribution variations. The units require a large volume of flue gas to achieve the residency time required to reach the unit's maximum efficiency. ESPs function optimally in steady state conditions. The proposed boiler units will be prone to load and flow fluctuations and wide variation in particulate size. These fluctuations would affect the efficiency of either a dry or wet ESP. This control device is technically feasible for the proposed facility but has been removed from consideration of BACT as it is not anticipated to achieve higher control efficiencies than the controls previously discussed. ESPs typically have higher capital and operating costs than baghouses but do not provide significantly improved particulate controls on smaller systems.

Exhaust Gas Recycle: Exhaust Gas Recycling (EGR) is a potential pollutant control mechanism for biomass combustion units. EGR is typically used to recover heat and reduce the emission from the final exhaust point of the system. The recycling of gas will bring the pollutants present in the exhaust gas back into contact with the heat source (flame) resulting in the destruction of some of the condensables, VOCs, and particulates. Gas recycling is limited by the ability to provide make-up air and necessary gas condition for drying. EGR is technically feasible but will not provide sufficient control to be considered BACT without add-on control devices.

Proposed Particulate Matter BACT

Based on the varying size of anticipated particulate matter, Fiberight is proposing to operate a multiclone system in conjunction with a filter fabric/baghouse control system. The multiclone will serve to collect the larger particulates exiting the boiler. This will allow the baghouse filters to be designed to control smaller particulates. The proposed baghouse system will consist of a BETH USA BETHPULS bag filter single-line baghouse. Each boiler will exhaust to an individual baghouse for control of PM. Fiberight will use good housekeeping practices and manufacturer's guidance for maintenance intervals and fabric filters replacement. Collected materials from the hopper will be conveyed to a roll-off container within the processing building. The proposed baghouse configuration will have a PM emission rate of approximately 1.43 lbs/hr for each boiler.

6.3 Volatile Organic Compounds (VOC)

VOC generation in regards to industrial boilers typically results from vaporization of fuels or leaks in oil or gas piping. In the case of a biomass fired boiler, VOCs would primarily occur during combustion while operating in process upset conditions or failing to maintain the equipment.

Good Combustion Practices: Good combustion practices include operating the system based on the design and recommendation provided by the manufacturer and by maintaining proper air-to-fuel ratios with periodic maintenance checks. A well operated system utilizing good combustion practices is the most prevalent and cost effective measure for reducing VOC emissions from the proposed boilers.

Proposed VOC BACT

Proposed good combustion practices to be implemented by Fiberight will maintain VOC emissions below the threshold for a minor source. Good combustion practices will be considered BACT for this project.

6.4 Carbon Monoxide (CO)

CO emissions are generally a product of incomplete combustion. The most effective methods for reduction of CO emissions are designed to complete the combustion process. Control devices can include add-on controls and good combustion practices.

Good Combustion Practices: Good combustion practices include operating the system based on the design and recommendation provided by the manufacturer. A well operated combustion system will be balanced to limit both CO and NOx. A system that maximizes the combustion of the fuel will emit the least amount of CO possible. Combustion parameters may include temperature, excess air, fuel feed rate, and gas recirculation. Good combustion practices are the most prevalent and cost effective measure for reduction of CO emissions.

Proposed CO BACT

Fiberight is proposing to use good combustion practices for control of CO emissions.

6.5 Sulfur Dioxide (SO_2)

The PHS fuel contained sulfur in concentrations exceeding typical biomass sulfur content. The potential emissions of SO_2 resulting from the combustion of PHS warranted the installation of additional control devices to maintain emissions below the Minor Source threshold. Based on current fuel analysis data, anticipated average sulfur content of the fuel is expected to be approximately 0.2%. As there are limited acid gas controls available, Fiberight evaluated the feasibility of installation of a dry lime injection system. The boiler configuration allows for injection of hydrated lime (sorbent alkaline agent) directly into the flue following the cyclone and prior to the baghouse. Sorbent injection is technically feasible.

Proposed SO_2 BACT

Fiberight is proposing the installation of hydrated lime and fuel limitations as BACT for SO_2. According to the equipment vendor, Fiberight can expect a SO_2 reduction of approximately 85%. This reduction is sufficient to maintain SO_2 emissions less than the Major Source threshold. In order to further reduce SO_2 emissions, Fiberight is proposing a maximum PHS combustion of 73,483 tons/year. The combination of these two measures will limit SO_2 emissions to less than 50 ton/year.

The sorbent injection system has the additional benefit of simultaneously providing a reduction in the potential hydrogen chloride emissions.

6.6 Hazardous Air Pollutants (HAPs)/Heavy Metals

Fiberight has submitted a Self-Determination to the EPA stating that PHS is a NHSM and not a waste. As part of this determination, Fiberight submitted analytical data to the EPA summarizing the contaminants present in the fuel. Subsequent to the original application submittal, additional PHS data has been collected. The heating value and concentrations of metals are presented in Table 5-2.

The PHS fuel and boiler system differs from the sources that typically install controls for metals and other HAPs. The typical add-on control for mercury is carbon injection and is usually found on large coal-burning power generation facilities and waste to energy facilities that burn MSW or waste derived fuels. The Fiberight processing and enzymatic hydrolysis process contains separation, washing, and processing steps designed to limit the inorganic contaminants in the pulp that enters the hydrolysis reactors. These steps are expected to reduce the concentrations of HAPS/Metals present in the PHS to levels similar to those found in biomass. The current data demonstrates variations in heavy metals, chlorine, and mercury concentrations that if left uncontrolled could potentially cause the facility to emit HAPS at rates that may exceed the 10 ton/yr single HAP or 25 ton/year total HAPS emission threshold.

Mercury

Activated Carbon Injection: Activated carbon injection (ACI) is typically installed on larger boiler systems that combust MSW, waste derived fuels, or coal. Smaller boiler systems generally do not have the size or suitable locations for carbon injection in order to provide the necessary residence time for ACI to have effective mixing of the carbon and flue gas. However, the Fiberight boiler system has been designed with the ability to provide suitable locations for injection of ACI into the flue gas. The currently proposed baghouse has adequate capacity to handle the PM increase without a corresponding increase in PM emissions. The vendor supplied mercury control efficiency is approximately 95%. This control efficiency is sufficient to meet the Mercury emission rate of 25 pounds per year (ppy) as stated in 38 MRSA § 585-B. This control technology is technically feasible.

The carbon will be injected in the duct upstream of the baghouse approximately 10 feet from the lime injection point. The exact location of the injection point will provide for the appropriate retention time to achieve the design removal rates. There will be one bulk carbon storage silo used for both boilers.

Proposed Mercury BACT

Fiberight is proposing to install an activated carbon injection system as BACT for control of mercury emissions from the combustion of PHS in the proposed boilers. The installation of carbon injection is anticipated to limit total mercury emissions to approximately 3.6 lb/year.

Heavy Metals

As discussed above, HAP metals were calculated based on the quantity of individual metals in the fuel source. With the exception of antimony, all metals were within the range of contaminant concentrations provided by the EPA. However, enough variation was present within the samples to warrant calculating the PTE of each HAP based on actual concentrations. These results are presented in the PTE calculations. PTE calculation used the average observed concentration of each component and assumed 100% of the pollutant was exhausted from the combustion chamber.

Cyclone/Baghouse: In addition to controlling PM, the multiclone/baghouse combination will collect metals that are bound to particulates which will reduce the amount of metals emitted to the atmosphere. PTE was calculated using a control efficiency of 90%. A baghouse has been previously determined to be technically feasible a part of the PM BACT analysis.

Proposed Metals BACT

Fiberight is proposing to utilize the PM collection system of cyclone/baghouse combination as BACT for metals. This will limit total metal emissions to approximately 6.92 ton/year, excluding mercury.

Hydrogen Chloride

As discussed above, hydrogen chloride (HCl) emissions were calculated based on the quantity of chloride present in the fuel source. The results of fuel analysis put Cl^- concentrations within the range of contaminant concentration provided by the EPA. However, enough variation was present within the samples to warrant calculating the PTE of HCl based on concentrations of Cl^-. These results are presented in the potential to emit calculations. PTE calculations used the highest observed concentration of Cl^- and assumed 100% conversion of Cl^- to HCl.

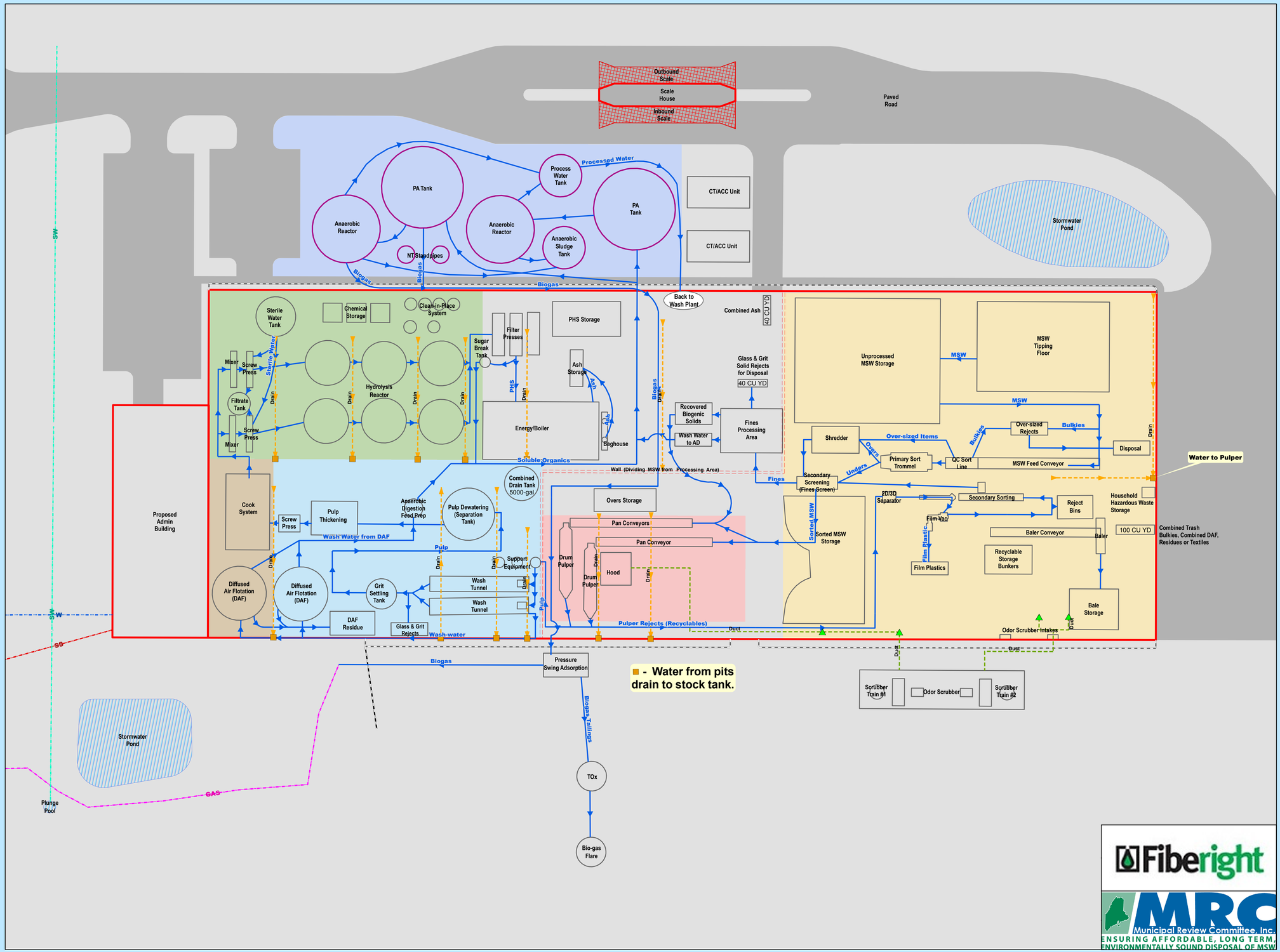
Proposed HCl BACT

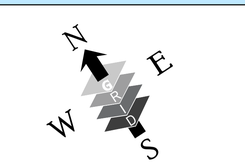
Fiberight is proposing the installation of hydrated lime as BACT for HCl. According to the equipment vendor, Fiberight can expect an HCl reduction of approximately 95%. This reduction is sufficient to maintain HCl emissions less than the Major Source threshold. The sorbent injection system has the additional benefit of simultaneously providing a reduction in the potential SO^2 emissions.

FIGURE 1

GENERAL ARRANGEMENT PROCESS DIAGRAM

General Arrangement Process Diagram





Legend

- Pit
- Scrubber Intake
- MSW Processing Flow
- Drain
- Duct
- Wall (MSW/Processing Area)
- Stormwater Line
- Sewer Line
- Gas Line
- Water Line
- Drip Edge Outlet
- Drip Strip
- Operational Features
- Building
- Pond
- Scales
- Tank
- Road
- Anaerobic Digestion Area
- Hydrolysis Area
- Materials Recovery Facility Area
- Pulp Area
- Wash Area
- Waste Water Treatment Area

MAP NOTES:

1: SITE DATA DEVELOPED BY CES, INC., DECEMBER, 2015.

2: OPERATIONAL FEATURES AND INFRASTRUCTURE PROVIDED BY FIBERIGHT, 2015. LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO CHANGES.

3: MAP IS PROJECTED USING STATE PLANE COORDINATES, US SURVEY FEET, EAST ZONE AND AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

4: NORTH ARROW IS REFERENCED TO GRID NORTH.

5: INTENDED FOR REFERENCE PURPOSES ONLY. THE MRC & CES, INC. AND THEIR AFFILIATES ARE NOT RESPONSIBLE FOR THE MISUSE OF THIS MAP OR DATA DEPICTED HEREIN.

Fiberight, LLC. & Municipal Review Committee
Project No.: 11293.001
Updated: 3/30/2016 [lladd]

CES INC
Engineers • Environmental Scientists • Surveyors

Fiberight

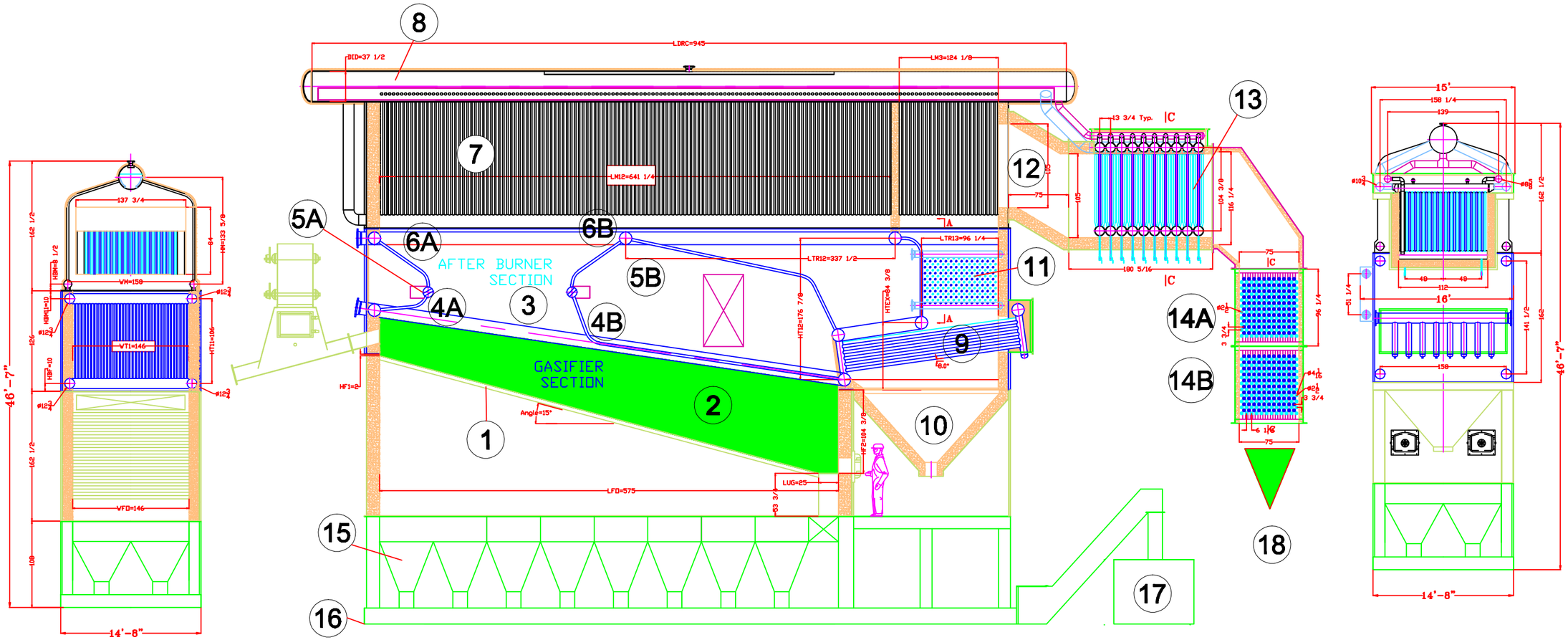
MRC Municipal Review Committee, Inc.
ENSURING AFFORDABLE, LONG TERM, ENVIRONMENTALLY SOUND DISPOSAL OF MSW

MXD: P:\11293-Fiberight\001-Solid Waste Facility-DSP\07-GIS Data\MXD\General Arrangement Process Diagram 2016.mxd

FIGURE 2

BOILER CONFIGURATION

CLOSE–COUPLED GASIFIER



Close Coupled Gasifier Drawing Key

1		Reciprocating Grate	10		U-Hopper
2		Gasifier Section	11		Super Heater Section (Turbine Re-heater)
3		After Burner Section	12		Transition
4	AB	Refractory Arch	13	AB	Convective Section (Cassette Style)
5	AB	Overfire Air	14		2-Stage Economizer (2nd Stage for DA)
6	AB	Water Walls	15		Siffting Hoppers
7		Membrane Wall Section	16		Wet Ash Conveyor
8		Main Stream Drum	17		Ash Bin
9		Screener Tube Bank (Cooler)	18		Flue Gas to Emissions Control

HURST BOILER & WELDING CO., INC.
COOLIDGE, GEORGIA 31738
PH: 229-346-3545 FAX. 229-346-3874

3500 CLOSE COUPLE GASIFIER
RECIPROCATING GRATE STOKER

for: GLOBAL ENERGY

SCALE:	DRAWN BY:	DATE:	CHECKED BY:	DRAWING NUMBER:	R
	VK	10/01/2014	VK	003	1

FIGURE 3

SCRUBBER CONFIGURATION AND SPECIFICATIONS

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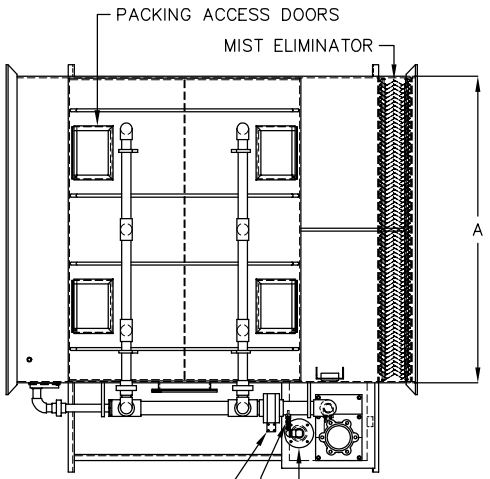
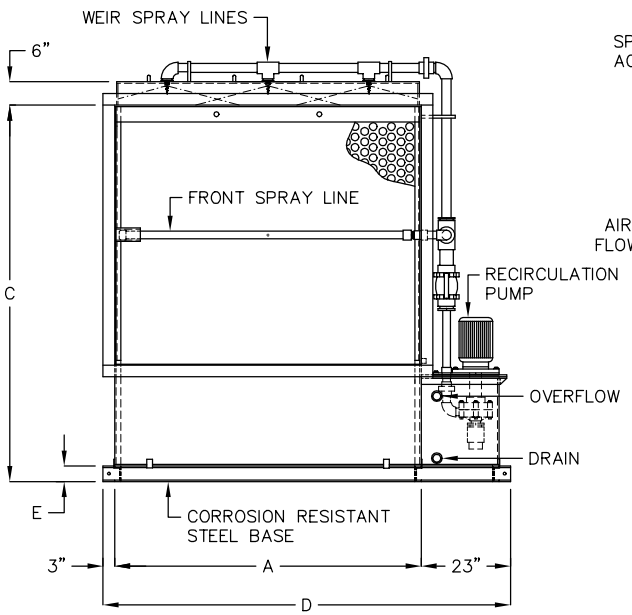
NOTES:

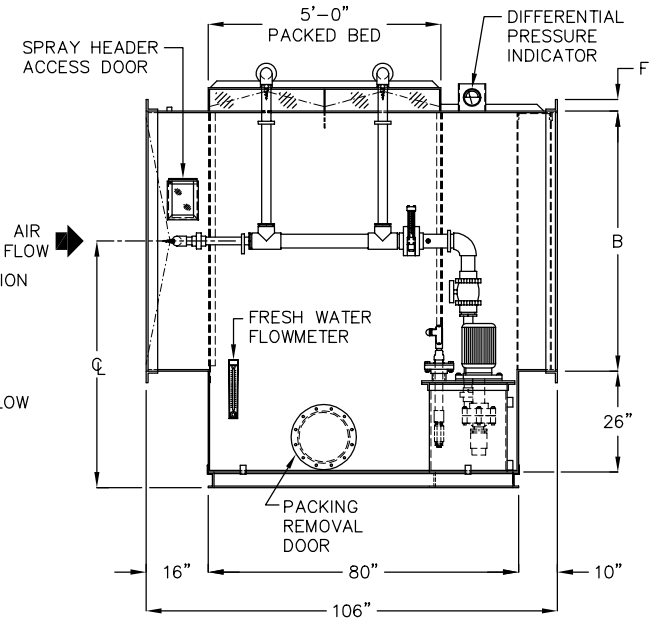
1. DIMENSIONS IN INCHES, WEIGHTS IN POUNDS.
2. DIMENSIONS ARE APPROXIMATE ONLY, DO NOT USE FOR FABRICATION.
3. STANDARD MATERIALS ARE PVC, CPVC, PP, & PVC/FRP.
4. MAXIMUM PRESSURE DROP ACROSS THE SCRUBBER AT DESIGN CONDITIONS IS 2 1/2" W.C.



PLAN VIEW



LEFT ELEVATION



FRONT ELEVATION

MODEL NUMBER	MAX. CFM	A	B	C	D	E	F	℄	DRY WEIGHT	PUMP QTY. AND H.P.
F105-18S	500	18	10	39	44	3	2	34	784	(1) 2 HP
F105-22S	1,000	22	14	43	48	3	2	36	942	(1) 2 HP
F105-28S	2,000	28	20	49	54	3	2	39	1,094	(1) 2 HP
F105-32S	2,700	32	24	53	58	3	2	41	1,148	(1) 2 HP
F105-37S	3,700	37	29	58	63	3	2	43½	1,237	(1) 2 HP
F105-41S	4,700	41	33	62	67	3	2	45½	1,398	(1) 2 HP
F105-45S	6,000	45	37	66	71	3	2	47½	1,491	(1) 5 HP
F105-52S	8,000	52	44	73	78	3	2	51	1,654	(1) 5 HP
F105-58S	10,000	58	49	78	84	3	3	53½	1,849	(1) 5 HP
F105-64S	12,000	64	54	83	90	3	3	56	1,997	(1) 5 HP
F105-69S	14,000	69	59	88	95	3	3	58½	2,437	(1) 5 HP
F105-74S	16,000	74	64	93	100	3	3	61	2,468	(1) 5 HP
F105-79S	18,000	79	67	97	105	4	3	63½	2,561	(1) 7½ HP
F105-84S	21,000	84	71	101	110	4	3	65½	2,746	(1) 7½ HP
F105-90S	23,000	90	73	103	116	4	3	66½	2,990	(1) 7½ HP
F105-96S	25,000	96	73	103	122	4	3	66½	3,173	(1) 7½ HP
F105-104S	27,000	104	73	103	130	4	3	66½	3,524	(1) 7½ HP
F105-112S	30,000	112	73	103	138	4	3	66½	3,918	(1) 7½ HP
F105-123S	32,500	123	73	103	149	4	3	66½	4,081	(1) 7½ HP
F105-135S	35,000	135	73	103	161	4	3	66½	4,473	(1) 7½ HP
F105-157S	40,000	157	73	103	183	4	3	66½	5,137	(2) 7½ HP
F105-179S	45,000	179	73	103	205	4	3	66½	5,635	(2) 7½ HP
F105-202S	52,000	202	73	103	228	4	3	66½	6,233	(2) 7½ HP
F105-224S	57,000	224	73	103	250	4	3	66½	6,794	(2) 7½ HP
F105-247S	63,000	247	73	103	273	4	3	66½	7,329	(2) 7½ HP

MODEL F105 SCRUBBER
(SELF CONTAINED RECIRCULATION)

MET PRO CORPORATION

DUALL DIVISION
1550 INDUSTRIAL DRIVE
OWOSSO, MI 48867

DATE	DUALL JOB NO.
AIR FLOW RATE	C.F.M.
PRESSURE DROP	W.C.
RECYCLE RATE	G.P.M.
MAKE-UP RATE	G.P.H.

NOTE: THIS PRINT IS THE PROPERTY OF MET-PRO CORPORATION. IT MUST NOT BE REPRODUCED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT SHALL BE USED ONLY AS A MEANS OF REFERENCE TO WORK DESIGNED OR FURNISHED BY US.

CAD NO. F105SS
DATE: 7/28/97

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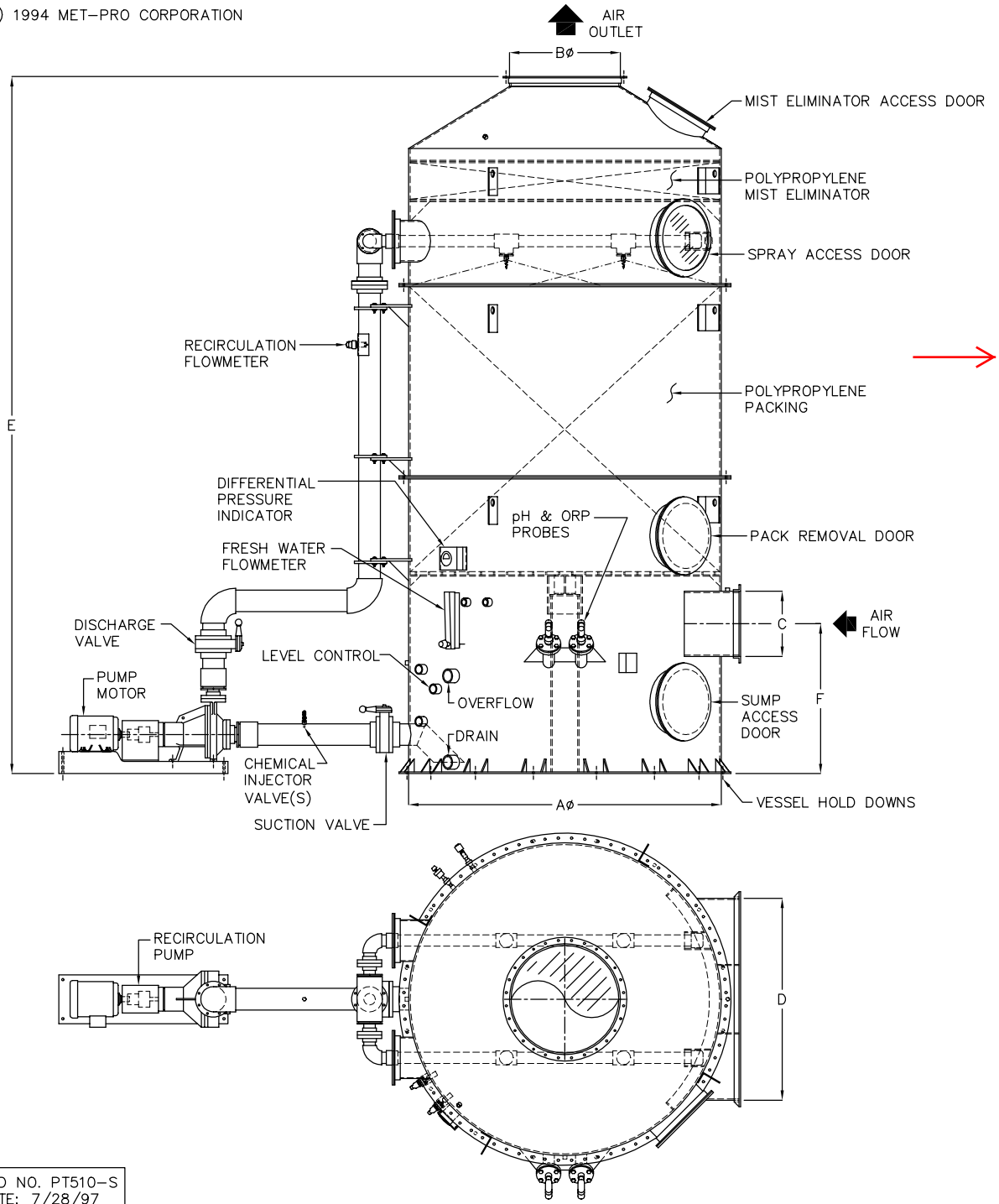


MODEL NUMBER	MAX. CFM	Aø	Bø	C	D	E	F	RECYCLE RATE	PUMP HP	DRY WEIGHT
PT510-24	1,500	24	12 3/4	12 3/4"ø		232	42	20	1 1/2	900
PT510-36	3,500	36	16	16"ø		236	44	46	3	1,600
PT510-48	6,500	48	20	20"ø		242	46	82	3	2,300
PT510-60	10,500	60	26	26"ø		246	49	126	5	2,700
PT510-72	15,500	72	30	30"ø		250	51	185	5	4,300
PT510-84	21,000	84	36	19	53	255	45	250	7 1/2	5,700
PT510-96	27,500	96	42	20	62	250	46	326	7 1/2	6,900
PT510-108	34,500	108	46	24	69	256	48	415	15	8,300
PT510-120	43,000	120	52	26	76	262	49	510	15	10,900
PT510-132	52,000	132	56	29	84	268	51	620	20	11,400
PT510-144	62,000	144	62	32	92	274	52	735	20	12,900

NOTES:

1. DIMENSIONS IN INCHES, WEIGHTS IN POUNDS.
2. DIMENSIONS ARE APPROXIMATE ONLY, DO NOT USE FOR FABRICATION.
3. STANDARD MATERIALS ARE PVC, CPVC, PP, & PVC/FRP.
4. MAXIMUM PRESSURE DROP ACROSS THE SCRUBBER AT DESIGN CONDITIONS IS 4 1/2" W.C.
5. LIFTING LUGS ARE SUPPLIED BY DUALL AS REQUIRED.

MODEL PT510
ODOR CONTROL SCRUBBER

MET PRO CORPORATION
DUALL DIVISION
1550 INDUSTRIAL DRIVE
OWOSSO, MI 48867

DATE	DUALL JOB NO.
AIR FLOW RATE	C.F.M.
PRESSURE DROP	W.C.
RECYCLE RATE	G.P.M.
MAKE-UP RATE	G.P.H.

NOTE: THIS PRINT IS THE PROPERTY OF MET-PRO CORPORATION. IT MUST NOT BE REPRODUCED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT SHALL BE USED ONLY AS A MEANS OF REFERENCE TO WORK DESIGNED OR FURNISHED BY US.

CAD NO. PT510-S
DATE: 7/28/97

FIGURE 4

FLARE AND HYBRID THERMAL OXIDIZER SPECIFICATIONS

December 1, 2015

Via Email: aiantosca@fiberight.com

Fiberight LLC
PO Box 21171
Catonsville, MD 21228

Attention: Mr. Alan Iantosca

Subject: Budget Proposal for Low BTU Enclosed Flare and Elevated Flare
Fiberight – Hampden, ME
John Zink Proposal BF-201511-59410, r1

Dear Alan,

Thank you for your recent interest in John Zink Company services and products. We appreciate the opportunity to assist you with the flare portion of your project. To satisfy your gas flare requirements per your recent request, John Zink Company is pleased to offer a budget quote for our **Enclosed ZBRID System for Low BTU Gases and Elevated ZEF® Flare System.**

For over 80 years, the John Zink brand has provided quality, innovative technology, and worldwide service in the combustion industry. John Zink has supplied over 700 flare systems for the biogas industry and we possess the expertise and resources to ensure a successful flare project and reliable flare performance.

John Zink offers a range of features and options as listed in the following "Equipment Description" section. Our intent is to supply the safest, most reliable and economical system available that will also allow you to customize your system to meet your specific needs. After reviewing the proposal, please let us know if there are any additional options you would like to pursue.

We look forward to working with you on this project, and if you require any additional information please do not hesitate to contact me at 918.234.4760, or our local sales representative, David Ryan, at 610.517.2400.

Sincerely,
JOHN ZINK COMPANY, LLC

Ryan Talley
Applications Engineer
Biogas Flare Division

DESIGN CRITERIA

ZBRID Waste Gas Stream – Design Conditions

Type:	Biogas
Composition:	10.89% CH4 Remainder CO2, air, inerts *1,600 ppmv H_2S*
Flow Rate:	193-386 SCFM (maximum)
Temperature:	150 ^oF
Waste Heat Release:	**2.3 MM BTU/hr (maximum)**
Inlet Pressure:	20" H_2O (required at flare inlet)

ZBRID Supplemental Fuel Gas Stream

Type:	Digester Gas
Composition:	70% CH4 (maximum) Remainder CO2, air, inerts
Max Digester Gas Flow Rate:	209 SCFM (maximum)
Fuel Heat Release:	***8.0 MM BTU/hr (maximum during startup)**
Inlet Pressure:	20" H_2O (required upstream of TCV)
Maximum Heat Release for Stack:	***10.8 MM BTU/hr (maximum)**

*****The initial fuel needed to pre-heat the combustion chamber to a minimum 1500 F prior to injecting the waste gas stream is 8.0 MM Btu/hr. After temperature is reached, this flowrate will continue to decrease as needed to maintain a specific operating temperature. During normal operations, we expect that **0.7-1.0 MM BTU/hr (18 – 26 SCFM of Digester Gas)** of supplemental fuel gas will be needed to maintain operating temperature.

Elevated Flare Digester Gas Stream – Design Conditions

Type:	Digester Gas
Composition:	70% CH4 (maximum) Remainder CO2, air, inerts
Flow Rate:	1200 SCFM (maximum)
Temperature:	100 ^oF
Waste Heat Release:	**45.9 MM BTU/hr (maximum)**
Inlet Pressure:	10" H_2O (required at flare inlet)

Mechanical

Design Wind Speed:	110 mph
Ambient Temperature:	32 °F to 120 °F
Electrical Area Classification:	non-hazardous
Elevation:	108 feet above MSL

Process

Smokeless Capacity:	100%
Operating Temperature:	1400 °F to 1800 °F (2000 °F shutdown)
Retention Time:	0.7 seconds at 1800 °F (minimum)
Required Flame Arrester Inlet Pressure:	10" H_2O (maximum)
Ambient Pressure:	14.7 psia

Utilities

Pilot Gas (intermittent):	22 SCFH of propane at 7-10 psig (or) 50 SCFH of natural gas at 10-15 psig
Compressed Air:	None
Electricity:	120 V, 1 ph, 60 Hz
Auxiliary Fuel:	Digester Gas

Expected Flue Gas (ZBRID Low Btu Flare)

Operating Temperature	1600ºF	1800ºF
CO_2 Volume %	7.0	8.1
H_2O Volume %	8.2	9.2
N_2 Volume %	72.6	71.8
O_2 Volume %	12.2	10.9

Estimated Emission Range (Design Flow With Digester Gas Supplemental Fuel)(1)

Operating Temperature	1400 – 1800 ºF
Overall Destruction Efficiency(2)	98%
NOx, lb / MMBTU(3)	0.08 – 0.10
CO, lb / MMBTU(4)	0.20

(1) Expected emission rates at lower operating temperatures are available upon request.
(2) Typical sulphur containing compounds are expected to have greater than 98% oxidation efficiency.
(3) Excludes NOx from fixed nitrogen.
(4) Excludes CO contribution present in landfill gas.

Expected Emission Range for Elevated ZEF Digester Flare(1)

Overall Destruction Efficiency(2)	98%
NOx, lb / MMBTU(3)	0.068
CO, lb / MMBTU(4)	0.37

(1).Emissions and destruction efficiency stated are based on EPA 40 CFR 60.18 and AP-42 Supplement D
(2) Typical sulphur containing compounds are expected to have greater than 98% oxidation efficiency.
(3) Excludes NOx from fixed nitrogen.
(4) Excludes CO contribution present in landfill gas.

NOTE: Expected emissions are based on field tests of operating units and the higher heating value (HHV) of the gas. Destruction efficiency, NOx, and CO emissions shown are valid for combustion of digester gas only. Expected emissions are not guaranteed unless expressly stated in this proposal.

SCOPE OF SUPPLY

Item 1, Enclosed Flare (ZBRID)

- One (1) 5'-0" diameter x 40'-0" overall height, A-36 carbon steel flare stack enclosure.
- Two (2) 1" layers of *A.P. Green* (or equal) ceramic fiber refractory on Inconel pins and keepers for the top portion of the stack. The bottom portion of the combustion chamber will be lined with castable refractory to create a heat zone for superior combustion.
- One (1) stainless steel manifold assembly with 4" flanged inlet connection for the waste gas stream.
- One (1) carbon steel burner manifold assembly with 4" diameter flanged inlet connection for the fuel gas stream.
- One (1) Tru-Lite™ igniter assembly for use during start-up cycles. This externally mounted pilot provides simple operation and can be removed for maintenance without entering the stack.
- One (1) bolted blade combustion air damper with opposed blade design, providing air turndown control. Galvanized finish and stainless steel press-fit bearings ensure smooth, long term operation. A special, proprietary lower burner chamber design minimizes direct radiation on the damper for maximum service life.

  NOTE: *Removal of the damper allows access to the lower flare burner chamber and eliminates the need for a separate manway.*

- Two (2) 4" diameter NPT couplings with plug provided as sample ports at 90° apart located one-half stack diameter from the flare top for accurate emission testing.
  NOTE: *These ports can be accessed by use of a temporary device such as power-lift vehicle or permanent ladder and platform equipment (refer to the recommended optional equipment section for ladder and platform selection).*
- One (1) stainless steel rain cap consisting of overlapping tabs to provide weather protection at the refractory and flare shell interface.
- Four (4) thermocouple connections at various elevations for temperature monitoring.
- Exterior protection using SSPC-SP-6 sandblast, *Sherwin Williams* Zinc Clad II primer coating system, 4 mils DFT for superior corrosion protection at shell temperatures to 750 °F**.**
- One (1) AISC designed continuous base plate for high wind stability.
- Two (2) lifting lugs to assist in erection.
- Thermocouple conduit mounting brackets.

Miscellaneous Accessories

- Four (4) operating manuals (one (1) hard copy, three (3) electronic copies on CD) with essential operating instructions, appropriate vendor literature on instrumentation, and drawings.
- 400 ft of thermocouple extension wire.

Item 2, Zink Elevated Flare (ZEF®)

- One (1) integral, stainless steel Biogas Flare Tip with stainless steel windshield.
- One (1) main flame monitoring thermocouple with 100' of extension thermocouple wire per thermocouple. This thermocouple design incorporates adjustable positioning and allows removal from grade.

- One (1) KE-1B Electronic Ignition Flare Pilot Assembly with stack mounted, weatherproof (NEMA 4) Ignition Transformer Panel and 25' of extension ignition wire.
- One (1) pilot flame monitoring thermocouple with 100' of extension thermocouple wire.
- One (1) 8" diameter, 25' high steel flare stack with 8" diameter inlet, 1" diameter drain connection, AISC designed continuous baseplate, and lifting lugs.
- Exterior protection (carbon steel) using SSPC-SP-6 surface preparation and a single coat of inorganic zinc primer, 4 mils DFT.
- One (1) temperature switch mounted to flare inlet for flame flashback indication.

Item 3, <u>Automatic Ignition and Control Station</u>

Control Station Assembly

- One (1) self-supporting steel rack with electrical panels attached to the front side and pilot gas piping and instrumentation attached to the rear side.
- One (1) weatherproof Flare Control Panel with the following 120V items:
  - One (1) Allen Bradley Compact Logix programmable logic controller for safe, overall system operation and control.
  - One (1) operator interface touch screen display for all set point changes, status, alarms, and shut down indications.
  - One (1) temperature switch for high temperature shutdown on the ZBRID.
  - One (1) flame scanner relay for the ZBRID.
  - One (1) purge air blower motor starter for the ZBRID.
- Two (2) Pilot Gas Control Systems including a pressure regulator, fail-closed shutdown valve, manual block valve, and pressure indicator, one for the Elevated Flare and one for the ZBRID.
- The control station assembly is completely piped and wired in a *UL* approved shop and functionally tested simulating actual operations.

Stack Mounted Controls for ZBRID (shipped loose for field installation by others)

- One (1) combustion air damper to control the operating temperature. As part of the automatic temperature control feature, the damper is equipped with automatically controlled louvers.
- One (1) Ignition Panel Assembly including a transformer, pilot spark electrode, and ignition wire. The enclosure is stack mounted for easy access to the pilot assembly.
- One (1) purge air blower.
- One (1) high temperature shutdown thermocouple.
- Three (3) temperature monitoring dual element thermocouples with location dependent on specific flow conditions. The operating thermocouple can be selected either automatically based on the flow rate or manually from the touch screen display.

Item 4, <u>Inlet Flame Arresters</u>

- One (1) 4" diameter, eccentric *Enardo* Flame Arrester with aluminum housing, housing drain, and removable aluminum internals mounted at the flare inlet on the ZBRID auxiliary fuel line. Internal elements can be cleaned without removing the flame arrester body from the pipe.
- One (1) 4" diameter, eccentric *Enardo* Flame Arrester with aluminum housing, housing drain, thermocouple at the inlet, and removable stainless steel internals mounted at the

flare inlet on the ZBRID waste gas line. Internal elements can be cleaned without removing the flame arrester body from the pipe.

- One (1) 8" diameter, eccentric *Enardo* Flame Arrester with aluminum housing, housing drain, and removable aluminum internals mounted at the elevated flare inlet. Internal elements can be cleaned without removing the flame arrester body from the pipe.

Item 5, Three (3) Automatic Block Valves

- Two (2) 4" automatic block valve assembles consisting of a butterfly valve and fail-closed pneumatic actuator. The valve has a carbon steel wafer body, 316 SS disk and shaft, and PTFE seal. The pneumatic actuator can be operated with either compressed air or compressed nitrogen from a cylinder. One 4" valve is for the ZBRID fuel gas stream, and the other is for the ZBRID waste gas stream.
- One (1) 8" automatic block valve assembles consisting of a butterfly valve and fail-closed pneumatic actuator. The valve has a carbon steel wafer body, 316 SS disk and shaft, and PTFE seal. The pneumatic actuator can be operated with either compressed air or compressed nitrogen from a cylinder. The 8" valve is for the digester gas line for the elevated flare.

Item 6, Flow Meter

- Three (3) thermal mass flow meter assemblies with 316 stainless steel probe for 1" NPT mounting. One for the waste gas line, one for the fuel gas line, and one for the digester gas line for the elevated flare.

Item 7, Fuel Control Valve

- One (1) temperature control valve assembly consisting of a v-port valve with electric actuator. The valve has a 316 SS body, 316 SS disk and shaft, and PTFE seal. The fuel control valve controls the fuel flow rate based off the stack temperature, and is tuned to minimize the amount of fuel gas needed for adequate combustion.

RECOMMENDED OPTIONAL EQUIPMENT

Item 8, ZBRID Access Ladder

- One (1) galvanized, safety ladder providing access to thermocouples. Equipment includes a ladder, safety rails, a safety harness, and personnel protection screening behind the ladder and around the thermocouple ports. A lockable gate is available for an additional price.

Item 9, ZBRID Service Platform

- One (1) galvanized, 150° service platform, designed per *OSHA* requirements, providing access to the stack sample ports. A continuous band of personnel protection screening around the sample ports is included with this option. A 360° service platform is available for an additional price.

Item 10, Control Panel Weather Hood

- One (1) fabricated steel hood designed to limit control panel exposure to the elements. It provides approximately 4' of overhang to the front and 2' to the rear. The hood is painted to match the rest of the control panel rack and comes with a fluorescent light assembly for enhanced visibility of the panel components at night.

Item 11, *Underwriters Laboratories* Classification

- John Zink Company is dedicated to ensuring the highest level of quality and safety standards in its products. This performance level is reflected in all products and provides the opportunity to apply the *UL* listing symbol for Industrial Control Panels on motor starters and a *UL* classification symbol on Flare Control Panels. This option is provided for applications requiring *Underwriters Laboratories* Certification.

BUDGET PRICE ITEMS 1 THRU 7 $207,000
(does not include shipping, taxes, or field services)

Recommended Optional Equipment Pricing

8. One (1) Access Ladder (ZBRID only)	$7,000
9. One (1) Service Platform (ZBRID only)	$10,000
10. One (1) Control Panel Weather Hood	$2,500
11. *Underwriters Laboratories* Classification	$2,500

John Zink Field Service for start-up, training, or testing assistance is available per the attached rate sheet.

PAYMENT AND TERMS SUMMARY

This is a budgetary proposal and is intended only as an estimate to facilitate your planning processes and does not constitute a commitment or offer to sell goods or services at the prices and terms referenced herein. Any firm offer or binding quotation will be the subject of a formal proposal at a future date.

The shipping terms are Ex Works Tulsa, OK. The price does not include any shipping and handling, or any taxes other than John Zink's contributions for unemployment insurance, old age retirement benefits, pensions, and annuities.

The price is based on the following terms of payment:
- 15% of order price due upon issuance of the order
- 50% of order price due upon issuance of general arrangement drawings
- 35% of order price due upon notification of availability for shipment*

*This payment is required in full prior to shipment or secure with a bank letter of credit. Payment is required in United States currency. A guaranteed form of payment acceptable to John Zink, such as, corporate or personal guarantees, payment by a confirmed, irrevocable letter of credit, or by three-party check may be required by John Zink.

DELIVERY SCHEDULE

Based on a release to purchase major materials at the time an order is accepted, John Zink offers the following delivery schedule:

- Initial general arrangement drawing submittal: 6-8 weeks after acceptance of the order
- Completion of fabrication: 14-16 weeks after drawing approval, or Equipment PO

An improved schedule may be arranged based on specific project requirements. Waiving drawing approval will improve the schedule by 2 – 3 weeks.

Shipping will be via common carrier. Portions of the unit will be shipped loose to reduce shipping costs and damage to the unit.

OTHER CONDITIONS

Title of Goods

Title to the goods and services subject of this order shall pass to the Buyer only when John Zink Company receives payment in full therefor. The Buyer shall cooperate, if requested, in proper filings and other procedures necessary to assure that John Zink Company shall retain perfected security interest in the goods and services.

Changes to the Scope of Work

Price is based on the inquiry design information. In the event of a process change, John Zink reserves the right to alter the equipment design in order to maintain safe engineering practices. If additions or deletions to the scope of work are required after an order is received, John Zink will submit a price summary to the customer for approval. Equipment dimensions, sizes, and sub-venders offered in this quotation shall be subject to change after the design is finalized.

Field Service

Start-up and training services are not included unless specifically noted above. If field service is requested, it shall be performed according to the terms of the attached John Zink Technical Assistance Agreement.

GENERAL SCOPE OF WORK

John Zink will furnish the labor, materials, and equipment necessary to fabricate the system offered.

For the purpose of clarification, the supplies to be delivered will include general bolts, nuts, washers, gaskets, and similar fasteners associated with the assembly of the system supplied by John Zink.

The following items are not included in the supplies to be delivered:

- Detailed fabrication drawing. Customer approval drawings include the necessary dimensions, nozzle placements, structural details, and other data required to assemble the system.
- All civil works. John Zink will supply the data necessary to design such civil works by providing loading information for the system.
- Erection of system or installation of piping or instruments. John Zink, if requested, can supply turnkey installations.
- The supply or installation of fireproofing materials, personnel protection, heat tracing, external insulation, electrical/thermocouple wire, conduit, piping, finish paint, and other miscellaneous hardware unless specifically noted.
- Permits, licenses, and approval by and from authorities to install, test, and operate the system.
- Preparation of drawings, forms and/or data for approval by state or local agencies of the design of the system, unless otherwise noted.
- Compliance with state, local, or municipal codes, except as specifically identified. The system will be designed to applicable national codes and standards. However, John Zink has numerous similar systems operating in many of the states and is knowledgeable in coordinating with the respective regulatory authorities and, if requested, can comply with the agreed upon local requirement.

CLARIFICATIONS

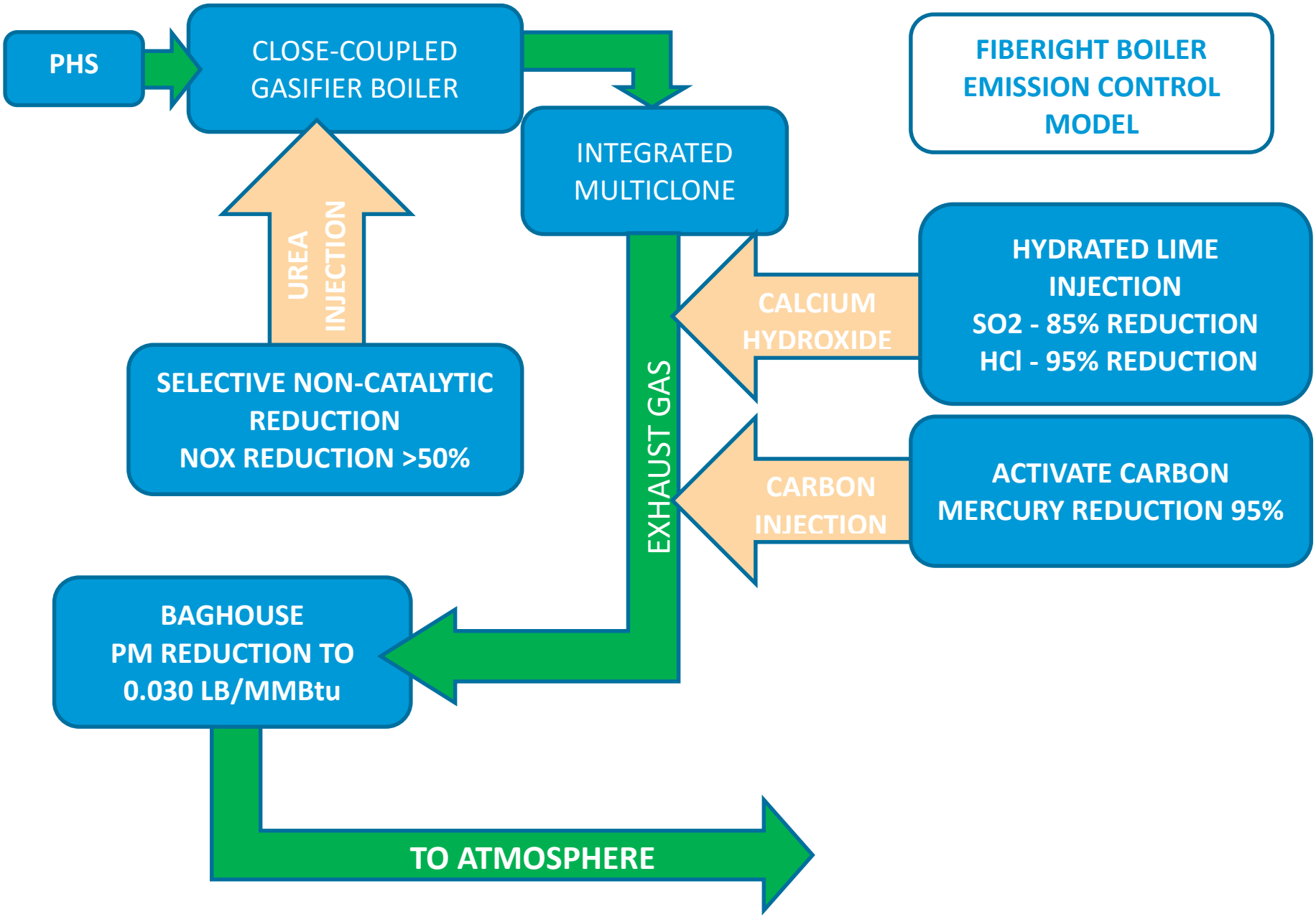
- A minimum undisturbed distance is required for the proper installation and performance of the flow meter. A distance of approximately ten pipe diameters of straight pipe is required before the flow meter and approximately five pipe diameters of straight pipe after the flow meter. Flow meter provided by purchaser.

ATTACHMENTS

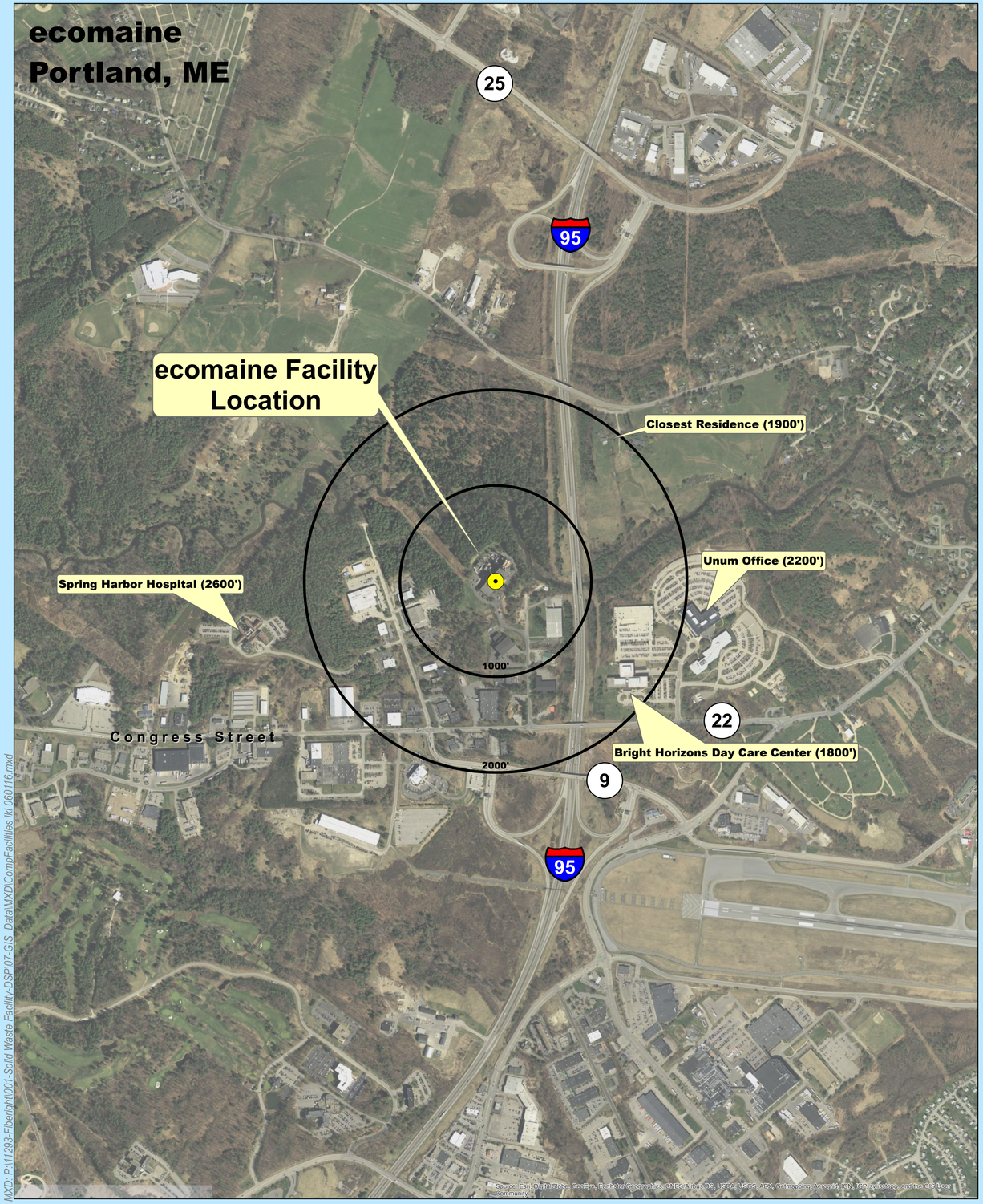
- John Zink Standard Terms and Conditions
- Technical Service Agreement

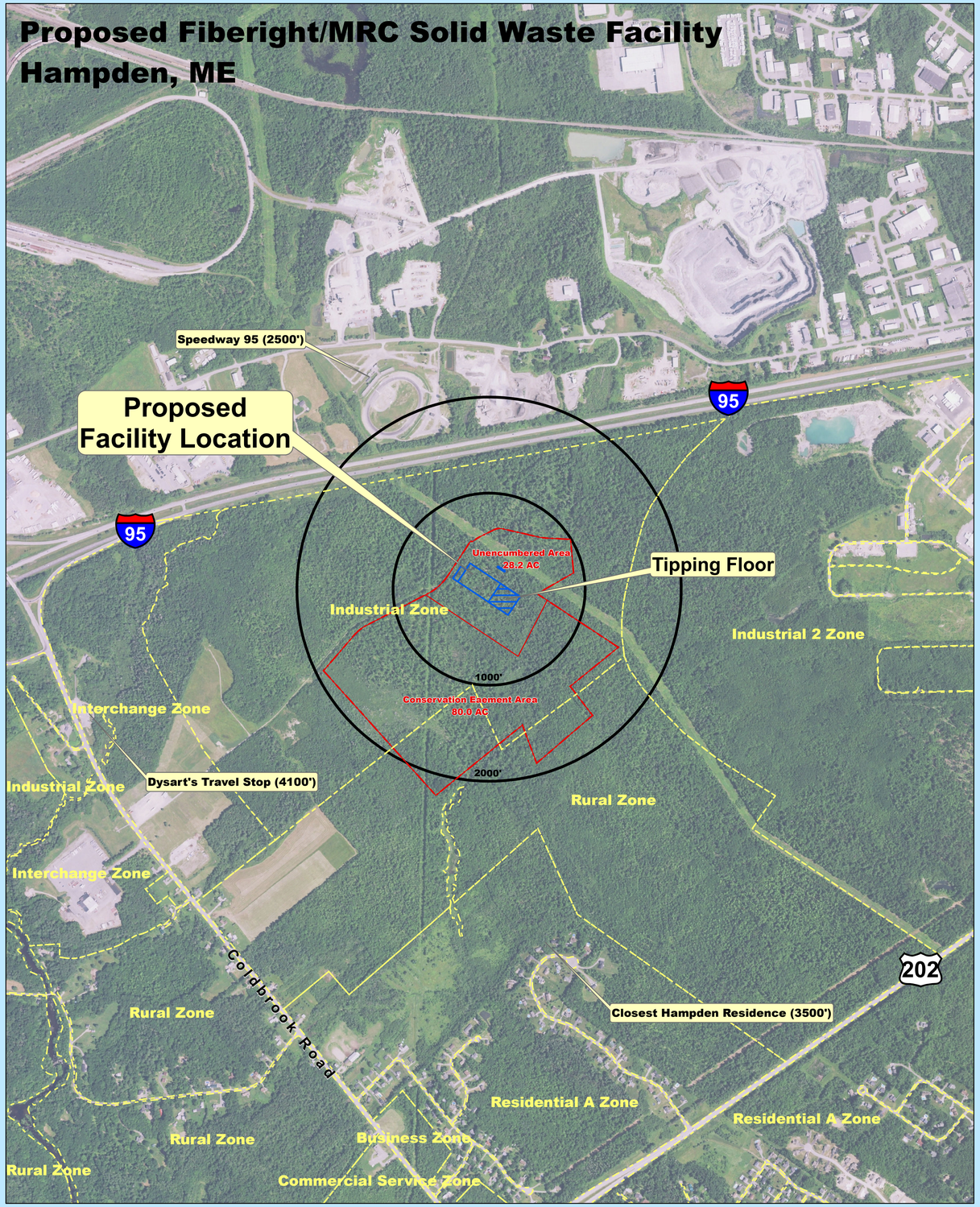
FIGURE 5

FIBERIGHT BOILER EMISSION CONTROL MODEL

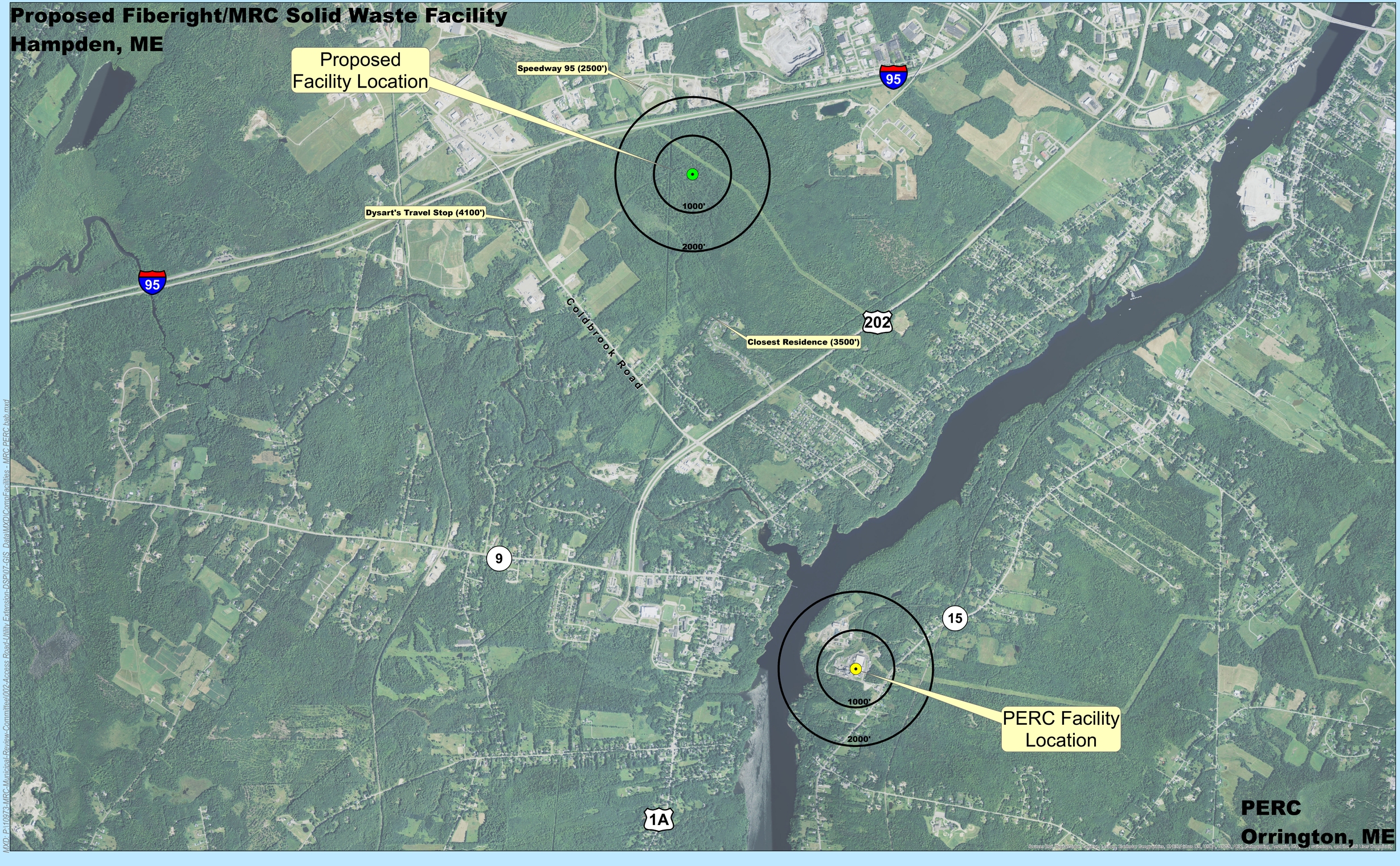

PHS
CLOSE-COUPLED GASIFIER BOILER
INTEGRATED MULTICLONE
FIBERIGHT BOILER EMISSION CONTROL MODEL
UREA INJECTION
SELECTIVE NON-CATALYTIC REDUCTION
NOX REDUCTION >50%
EXHAUST GAS
CALCIUM HYDROXIDE
HYDRATED LIME INJECTION
SO2 - 85% REDUCTION
HCl - 95% REDUCTION
CARBON INJECTION
ACTIVATE CARBON
MERCURY REDUCTION 95%
BAGHOUSE
PM REDUCTION TO 0.030 LB/MMBtu
TO ATMOSPHERE

Comparable Maine MSW Handling Facilities





Comparable Maine MSW Facilities



MXD: P:\10973-MRC-Municipal-Review-Committee\002-Access Road-Utility Extension-DSP\07-GIS_Data\MXD\CompFacilities - MRC PERC hab.mxd

PROPOSED STOP SIGN

PROPOSED SITE LIGHT, TYP.

PROPOSED SIGN, NOT TO EXCEED 100 SF IN SIZE

RIP RAP OUTLET

PROPOSED 150,000 GALLON ABOVE GROUND WASTEWATER HOLDING TANK

PROPOSED GATE

EXISTING UTILITY EASEMENT

OUTBOUND SCALE

SCALE HOUSE

INBOUND SCALE

SOLID WASTE SETBACK

37' TALL

PA TANK 30' TALL

ECSB REACTOR 67' TALL

NT 67' TALL

SLUDGE 56' TALL

ECSB REACTOR 67' TALL

WATER 37' TALL

PA TANK 30' TALL

5' PAVED SIDEWALK

6" HDPE
L: 50' / S: 0.01
INV. IN: 143.0
INV. OUT: 142.5

RIP RAP PROTECTION, TYP.

DRIP STRIP

VUDSF #1

VUDSF #1 OVERFLOW STRUCTURE

VUDSF #1 OUTLET

RIP RAP OUTLET

PROPOSED SCREENING: MAY INCLUDE NATURAL BUFFERS, BERMS, PLANTINGS, FENCING, OR ANY COMBINATION THEREOF

PROPOSED 100,000 GALLON WASTEWATER HOLDING TANK

CB P-01
RIM: 147 (±)

PROPOSED PROCESSING FACILITY
(230' x 626') 144,000 SF
F.F.E. 144.50
BUILDING HEIGHT = 60'

RETAINING WALL

PROPOSED 1" TYPE K WATER SERVICE AND 6" DI FIRE WATER SERVICE

PROPOSED R.O.W.

PROPOSED ADMIN BUILDING
(60' x 100') 6,000 SF
F.F.E. 144.50
BUILDING HEIGHT = 20'

75' SPECIAL REGULATION

100' SOLID WASTE SETBACK

60' BUILDING SETBACK

50'

75'

100'

LOADING DOCKS

OVERHEAD DOOR, TYP.

60' SPECIAL REGULATION

25' STREAM SETBACK

35' BUILDING SETBACK

EXISTING STREAM

PROPOSED SEWER SERVICE

PROPOSED 18" HDPE
L: 496 LF / S: 0.005
INV. IN: 139.50
INV. OUT: 137.0

PRESSURE SWAP ABSORPTION UNIT

ROOF DRIP LINE BMP

ODOR CONTROL SKID

VUDSF #2

EMERGENCY SPILLWAY

FLOODING CONTROL STRUCTURE

VUDSF #2 OUTLET

RIP RAP OUTLET

VUDSF #3

DRIP EDGE OUTLET WITH RIP RAP PROTECTION

HYBRID THERMAL OXIDIZER

40' FLARE SETBACK

FLARE

80' FLARE SETBACK

50' FLARE SETBACK

PROPOSED PLUNGE POOL

VUDSF #3 OUTLET

FLOODING CONTROL STRUCTURE

NATURAL GAS INJECTION LINE

RIP RAP OUTLET

END OF EXISTING GRAVEL ROAD

LEGEND:

	EXISTING	PROPOSED
EASEMENT LINE		N/A
PROPERTY LINE		
OVERHEAD UTILITY	OHU	OHU
GAS LINE	GAS	GAS
SETBACK	N/A	
EDGE OF PAVEMENT		
WATER LINE	N/A	W
SANITARY SEWER	N/A	SS
CENTERLINE	N/A	
VISUAL SCREEN	N/A	X
SILT FENCE	N/A	SF
MAJOR FOOT CONTOUR	100	100
MINOR FOOT CONTOUR	98	98
APPROXIMATE WETLAND BOUNDARY		N/A
TREE LINE		
WETLAND		

SITE DATA:

TOWN OF HAMPDEN TAX MAP 09, LOT 035 & MAP 14, LOT 7

ZONING STANDARDS: INDUSTRIAL DISTRICT / INTERCHANAGE

MAXIMUM LOT COVERAGE:
25% (MAXIMUM)
4% (PROPOSED)

BUILDING SETBACKS:
FRONT: 50 FEET (75' TO PROCESSING BUILDING)
REAR: 35 FEET (60' TO PROCESSING BUILDING)
SIDE: 35 FEET (60' TO PROCESSING BUILDING)

USE: CONDITIONAL
MAXIMUM BUILDING HEIGHT: 35'
* ADDITIONAL SETBACK REQUIRED

PARKING:
REQUIRED: 3/4 SPACES PER EMPLOYEE = 38 SPACES
PROVIDED: 47
(PARKING BASED ON MAXIMUM OF 50 EMPLOYEES AT SHIFT CHANGE)

LOT FRONTAGE:
1900' ±

ENLARGED SITE PLAN
FOR
SOLID WASTE PROCESSING FACILITY
HAMPDEN, MAINE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Waterville
44 Main Street
Suite 204
Waterville, ME
T 207-680-2252
F 207-680-2204

Lewiston
444 Lisbon Street
Lewiston, ME
T 207-795-6099
F 207-795-6168

Presque Isle
649 Main Street
PO Box 827
Presque Isle, ME
T 207-764-8412
F 207-764-8414

Bar Harbor
1 Knox Road, Hwy 102
Bar Harbor, ME
T 207-288-9587
F 207-288-9588

Rumford
466 South Main Street
PO Box 639
Rumford, ME
T 207-989-4824
F 207-989-4881

Machias
25 Center Street
PO Box 687
Machias, ME
T 207-255-8270
F 207-255-8307

CES INC
Engineers • Environmental Scientists • Surveyors

PROJECT TITLE
MRC / FIBERIGHT SOLID WASTE PROCESSING FACILITY
HAMPDEN, MAINE

SHEET TITLE
PROPOSED SITE PLAN

REV	DESCRIPTION	DATE	DRAWN BY	CHECKED BY
R2				
R2				
R2				
R4				
R2	IDENTIFIED FLARE AND OXIDIZER	2016-04-01	BLQ	SMT
R2				
R1	CHANGES PER TOWN REVIEW COMMENTS	2015-05-22	BLQ	SMT

ISSUE STATUS
NOT FOR CONSTRUCTION

STATE OF MAINE
SEAN M. THIES
No. 10139
6/1/2016
LICENSED PROFESSIONAL ENGINEER

SCALE	1"=40'
DATE	2015-12-10
DRAWN BY	BLQ/WAB
CHECKED BY	SMT
DESIGNED BY	BLQ/SMT
APPROVED BY	SMT
JOB NUMBER	10973.003
DRAWING NUMBER	C103

P:\10973-MRC\MAC\PA_REVIEW\CONSTRUCTION\10973-PROCESSING FACILITY.DWG\CAD_DRAWINGS\C\N.DWG\N_DWG\N 10973.003-C-SP.DWG, 6/1/2016 1:40 PM

PLAN REFERENCES:

1) "MAINE STATE HIGHWAY COMMISI9ON RIGHT OF WAY MAP, , STATE AID HIGHWAY 3, HAMPDEN, PENOBSCOT COUNTY, FEDERAL AID PROJECT S-0285(2)", DATED AUGUST 1962, S.H.C. FILE NO. 10-142, SHEET 1 OF 2

2) "MAINE STATE HIGHWAY COMMISION RIGHT OF WAY MAP, STATE 95 & S.A. NO. 3, HAMPDEN, PENOBSCOT COUNTY, FEDERAL AID PROJECT NO. 1-95-7(16) & S-0285(2)", DATED NOVEMBER 1961, S.H.C. FILE NO. 10-128, SHEET 42 OF 46.

3) OLD HAMPDEN LOTTING PLAN DATED MARCH 26, 1842, RECORDED IN MAP FILE VOLUME 2, PAGE 2 OF THE PENOBSCOT COUNTY REGISTRY OF DEEDS.

NOTES:

1) ALL BOOK AND PAGE NUMBERS REFER TO THE PENOBSCOT COUNTY REGISTRY OF DEEDS.

2) THE UNDERLYING COORDINATE SYSTEM IS BASED UPON THE MAINE STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD83 DATUM.

3) THE DIRECTION OF LINES REFER TO THE GRID NORTH MERIDIAN.

GRID

TAX MAP 9 - LOT 37
H.O. BOUCHARD, INC.
BOOK 13527, PAGE 249

TAX MAP 9 - PORTION OF LOT 38
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"SECOND PARCEL"

TAX MAP 10 - LOT 56
MAINE GROUND DEVELOPERS, INC.
BOOK 6904, PAGE 1
"PARCEL TWO"

PROPOSED 100 FOOT WIDE PARCEL TO BE CONVEYED TO MRC, INC.

TAX MAP 9 - PORTION OF LOT 36
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"THIRD PARCEL - PARCEL THREE"
(EXCLUSIVE OF 1.63 ACRES +/-
OF EMERA MAINE EASEMENT)

102' WIDE TRANSMISSION LINE EASEMENT
BENEFITTING EMERA MAINE
(NORTHERN MAINE INDEPENDENT SYSTEM)
EMERA MAINE - 3-5-1-0-1-0-0-1

TAX MAP 10 - LOT 11A
BANGOR HYDRO-ELECTRIC COMPANY
BOOK 5772, PAGE 60
"SECOND PARCEL"

TAX MAP 9 - LOT 39
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"FIFTH PARCEL - PARCEL ONE"

TAX MAP 9 - PORTION OF LOT 36
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"THIRD PARCEL - PARCEL TWO"

TAX MAP 9 - PORTION OF LOT 36
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"THIRD PARCEL - PARCEL ONE"

TAX MAP 9 - LOT 35
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"EIGHTH PARCEL"

TAX MAP 9 - LOT 34
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"SIXTH PARCEL"

TAX MAP 9 - LOT 32
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"SEVENTH PARCEL"

TAX MAP 9 - LOT 27
H.O. BOUCHARD, INC.
BOOK 9464, PAGE 257
BOOK 9532, PAGE 63
BOOK 9711, PAGE 239

UNENCUMBERED AREA
28.2 ACRES

CONSERVATION EASEMENT AREA
80.0 ACRES

50' WIDE PIPELINE EASEMENT BENEFITTING
BANGOR GAS COMPANY
BOOK 1362, PAGE 427

PROPOSED 100 FOOT WIDE RIGHT OF WAY

EXISTING GRAVEL ROAD

COLDBROOK ROAD

TAX MAP 15 - LOT 14
HICKORY DEVELOPMENT, LLC
BOOK 9145, PAGE 295
"SEVENTH PARCEL"

TAX MAP 9 - LOT 35-A
BOUCHARD SPORTS CENTER, LLC
BOOK 10180, PAGE 115

TAX MAP 15 - LOT 15
COLLEEN & TIMOTHY McGAW
BOOK 6187, PAGE 64

TAX MAP 9 - LOT 34-A
JACK & TERESA BARROWS
BOOK 7686, PAGE 130

TAX MAP 15 - LOT 16
SHARON & STEPHEN FROST
BOOK 3386, PAGE 47

TAX MAP 15 - LOT 17
SHARON BARROWS
BOOK 2874, PAGE 299

TAX MAP 9 - LOT 33A
HICKORY DEVELOPMENT, LLC
BOOK 9638, PAGE 111

TAX MAP 9 - LOT 33
H.O. BOUCHARD, INC.
BOOK 10723, PAGE 66

GRANITE MONUMENT FOUND
3/4" IRON ROD FOUND AND 1" IRON ROD FOUND (0.68' APART)
3/4" IRON ROD FOUND
3/4" CAPPED IRON ROD FOUND "PLISGA & DAY PLS #1030"
3/4" CAPPED IRON RODS FOUND "PLISGA & DAY PLS #1030"
2" IRON PIPE FOUND

CERTIFICATION:

THE UNDERSIGNED CERTIFIES TO THE BEST OF HIS KNOWLEDGE AND BELIEF THAT THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WAS COMPLETED IN ACCORDANCE WITH CHAPTER 90 (02-360 CHAPTER 90) OF THE RULES AND STANDARDS OF PRACTICE ADOPTED BY MAINES' BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS WITH THE FOLLOWING EXCEPTIONS:

1.) A WRITTEN REPORT HAS NOT BEEN PREPARED.

2.) IRON RODS SHOWN "TO BE SET" HAVE NOT BEEN SET AS OF THE DATE OF THIS PLAN.

3.) PROPERTY DESCRIPTION OF THE SURVEYED PREMISES HAS NOT BEEN PREPARED AS OF THE DATE OF THIS PLAN.

Jerry W. Hamlin 6-01-16

CES, INC. - JERRY W. HAMLIN - PROFESSIONAL LAND SURVEYOR #2292 DATE

BOUNDARY SURVEY
OF LANDS OF
HICKORY DEVELOPMENT, LLC
PREPARED FOR
FIBERIGHT & MRC, INC.
COLD BROOK ROAD, HAMPDEN, PENOBSCOT COUNTY, MAINE
GRAPHIC SCALE

200 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

Waterville
44 Main Street
PO Box 337
Waterville, ME
T.207-680-2202
F.207-873-2544

Presque Isle
549 Main Street
PO Box 1
Presque Isle, ME
T.207-764-3412
F.207-764-3414

Brewer
465 South Main Street
Suite 101
Brewer, ME
T.207-989-4824
F.207-989-4446

Machias
61 Dublin Street
PO Box 887
Machias, ME
T.207-255-3270
F.207-255-8367

Bar Harbor
1356 State Hwy 102
Bar Harbor, ME
T.207-288-0588

Lewiston
640 Main Street
Lewiston, ME
T.207-513-3509
F.207-784-6128

CESINC
Engineers • Environmental Scientists • Surveyors

PROJECT TITLE
FIBERIGHT & MRC, INC.
COLD BROOK ROAD, HAMPDEN, PENOBSCOT COUNTY, MAINE

SHEET TITLE
BOUNDARY SURVEY PLAN

REV	DESCRIPTION	DATE	DRAWN BY	CHECKED BY
R7				
R6				
R5				
R4				
R3				
R2				
R1				

STATE OF MAINE
JERRY W. HAMLIN
2292
PROFESSIONAL LAND SURVEYOR

SCALE	1" = 200'
DATE	June 1, 2016
DRAWN BY	JH
CHECKED BY	
DESIGNED BY	
APPROVED BY	
JOB NUMBER	11293.001-04
DRAWING NUMBER	1 OF 1

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