

SITUATION ASSESSMENT for the REUSE of the TAR LAKE SUPERFUND SITE



July 2009

EXECUTIVE SUMMARY

This memo outlines the near-term EPA actions necessary to support the productive reuse of the Tar Lake Superfund Site in Mancelona, Michigan by landowner and biomass developer, Mancelona Renewable Resources (MR2).

In early 2009, MR2 purchased two parcels within the Site with the intention of developing the property as a biomass plant. The plant is expected to generate 283,800 Megawatt hours of “green” energy each year. The plant will also create 28 full time jobs and is expected to support 150-200 new spin-off jobs for co-locating businesses and outside materials and services.

Village, Township and County officials and other local stakeholders are supportive of the proposed redevelopment and are providing supporting investments through an inter-jurisdictional development coalition, the Mancelona Development Group. To date, MR2 has invested over \$1,000,000 in this biomass project on property purchase, engineering, design-build, environmental studies, legal fees, and a wood fuel study. The total project cost is expected to be upwards of \$150,000,000.

EPA has invested significant resources towards achieving reuse of the Site. Site remediation began in 1998, and EPA achieved construction completion in September 2004. In 1999, the Tar Lake Site was one of ten Superfund Redevelopment cooperative agreement grants offered to local communities to consider stakeholder input into the reasonably anticipated future land use of sites. Antrim County used the CA grant to produce a community based reuse plan. In 2005, Region 5 provided additional assistance in the form of in-kind services to the Community Resource Development Inc. of Mancelona, Michigan in order to update the 1999 reuse plan. On November 21, 2005 EPA deleted the 45-acre East Tailings Area from the National Priorities List (NPL) to promote potential development.

MR2 must secure a Power Purchase Agreement before moving forward with additional redevelopment steps. An Explanation of Significant Differences, restrictive covenants, a ready for reuse determination and a partial deletion are all planned to be completed before a Power Purchase Agreement can be secured. This memo further describes the Site’s status and outlines next steps needed to facilitate reuse.

MEMORANDUM

Date: August 17, 2009

To: Tom Bloom, Reuse Coordinator, EPA Region 5
Karen Cibulskis, Remedial Project Manager, EPA Region 5
Ben Brower, Mancelona Renewable Resources
Sheri Rhoades, North Lakes Economic Alliance

From: Mike Hancox, E² Inc.
Miranda Maupin, E² Inc.
Sarah Malpass, E² Inc.

Re: Tar Lake Situation Assessment

Attached: A - Tar Lake Parcel Status Summary
B - Biomass Plant Summary (provided by MR2)
C - Biomass Plant Draft Site Plan (provided by MR2)

Introduction

In May 2009, EPA Region 5 requested assistance from E² Inc. in assessing the reuse status of the Tar Lake Superfund Site (Tar Lake Site, Site). E² Inc. conducted a site visit on June 11, 2009 to tour the Site and meet with EPA Region 5, Michigan Department of Environmental Quality (MDEQ), the site owner Mancelona Renewable Resources (MR2) and local stakeholders including Community Resource Development, Inc. representatives Tom Ross, Gary Knapp and Larry Murton, Village of Mancelona President Robert Wilcox, and Northern Lakes Economic Alliance representative Sheri Rhoades. During the site visit discussions, participating stakeholders voiced unanimous support for a proposed development by MR2 and shared concerns that the steps and timeline outlined by EPA to prepare the site for reuse may compromise the developer's ability to secure agreements and funding in time to ensure a viable project.

This memorandum summarizes information gathered to date regarding the status of remedial actions, ownership and redevelopment efforts at the Tar Lake Site and outlines steps needed to facilitate reuse. Specifically, MR2 must secure a Power Purchase Agreement before moving forward with additional redevelopment steps. A restrictive covenant must be completed before a Power Purchase Agreement can be secured. The remainder of the memo details actions to date and additional steps necessary to facilitate this reuse of the Tar Lake Site.

Background

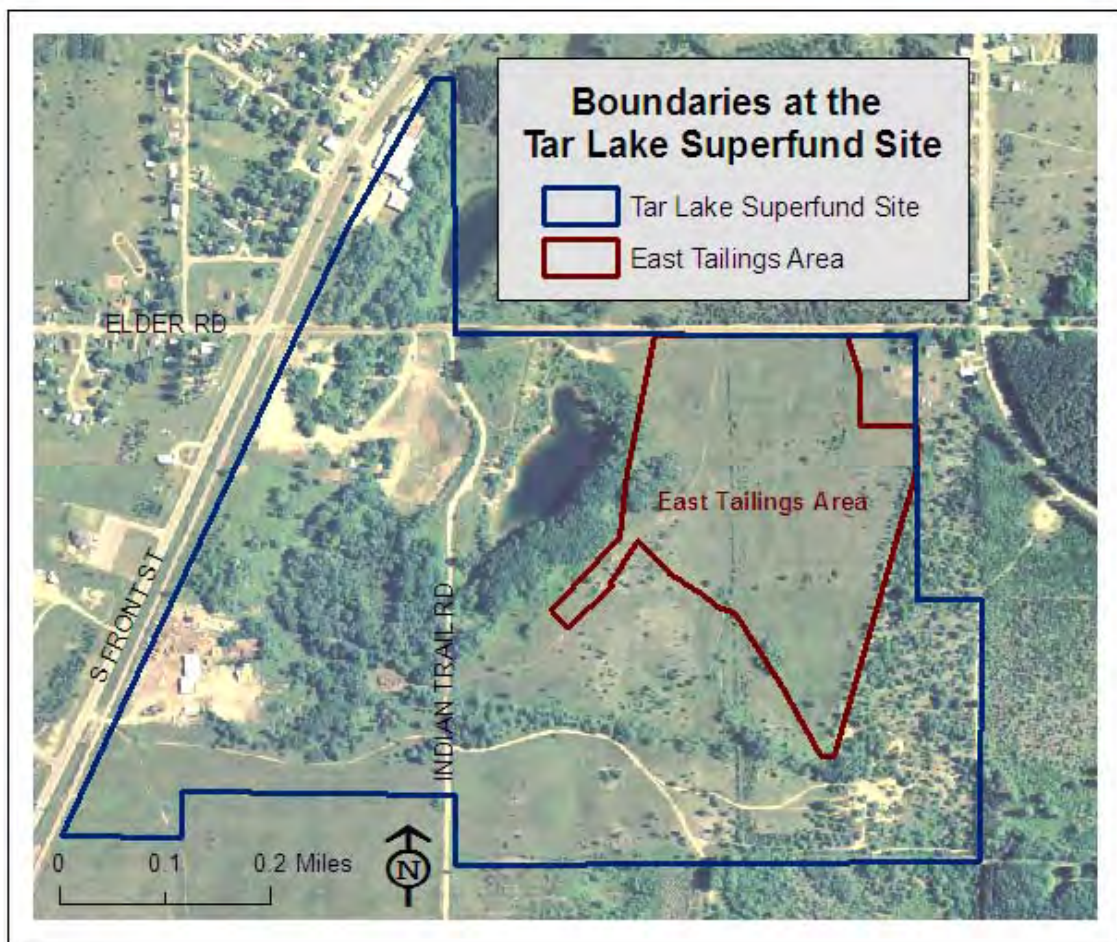
The Tar Lake Superfund Site includes approximately 200 acres located in Mancelona Township, Antrim County, Michigan. Antrim Iron Company operated at the Site from the

1880s until 1944. Charcoal pig iron and related chemicals were produced on location, and contamination occurred as Antrim Iron Company disposed of wastes in the Site's pond (Tar Lake). In 1949, ground water contamination was detected up to three miles away from the Site. In addition, tar deposits in a 4-acre depression referred to as Tar Lake were characterized by high concentrations of heavy metals and phenol.

The Tar Lake Site was placed on the National Priorities List (NPL) in September 1983. Site remediation began in 1998 and included the removal of 47,000 tons of tar waste from the Site. Public water was also extended to residences that were using wells affected by the contaminated groundwater plume from Tar Lake.

EPA achieved construction complete status at the Site in September of 2004. In December 2005, E² developed a draft Ready for Reuse (RfR) Determination for EPA. MDEQ is responsible for ongoing monitoring at the Site and for testing water samples to ensure the remedy's effectiveness. Figure 1 outlines the Site boundary and the East Tailings Area.

Figure 1: Tar Lake Superfund Site



EPA has invested significant resources in remediation and in readying this Site for reuse. Remedial actions on Site cost upwards of \$15,000,000. Reuse planning and in kind services cost over \$120,000. These expenses do not include the pre-remedial investigations conducted by EPA or the follow up investigations conducted by MDEQ with EPA funding.

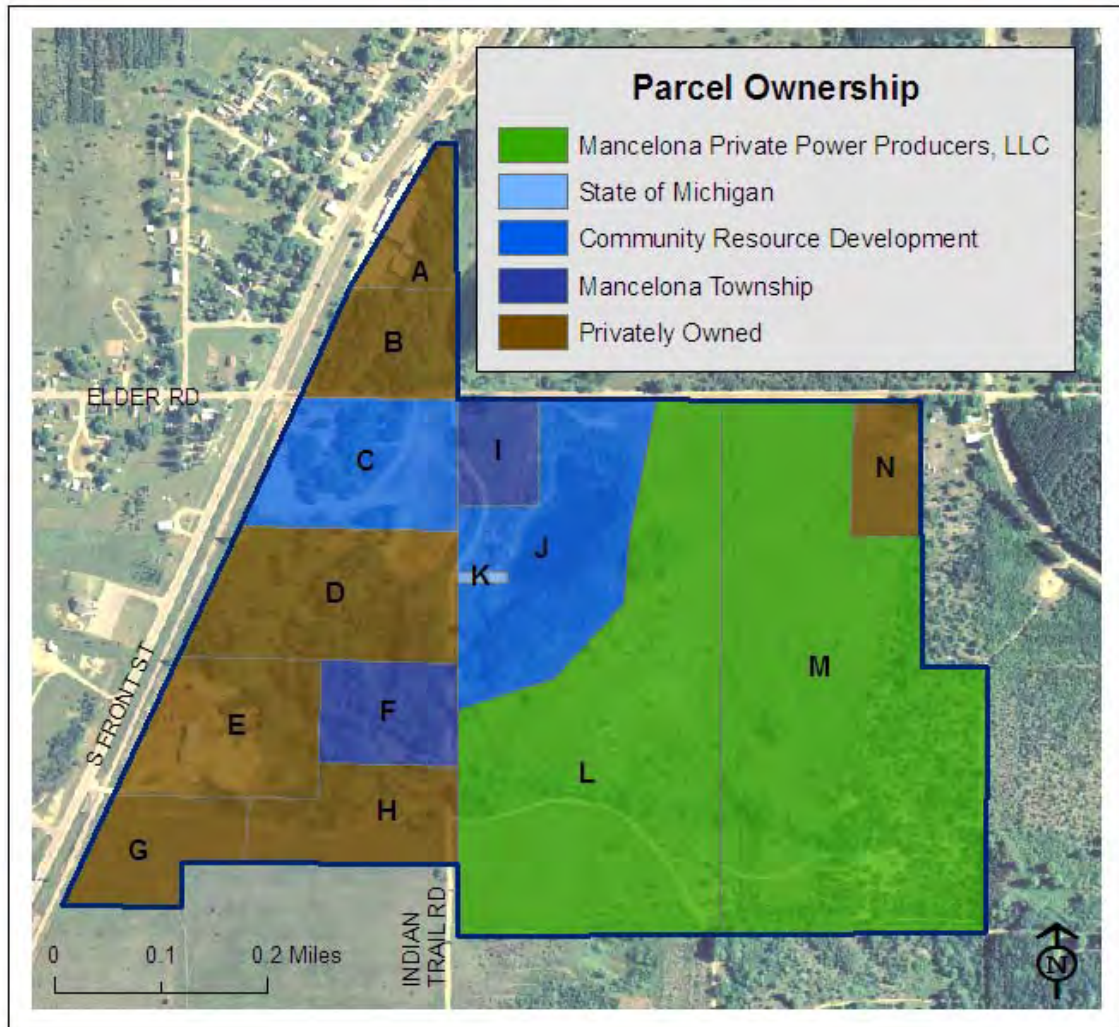
In 2009, MR2 purchased 2 parcels located within the Tar Lake Site with plans to redevelop the Site as a biomass plant¹. Figure 2 illustrates current parcel ownership, and Attachment A details parcel ownership, remediation status and other parcel status information.

MR2 has made significant investments in the Site with the expectation of having their plant on line in 2013. Their development proposal is strongly endorsed by Mancelona Township and Antrim County, and supporting investments have been made through an inter-jurisdictional development coalition, the Mancelona Development Group, which is tasked with promoting redevelopment at the Tar Lake Site. Figure 3 illustrates the site boundaries of MR2's proposed development. A draft site plan is included as Attachment C.

According to the Biomass Plant Summary provided by MR2 (Attachment B), the proposed biomass plant will produce approximately 283,800 Megawatt hours of "green" energy each year. Renewable clean wood waste will be converted to generate approximately 36 MW of power. The power will be sold to the local utility line which is 3/4 of a mile east of the property. The MR2 plant will create excess steam that can be sold as energy to adjacent industries. MR2 will also have the capacity to strip the CO₂ from the emissions stack, compress it, and ship it via underground pipeline to inject in nearby depleted Niagaran oil reefs to sequester CO₂ and produce oil. The plant is expected to create 28 full time jobs and to support 150-200 new spin-off jobs for co-locating businesses and outside materials and services such as wood cutters and truckers.

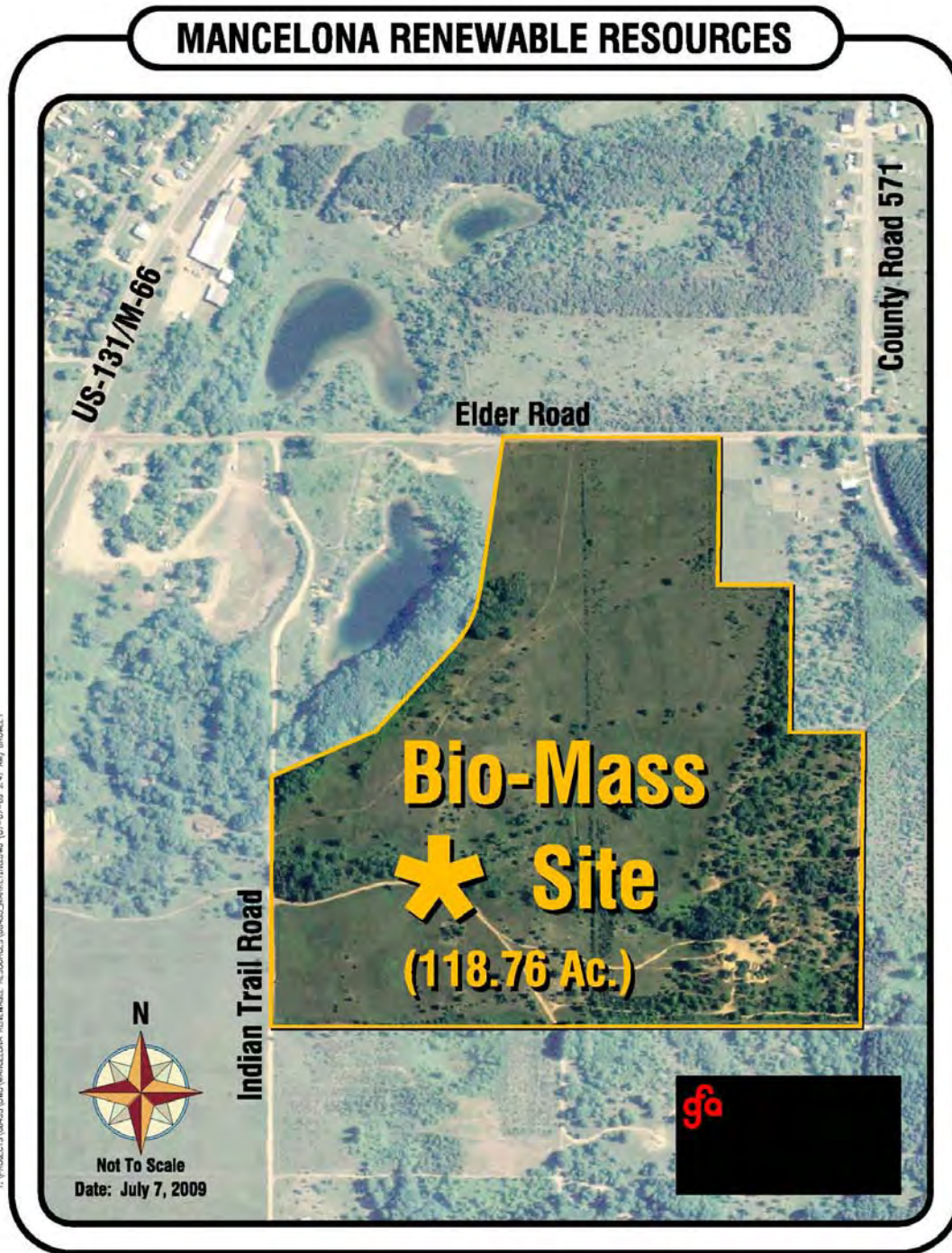
¹ In April and May of 2009, MR2 purchased two parcels within the Site: PIN 05-11-129-007-00 and PIN 05-11-129-006-10. PIN 05-11-129-007-00 was purchased in full from Mancelona Township. PIN 05-11-129-006-10 was purchased from CRD after being subdivided from PIN 05-11-129-006-00 which CRD kept. MR2 retains a 10 year option to purchase the balance of the CRD parcel, which comprises the Peckham Lake and Tar Lake area, for \$10. Mancelona Township tax assessment records document the subdivision of PIN 05-11-129-006-00. Figure 3, provided by MR2, documents the general site boundaries for the MR2 redevelopment project, which includes both PIN 05-11-129-007-00 and PIN 05-11-129-006-10.

Figure 2 – Parcel Ownership at the Tar Lake Site



* Figure 2 may be read in conjunction with Attachment A, which details property ownership for each parcel as well as other status information.

Figure 3 –Proposed Development for the Tar Lake Site (courtesy of MR2)



Redevelopment Activities by Mancelona Renewable Resources

MR2 has invested over \$1,000,000 in this biomass project on property purchase, engineering, design-build, environmental studies, legal fees, and a wood fuel study. The total project cost is expected to be upwards of \$150,000,000. Costs listed by task below in Tables 1 and 2 do not include staff time invested in this project, which has been four part-time staff over the past 2-plus years.

Table 1: Completed MR2 Tasks

Completion Date	Completed Tasks	Financial Investment
December 2008	Submitted DEQ Air Quality application. (<i>Expect draft conditions in August '09 and final permit in October '09.</i>)	\$40,000
Spring 2009	Commissioned and obtained a Wood Fuel Study for a 36 MW power plant with a need for 400,000 tons of wood chips per year.	\$20,000
Spring 2009	Completed and submitted Phase I, Phase II and BEA to DEQ. Accrued consultant/legal fees	\$160,000
March 2009	Purchased 53.31 acres of property from the Community Resource Development	\$125,000
April 2009	Purchased 65.45 acres of property from Mancelona Township	\$86,000
Summer 2009	Completed site plan and survey work & purchased CO2 reef for carbon sequestration	\$330,000
August 2009	75% complete on proforma/financial models.	\$15,000
August 2009	Completing preliminary engineering work (Design Build document, heat and water mass flow diagrams, etc).	\$180,000

Table 2: Ongoing MR2 Tasks

Timeframe	Ongoing Tasks	Financial Investment
September '09	Developing White Book (detailed marketing write-up) for potential financing/equity partner.	\$20,000
Winter '09/10	Negotiating Power Purchase Agreement (PPA).	---
Winter '09/10	Negotiating contracts with wood fuel providers for fuel procurement.	---
Winter '09/10	Requesting bids on major ticket items such as boiler and steam turbine generator.	NA
Winter '09/10	Interviewing EPC contractors for bid scope.	---
Summer 2010	Conducting definitive Planning Process (DPP) for power interconnection. (about 50% complete) (MidwestISO)	\$75,000

Redevelopment Activities by the Community

The redevelopment proposed by MR2 is strongly supported by the Village of Mancelona, Mancelona Township and Antrim County. The Mancelona Development Group (MDG) which is composed of village, township and county officials, as well as CRD and the Northern Lakes Economic Alliance (NLEA), has been meeting regularly to work on this project since 2007. CRD, the township and the county all own nearby property and are

working together to develop the Site. In addition to working on the development incentives and other investments detailed below, MDG has invested significant time and resources into recruiting MR2 as a potential reuse partner and continues to market the Site as a co-generation opportunity to potential industrial users.

Development Incentives

Mancelona Township established the property as an Industrial Development District (IDD) to encourage manufacturing companies to locate to the Site. Originally, Antrim County applied to the state requesting that the Site be established as a Renaissance Zone (tax free) but this was denied.

MDG is now working with Senator Allen and Representative Elsenheimer to amend PA 198, the current industrial facilities tax legislation that allows a community to abate 50% of the new investment taxes for a 12 year maximum to a manufacturer expanding or locating in the community, to include biomass companies. The amendment passed the Senate but is still in the House. The NLEA president testified in Lansing, Michigan twice on the amendment, and MDG members have submitted letters of support.

Financial Investments

A waterline installed by the State of Michigan extends past the MR2 property. If MR2 requires public water to proceed with redevelopment, Mancelona Township could apply for Community Development Block Grant (CDBG) funds to extend the water. This is a low and moderate income community with 53.8% of township residents and 56.6% of Village residents qualifying as low to moderate income people, per the federal CDBG program.

Remedial Action Status

EPA has prioritized the following near-term tasks related to the Site to facilitate reuse:

1. Explanation of Significant Difference (ESD)

MR2 sought clarification from EPA on whether non-potable groundwater use at the Site is acceptable. The ESD has been drafted and specifies that groundwater can be used as a non-potable groundwater supply as long as conditions outlined in EPA's ESD are met. The final ESD is expected to be published in September 2009.

2. Restrictive Covenants (RC)

The 2002 Record of Decision (ROD) specifies that the remedy for the areas of the Site not encompassed by the East Tailings Area includes groundwater use restrictions along with restrictive covenants that will restrict land use to industrial, commercial and recreational use. Residential land use would be prohibited unless additional evaluation indicates residential land use would not result in any unacceptable risks. EPA is currently working with the MDEQ Enforcement and Compliance Branch and the State Attorney General's to determine what model to use for drafting the restrictive covenants.

Restrictive covenants remain to be implemented for three major areas: (1) the land within Tar Lake Site, (2) the fenced area included within the Site, and (3) the groundwater within the Site. The properties affected by these restrictive covenants are illustrated in Figure 4 – Proposed Restrictive Covenant Locations.

The restrictions specific to each area are as follows²:

RC 1: The land within the Tar Lake Site boundary is subject to restrictive covenants that would restrict land use to industrial, commercial or recreational use.

RC 2: The land within the fenced area is subject to restrictive covenants that would prohibit any buildings or development that would interfere with the operation and effectiveness of the biosparge groundwater treatment system. No digging or excavation may occur in this area without EPA and MDEQ approval.

RC 3: The groundwater within the Tar Lake Site boundary is subject to restrictive covenants that prohibit groundwater from being used as a drinking water supply or as a non-potable groundwater supply unless conditions outlined in EPA's ESD are met.

The RCs for the MR2 property are expected to be submitted to MDEQ for concurrence in September 2009.

3. Partial Deletion

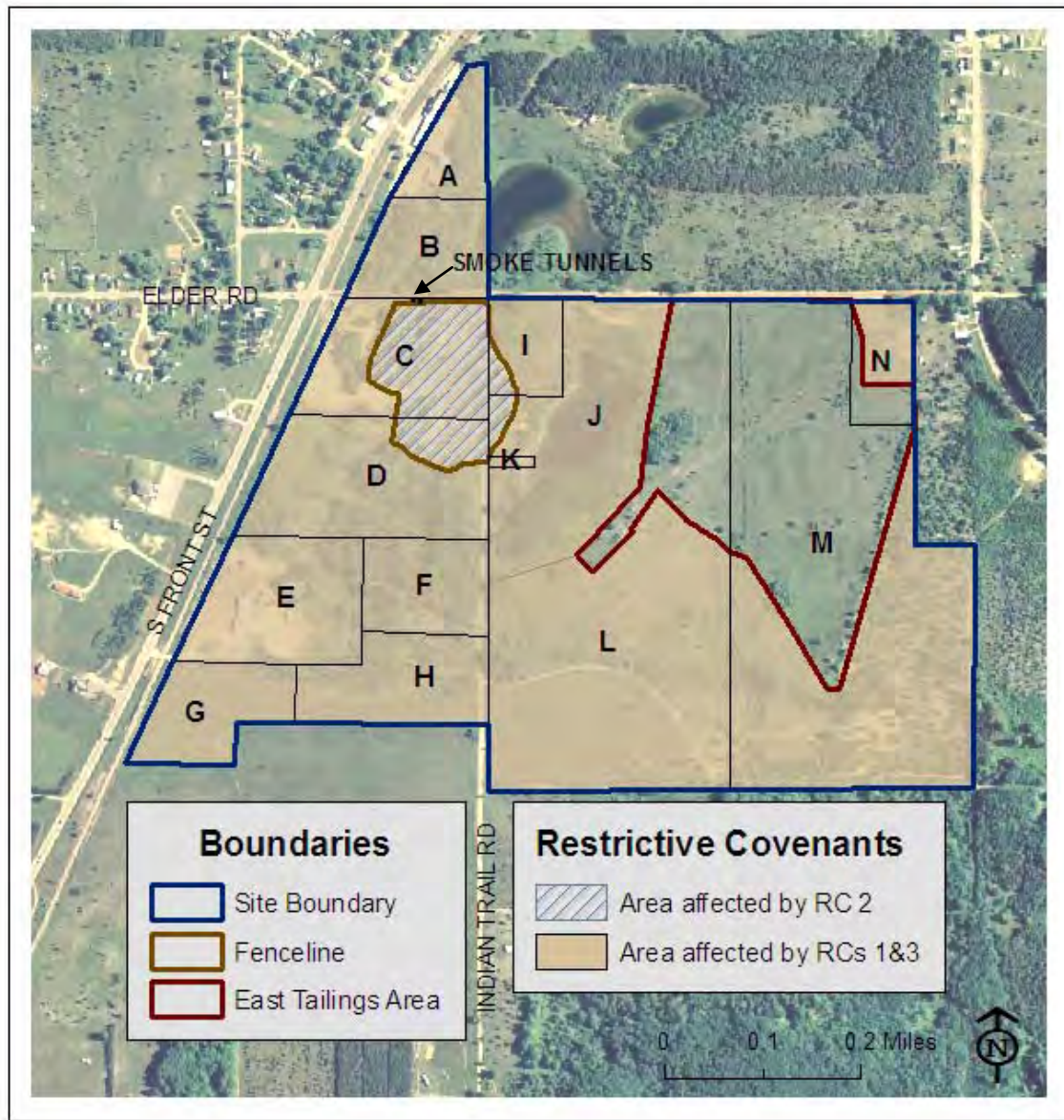
Once the RCs are implemented, EPA will publish a partial deletion notice.

4. Ready for Reuse Determination (RfR)

E² Inc. prepared a draft RfR in 2005. EPA has asked E² Inc. to update the RfR for EPA approval once the ESD and RCs have been completed.

² Summarized from the June 2009 Five-Year Review Report for the Tar Lake Superfund Site (EPA), pp. 38-39.

Figure 4 – Proposed Restrictive Covenant Locations



* Figure 4 may be read in conjunction with Attachment A, which details restrictive covenant information for each parcel as well as other status information.

Project Timeline

Several key tasks must occur this Fall in order for Site reuse to move forward. MR2 is working to negotiate a power purchase agreement after which point they expect to receive financing for the rest of the project. In order to move forward with a power purchase agreement, the restrictive covenants need to be implemented and the MR2 parcels need to be deleted by EPA. In the meantime, EPA will be revising the RfR to be

published after the ESD and deed restrictions have been completed. The Mancelona Development Group (MDG) will continue their work on passing supportive tax legislation and marketing the site.

Table 3: Outline of Next Steps for E² Inc, EPA, MR2, and the Development Group

Timeframe	Task	Lead
Summer /Fall '09	1. Revise RfR.	EPA
Sept. '09	2. Complete final draft of restrictive covenants for MR2 property.	EPA/MDEQ ³
Sept. '09	3. Publish ESD.	EPA
Sept. '09	4. Complete a proforma.	MR2
Fall '09 ⁴	5. Implement restrictive covenants for MR2 property.	EPA/MDEQ
Fall '09 ⁵	6. Publish partial deletion notice.	EPA
Fall '09	7. Publish RfR.	EPA
late Fall / Winter '09	8. Obtain tax abatement approval from Michigan legislature	MDG
Winter '09/10	9. Enter into a Power Purchase Agreement (PPA) with Utility for 36 MW.	MR2
Fall '09	10. Enter into contracts with wood fuel providers.	MR2
Winter '09 – '10	11. Negotiate a lending agreement with banks.	MR2
Winter '09 – '10	12. Obtain DOE loan guarantee.	MR2
Winter '09 – '10	13. Hire EPC contractor and award bids after obtaining financing.	MR2
Winter '09 – '10	14. Engineering work: P&I diagrams, detail drawings	MR2
8 weeks from application	15. Obtain waste water discharge permit	MR2
8 weeks from application	16. Obtain FAA permit	MR2

Immediate Next Steps

As EPA moves forward with revising the Ready for Reuse Determination, it will be helpful to confirm the dates by which EPA expects to implement restrictive covenants and publish the ESD and partial deletion notice. MR2 has stated that the timing of these tasks will have a significant impact on the revision of the RfR as well as on the progress of MR2's power purchase agreement negotiations and subsequent lending agreement negotiations. Continued meetings and a potential site visit between EPA, E² Inc. and MR2 may be helpful for confirming next steps and timing.

³ The Michigan Department of Environmental Quality (MDEQ) is the grantee for the restrictive covenants.

⁴ After the final draft RC is completed it must navigate the MDEQ review chain. The Site's Remedial Project Manager is unsure of how long this will take.

⁵ The partial deletion notice cannot be published until the RCs for the MR2 property have been implemented.

**ATTACHMENT A
TAR LAKE PARCEL STATUS SUMMARY**

Parcel	PIN	Owner	Size (acres)	Applicable Restrictive Covenants	Comments
A	05-11-119-043-00	Mancelona Holdings LLC	5.34	1, 3	
B	05-11-119-042-00	Collins & Aikman Products Co, Attn: Greg Mackin	8.12	1, 3	
C	05-11-130-001-00	Community Resource Development	13.86	1, 2 & 3	
D	05-11-130-002-00	Apfel, William J & Karen	18.34	1, 2 & 3	
E	05-11-130-003-00	Moeke Real Estate Holdings Co.	13.57	1, 3	EPA is updating the 2003 O&M plan to collect samples to demonstrate that groundwater use in the existing potable on site well is consistent with ROD requirements.
F	05-11-130-005-00	Mancelona Township	7.9	1, 3	
G	05-11-130-006-00	Breitburn Operating LP	8.26	1, 3	
H	05-11-130-006-70	Tomaski, Gregory P.	10.29	1, 3	
I	05-11-129-010-00	Mancelona Township	4.8	1, 2 & 3	
J	05-11-129-006-00	Community Resource Development	22.01	1, 2 & 3	This property was split on 5/28/09 and the child parcel (05-11-129-006-10) was sold to Mancelona Private Power Producers, LLC. This company retains an option to purchase the remaining CRD property for \$10.
K	05-11-129-011-00	State of Michigan	0.3	1, 3	
L	05-11-129-006-10	Mancelona Private Power Producers, LLC	53.31	1 & 3	Includes 11.91 acres of the East Tailings Area, which has been deleted from the Site. This property was created from the parent parcel (05-11-129-006-00) on 5/28/09.
M	05-11-129-007-00	Mancelona Private Power Producers, LLC	64.61	1, 3	Includes 31.62 acres of the East Tailings Area, which has been deleted from the Site.
N	05-11-129-009-00	Andersen, Harold R.	5.24	1, 3	Includes 1.76 acres of the East Tailings Area, which has been deleted from the Site. EPA is developing a work plan to collect sampling data to confirm that the property does not contain site related contamination or whether it can be deleted from the NPL.

N.B. For a complete summary of EPA actions at the Site, refer to the 2009 Five Year Review Report (EPA, 2009).

**ATTACHMENT B
BIOMASS PLANT SUMMARY**

Biomass Plant Highlights



- The Mancelona Renewable Resources LLC (MR²) proposed biomass power plant will use approximately 400,000 tons of clean wood waste per year and generate approximately 36 net Megawatts of power at an average 90% capacity factor. This represents 283,800 Megawatt hours of “green” energy production each year and will provide energy for over 30,000 homes.
- The Project is located on a 119-acre industrial site in Mancelona, Michigan that is served by city water and is located within a class 5 fire protection area. The project will create approximately 28 new, full-time, year round jobs plus several hundred additional area jobs as a result of the outside fuel sources and services required by the plant and any co-locating businesses.
- The project is situated in a township that has no existing zoning ordinance, and therefore does not require a special use permit from local governmental agencies. The air quality permit is the only known permit required that takes longer than 60 days to acquire. MR² applied for its air quality permit in December, 2008 and expect issuance by November, 2009. Other required permits include ground water discharge, FAA tall structures and construction permits.
- Village, township and county officials as well as local residents and business owners have demonstrated overwhelming support of this project as it will provide jobs for an area that has lost hundreds of local jobs in the past few years. It is anticipated that the Michigan legislature will pass a bill that will allow MR² to be eligible for a tax abatement equal to 50% of the annual property tax burdens for a 12 year period. This savings is estimated to be over \$500,000 per year.
- The project site was selected, in part, due to its close proximity to a number of Niagaran reefs that have been depleted through primary production means. MR² is pursuing the feasibility of sequestering the CO₂ generated by the plant and utilizing it for secondary recovery in depleted oil reservoirs. Advancement of this innovative technology has the potential to make this project one of the first plants to actually capture and sequester its own CO₂, thereby effectively making the project “carbon negative”.
- The plant site was originally part of the Tar Lake EPA Superfund Site. A baseline environmental assessment (BEA) has been completed and the site is expected to be de-listed and removed from the National Priorities List (NPL) later this Fall. The EPA is very supportive of this project as evidenced by their desire to participate in a joint press release and ribbon cutting ceremony upon formal removal from the NPL.
- Michigan electric utilities are required to obtain a generation mix that includes 10% renewable energy by 2015 according to the State’s Renewable Portfolio Standard (RPS), Public Act 295. This project will sell power to a Michigan utility under a power purchase agreement (PPA) that is yet to be negotiated. Unlike many other renewable power projects, the MR² biomass power plant will provide a high level of base load capacity and is therefore more sought-after than wind or other lower capacity factor type plants. Because of this desirable attribute, we expect to be able to negotiate favorable PPA terms from a Michigan electric utility.

- A wood fuel study paid for, in part, by a U.S. Department of Energy State Energy Program (SEP) grant and managed by the Michigan Biomass Energy Program, DELEG Bureau of Energy Systems, indicates a more than adequate wood supply from within the area. The plant is designed to burn clean renewable forest residues from within a 75 mile radius of the site. It is anticipated that MR² will enter into 3 to 5 year wood fuel supply contracts for approximately 60% of the plant's annual fuel needs. The remaining fuel supply will be purchased at market prices.
- The wood yard is designed to store a generous four months of continuous wood supply, thereby promoting supply/price stability. This will also allow for pile management practices that provide a reduction in wood moisture content while improving combustion efficiency and boiler stability. The expanded wood yard design represents a competitive advantage over other northern Michigan biomass power plants.
- Generator interconnection is planned through Wolverine Power Supply Cooperative, Inc.'s (WPSCI) 69KV transmission line, approximately ¾ mile from the proposed plant site. This transmission line is scheduled, through the Midwest Independent Transmission System Operator (MISO), to undergo a major capacity upgrade prior to the plant's anticipated commercial operation. Phase I of the transmission interconnection study has been completed.
- HDR / Cummins & Barnard, Inc. located in Ann Arbor, Michigan, has been selected for the conceptual design work on the project. They have a strong background in biomass power plant design and are well suited to be the owner's consulting engineer. The project is designed to use a natural circulation, sub-critical, bubbling fluidized bed boiler (BFB) and single casing axial flow steam turbine capable of producing 36 MW of power net of parasitic loads, at a steam flow of approximately 375,000 pounds per hour at 950 deg F and 1215 Psia. The bubbling bed boiler is a well tested technology capable of burning a wide variety of wood fuel types with varying moisture contents up to 55% MC. Fuel flow into the boiler will be at a rate of approximately 50 tons per hour.
- It is anticipated that the project will be designed and built under a turnkey, fixed-price Engineering, Procurement and Construction (EPC) contract complete with operating performance guarantees. The project development schedule anticipates a summer/fall 2010 project EPC start date with complete build-out in 30-36 months.
- The total project cost is expected to be approximately \$150 million. It is anticipated that the project will use a tax equity financing approach with capitalization of approximately 30% equity and 70% debt. However, other financing approaches utilizing capital mixes will also be considered. The American Recovery and Reinvestment Act of 2009 (ARRA) provides for the availability of DOE tax credits/grants for qualifying projects in order to encourage renewable energy development. These credits/grants are equal to 30% of qualifying project costs and payable within 60 days after the project begins commercial operation.
- The regulatory climate both nationally and in Michigan is very favorable for the development of renewable energy projects such as this, superior to those available during the early 1980's when the last boom of biomass plants were constructed.

This prospect is subject to prior sale and withdrawal without notice

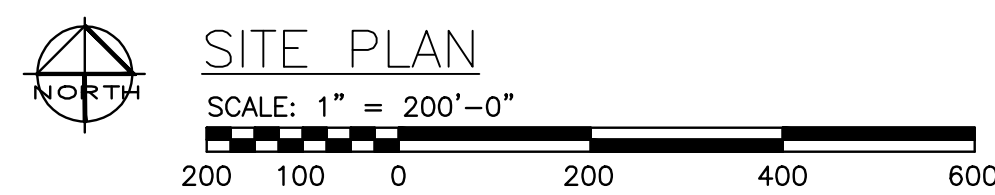
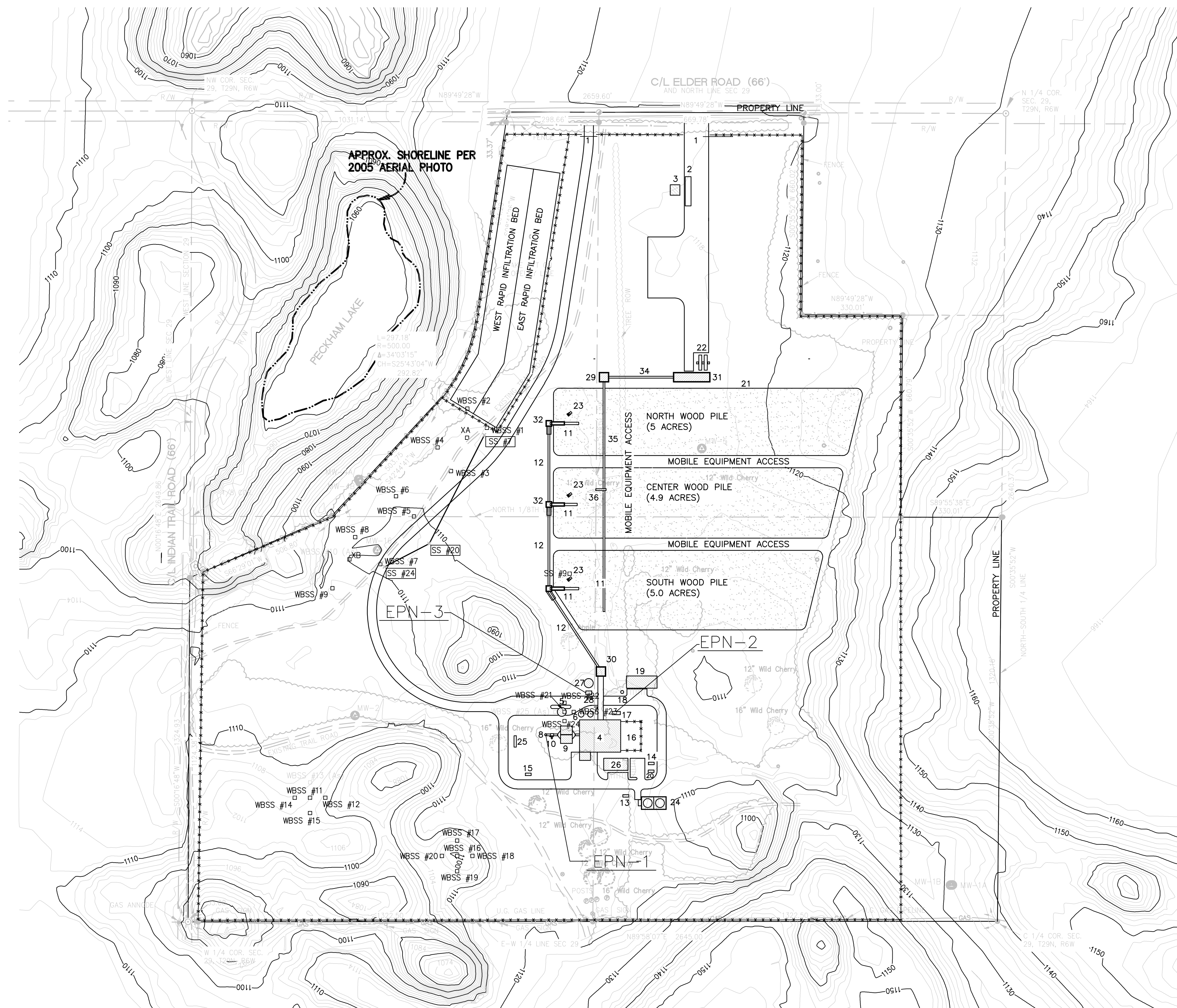
ATTACHMENT C
BIOMASS PLANT – DRAFT SITE PLAN

EQUIPMENT LIST

No.	ITEM	HEIGHT
1	PLANT GATE	
2	TRUCK SCALE	
3	SCALE HOUSE	15'
4	GENERATION BUILDING	120'
5	ASH STORAGE SILO	50'
6	NEUTRALIZATION TANK	20'
7	DEMIN. WATER STORAGE TANK	20'
8	STACK	270'
9	FABRIC FILTER BAGHOUSE	85'
10	I.D. FAN	15'
11	IN-PILE RECLAIM FEEDERS	
12	RECLAIM CONVEYORS	
13	AMMONIA TANK	12'
14	OIL/WATER SEPARATOR	
15	WASTE WATER LIFT STATION	
16	SUBSTATION	
17	EMERGENCY GENERATOR	10'
18	DIESEL FUEL STORAGE TANK	10'
19	WAREHOUSE	30'
20	SANITARY LIFT STATION	24'
21	FUEL STORAGE YARD	
22	TRUCK TIPPER	
23	FUEL CONVEYING FRONT END LOADER (MOBILE)	
24	COOLING TOWER	50'
25	GAS METERING STATION	
26	ADMINISTRATION BUILDING	30'
27	FIRE/WATER STORAGE TANK	
28	DIESEL FIRE PUMP	12'
29	TRANSFER HOUSE	
30	SCREEN HOUSE	
31	RECEIVING HOPPER/FEEDER	
32	RECLAIM HOPPER LOADOUT	
33	STATION FUEL SUPPLY CONVEYORS	
34	FUEL STACKOUT CONVEYOR	
35	TRIPPER CONVEYOR	
36	TRAVELING TRIPPER	

EMISSION POINTS

EMISSION POINT No. (EPN)	NAME	SPCS ZONE 2112 (NAD83) (FEET)	LATITUDE	LONGITUDE	UTM ZONE 16 (NAD83) (METERS)
1	STACK	N 571,547.551 E 19,503,515.057	44°-52'-56.14706"	85°-04'-1.29394"	N 4,971,688.944 E 652,659.760
2	DIESEL GENERATOR	N 571,623.700 E 19,503,745.825	44°-52'-56.91865"	85°-03'-58.09791"	N 4,971,714.423 E 652,729.306
3	DIESEL FIRE PUMP	N 571,684.742 E 19,503,645.793	44°-52'-57.12880"	85°-03'-59.49453"	N 4,971,720.178 E 652,686.512



I	28 AUG 09	REVISED MATERIAL HANDLING	TMS	MAW	MAW
H	25 AUG 09	REVISED MATERIAL HANDLING	ELT	MAW	MAW
G	10 AUG 09	REVISED RIB	TMS	MAW	MAW
F	07 AUG 09	REVISED FENCE	TMS	MAW	MAW
E	05 AUG 09	REVISED ARRANGEMENT	TMS	MAW	MAW
D	19 JUN 09	REVISED WOOD PILE	TMS	MAW	MAW
C	09 JUN 03	REVISED SITE BACKGROUND	TMS	MAW	MAW
B	08 DEC 08	REVISED TITLE BLOCK	KWS		
A	30 SEP 08	INITIAL ISSUE	TMS		
REV	DATE	DESCRIPTION	DWN	ENGR	CHK APPV



MANCELONA
RENEWABLE RESOURCES, LLC
MANCELONA GENERATING STATION

MANCELONA GENERATING STATION
EMISSION POINT LOCATION

SCALE: 1" = 200'-0" PROJECT NO. 78135

DWG. NO. 78135-CGA-1001

REV. I

NOT TO BE USED FOR
CONSTRUCTION