

Decommissioning Plan Report

Grimsby Energy Inc.

August, 2012



Decommissioning Plan Report

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Decommissioning Plan Report

Grimsby Energy Inc. Anaerobic Digester Project

1.0 Introduction

1.1 Purpose

This report is prepared in partial fulfillment of the Renewable Energy Approval requirements as set out in Ontario Regulations 359/09 and 521/10. The project has received a FIT contract F-000610-BIG-130-302.

1.2 The Project

The project is a Class 3 anaerobic digester as defined in the regulations. The facility will produce 1MW of electricity to be constructed in two phases of 500kW each and is designed to operate primarily on farm sourced materials. It is the owner's intent to not only produce electricity for injection into the grid, but to support the local farm community. No electricity will be generated from non-renewable resources. Non-farm organic materials, as available, may also form part of the feedstock for the plant. Should materials requiring pasteurization be utilized, pasteurization equipment will be installed.

1.3 Project Location

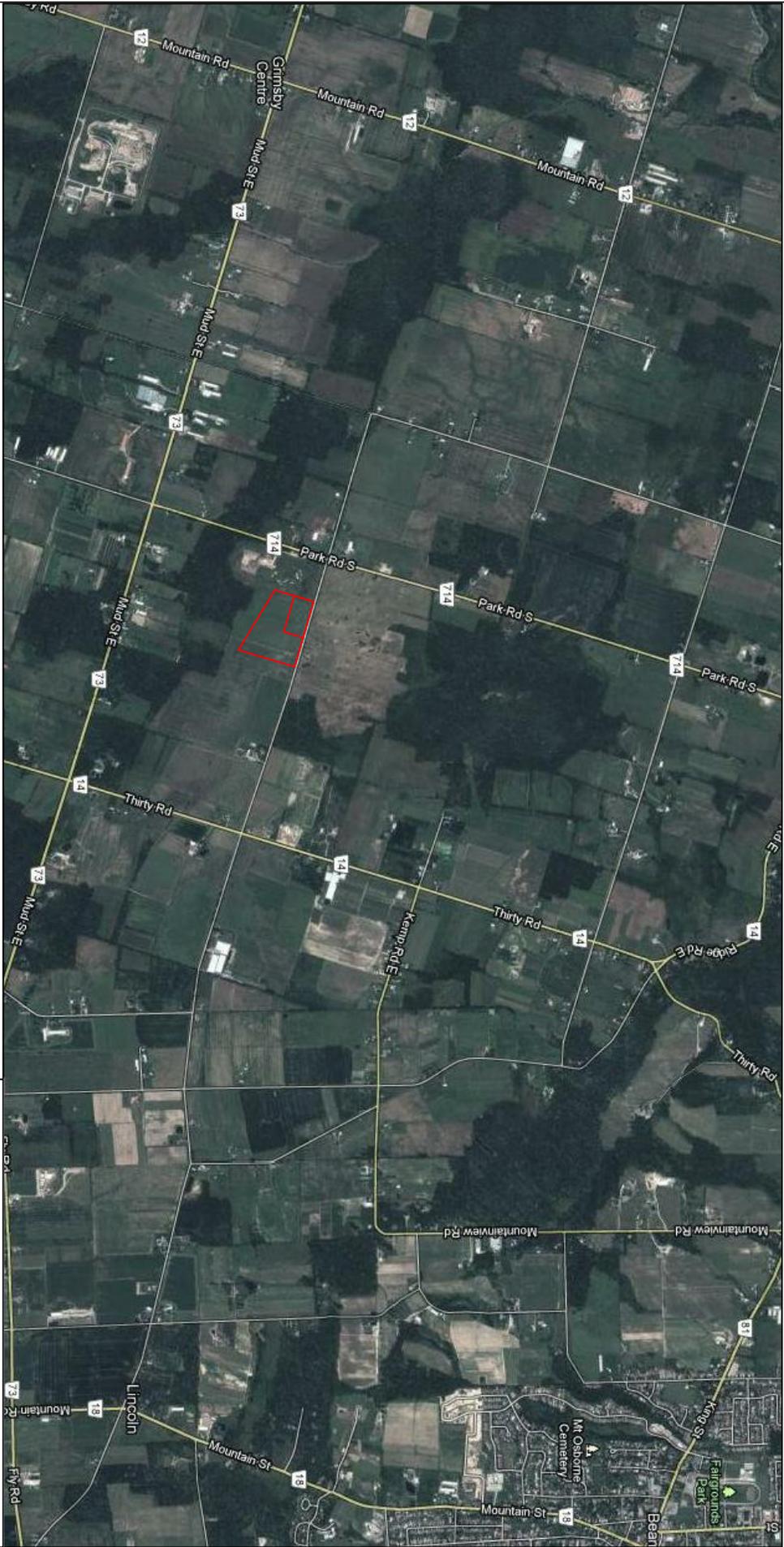
The project will be constructed on lands owned by Grimsby Energy Inc. at 442 Sobie Road in the Town of Grimsby. The project will be located on the northwestern 2.5ha of a 10.5 ha property located on the south side of Sobie Road approximately 300m east of Park Road. The legal description of the property is part of Lots 1 and 2, Concession 6, Former Township of North Grimsby being Part 1 on Plan 30R-13677. The site location is shown on Figures 1 and 2 and the site design is on Figure 3.

2.0 Decommissioning during Construction or Abandonment

The decommissioning plan is the same whether the plant is partially constructed or has been in operation for some time. The details of decommissioning are provided as if the plant has been operating and the appropriate adjustments would be made if construction were not completed.

3.0 Decommissioning after Ceasing Operations

As it is likely that decommissioning would happen many years into the future, regulations and practices in effect at that time would need to be followed. There are no hazardous substances on site and any remaining digestate can be field applied.



GRIMSBY ENERGY INC.
442 SOBIE RD.

FIGURE 1
SITE LOCATION



Riepma
CONSULTANTS
INC.
R R 1, Georgetown, Ontario L7G 4S4



GRIMSBY ENERGY INC.
 442 SOBIE RD.

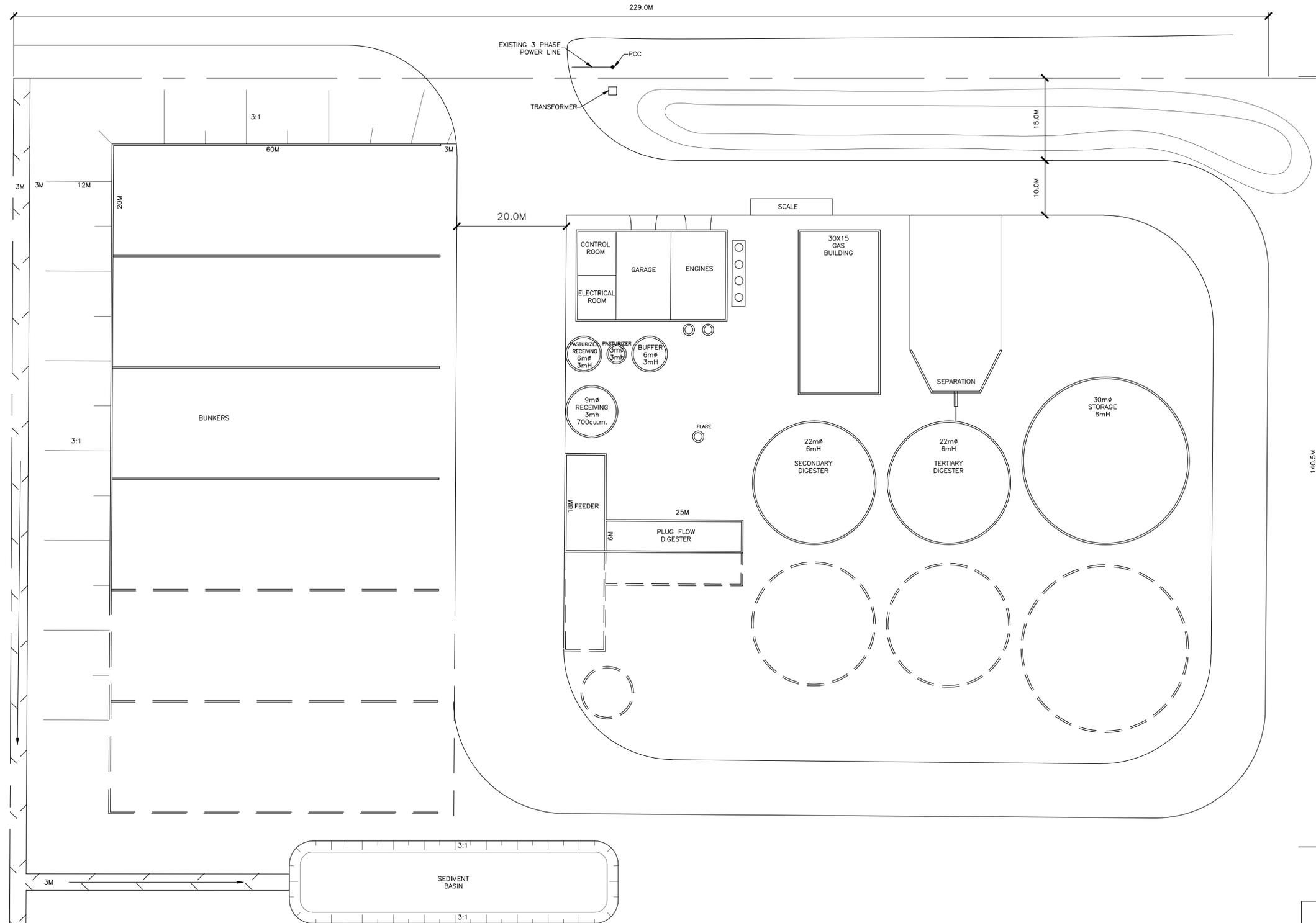
FIGURE 2
 SITE AREA



Riepma
 CONSULTANTS INC.
 R R 1, Georgetown, Ontario L7G 4S4

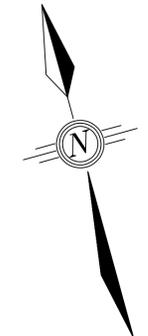
SOBIE ROAD

LANDFILL SITE



LEGEND

———	PHASE 1
====	PHASE 2



GRIMSBY ENERGY INC.
442 SOBIE RD.

ANAEROBIC DIGESTER

SITE PLAN
FIGURE 3

DATE	REVISION	
AUGUST 20, 2012	GENERAL REVISIONS	
DATE	SCALE	ADDRESS
MAY 2012	1:400	SOBIE ROAD GRIMSBY, ONTARIO



R R 1, Georgetown, Ontario L7G 4S4

4.0 Restoration of Lands Negatively Affected

There are no adjacent lands negatively affected by the biogas plant.

5.0 Decommissioning Requirements and Process

The decommissioning process would consist of the following steps:

5.1 Vessel Emptying and Cleaning

Remaining silage on the bunkers would be sold to local farmers as cattle feed and transported off site. Alternatively it could be spread on nearby farm fields if its quality was unsuitable for cattle feed. Any solid manure would be loaded and spread on farm fields.

The receiving of input material would be halted. All material in the input tanks would be pumped into the plug flow digester and the inside of the input tanks pressure washed. The wash water will be pumped into the secondary digester. The heat in the receiving tank would be turned off.

When the retention time in the plug flow digester has been achieved, the material can be pumped into the secondary vessel, the interior can be pressure washed and the wash water added to the storage vessel. The heat in the plug flow digester would be turned off.

When the retention time in the secondary digester has been achieved, the digestate can be pumped into the tertiary digester, the interior can be pressure washed and the wash water added to the digestate storage vessel. The heat in the secondary vessel can be turned off.

When the retention time in the tertiary digester has been achieved, the digestate can be pumped into the digestate storage vessel, the interior can be pressure washed and the wash water added to the digestate storage vessel. The heat in the tertiary vessel can be turned off. The engine can be shut down to cease heat production. Any remaining biogas can be flared.

When field application can be undertaken, the material in the storage vessel should be sold and applied to a farmer's field as fertilizer. All separated solids should be transported off site and sold as solid fertilizer.

6.0 Equipment Dismantling and Removal

6.1 Equipment Removal

Much of the equipment on site such as engines, pumps, valves and mixers have residual value and can be sold and re-located off site for reuse. Other custom built equipment such as switchgear, heat manifolds and control systems contain parts and materials that can be re-used and would be salvaged. Piping, ducting, electrical cabling and similar materials can be recycled.

6.2 Above Ground Structure Decommissioning

Metal buildings will be removed and recycled, cladding can be recycled and the insulation removed and disposed of. When the digesters and storage vessels have been stripped, the concrete structure as well as all of the other concrete tanks can be demolished and the concrete crushed and re-used.

When the engine/ control room has been stripped, the building can be demolished. Most of the materials can be recycled or re-used. The concrete floor can be broken up and recycled. The security fence can be removed and re-used. Note that silt fencing should be attached to the security fence at the beginning of demolition and not removed until vegetative ground cover is re-established.

The transformer can be salvaged and re-used.

6.3 Below Ground Structure Decommissioning

All of the below ground concrete associated with the vessels and tanks can be demolished and removed for recycling. All underground wiring can be pulled out of their ducts and recycled. All underground piping can be re-excavated and disposed of. Site gravel can be taken up and reused off site.

7.0 Site Restoration

When all of the structures and underground piping has been removed, the site can be graded back to its original grade. As no material was removed from the site for the construction of the plant, all of the native material is available for regrading. Topsoil should be added to the site and seeded with a mix of native species. No impact on ground or surface water is anticipated.

The future use of the site would in all likelihood be for agricultural purposes as permitted by the municipal Official Plan consistent with surrounding uses.

8.0 Managing Excess Materials and Waste

Most of the materials resulting from the decommissioning can be recycled or have residual value for re-use. Insulation, piping, and similar materials that cannot be re-used or recycled should be disposed of in the appropriate manner consistent with the requirements in place at the time. There are no hazardous materials or other wastes on the site.

9.0 Emergency Response and Communications Plan

Before demolition begins, the contractor must provide a communications and emergency response plan that is suitable including:

1. Identification of potential hazards on site that may be encountered during demolition
2. Emergency telephone numbers including police, fire and medical response services

3. Emergency procedures for spills, fire, or personal injury including the contact information for the Spills Action Centre
4. Identification of the primary person responsible for responding to an emergency.

The plan will also provide for the documentation of the emergency after the occurrence and the development of procedures to prevent a similar situation from occurring again.

10.0 Decommissioning Notification

The contractor must acquire a demolition permit from the Municipality and notify the Ministry of Environment of its plans.

Notification of the decommissioning will be provided by the owners of the facility to the municipality. In addition notification will be provided to The Ministry of Environment District Office and the Director of the Environmental Approvals Branch.

11.0 Other Approvals

No other approvals are required to decommission the site.