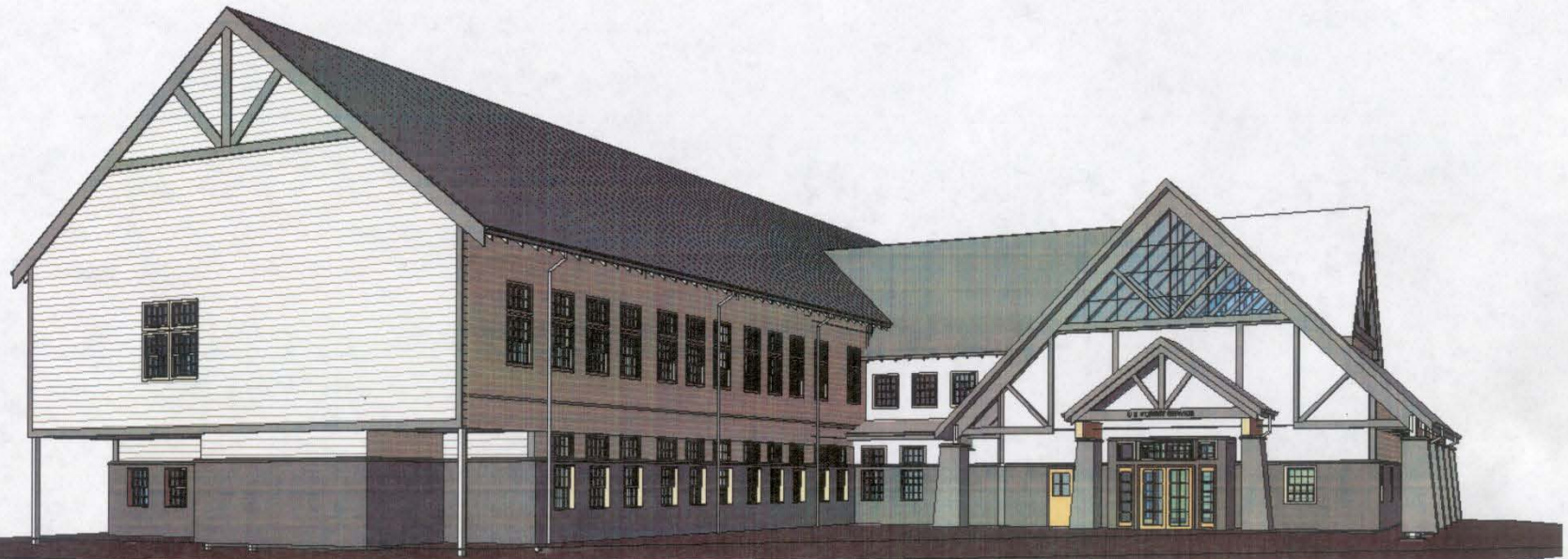


White Mountain National Forest Sustainable Headquarters Virtual Tour As of 9 May 2011



Virtual Tour

45 Minutes
of Pictures

Do not do it justice!!!!

Please Come see us for a real tour.



Some Credits to Start Off

- Trust for Public Lands – helped secure and purchase the site.
- Society for the Protection of NH Forests SPNHF (Paul Levielle) – LEED Leadership
- The Jordan Institute (Paul Levielle) – LEED Commissioning
- Mount Wachusett Community College, Gardner, Mass – Biomass/Biomax Ldrshp.



Welcome to the White Mountain National Forest Headquarters




Visitor's Center



History

- 2001 – Facility Master Plan picks Plymouth area
- 2002 – Property Search for the perfect location
- 2003 – 44 Acres purchased at exit 27 of I-93
- 2003/2004 – Survey, NEPA, Geotech, H2O well
- 2006 – Access Road Construction and Office Design Begins
- 2007- Phase 1 Construction Contract
- 2008 - Phase 2 Construction Contract
- Oct 2009 – Move in and Dedication Ceremony

Basic Relocation Efficiencies

- Combined 3 current offices into one location. Laconia, Holderness, Bethlehem
 - Headquarters moved 35 miles closer to Forest.
 - Significant decrease in miles driven.
 - New location significantly improves visitor information services and opportunities.
 - Office/Conf Room available for partners, cooperators, etc.
- 

Levels of LEED Ratings

**Green Buildings
worldwide are certified
with a voluntary,
consensus-based
rating system.
USGBC has four
levels of LEED.**



www.usgbc.org



What is the LEED System?

LEADERSHIP in ENERGY and ENVIRONMENTAL DESIGN

A leading-edge system for certifying DESIGN, CONSTRUCTION, & OPERATIONS of the greenest buildings in the world

Scores are tallied for different aspects of efficiency and design in appropriate categories.

For instance, LEED assesses in detail:

1. Site Planning
2. Water Management
3. Energy Management
4. Material Use
5. Indoor Environmental Air Quality
6. Innovation & Design Process

Green Facts

John M. Langston High School Continuation & Langston-Brown Community Center
Arlington, Virginia

LEED-NC rating out of 69

Silver 35

Sustainable Site 8

Water Efficiency 3

Energy & Atmosphere 4

Materials & Resources 6

Indoor Environmental Quality 11

Innovation & Design 3

USGBC LEED-NC rated Sept. 3, 2003.



The new office was designed to achieve a LEED Silver rating which we are all but guaranteed.

Currently working with the Green Building Council on additional points to achieve a Gold rating which we hope to have soon.



Sustainable Components

- Category 1 - Site Planning
 - Previously Disturbed Site
 - Utilized Existing Materials
 - Outstanding Location
 - Building Orientation
 - DOE Energy Audit and Evaluation
 - Existing and Future Vegetation
 - Drainage Management and Treatment
 - Snow Plowing, Storage, and Melting
 - Minimized Light Pollution
 - Minimize Disturbance/Maximize Open Space
 - Sustainable Landscaping

Exit 27, Interstate 93 Blair Bridge Exit - 44 Acres

Office Site



Site Work – Excavation

(I-93 Borrow Site Previously)



Site Work – Crusher



Big Rocks into Small Rocks!!

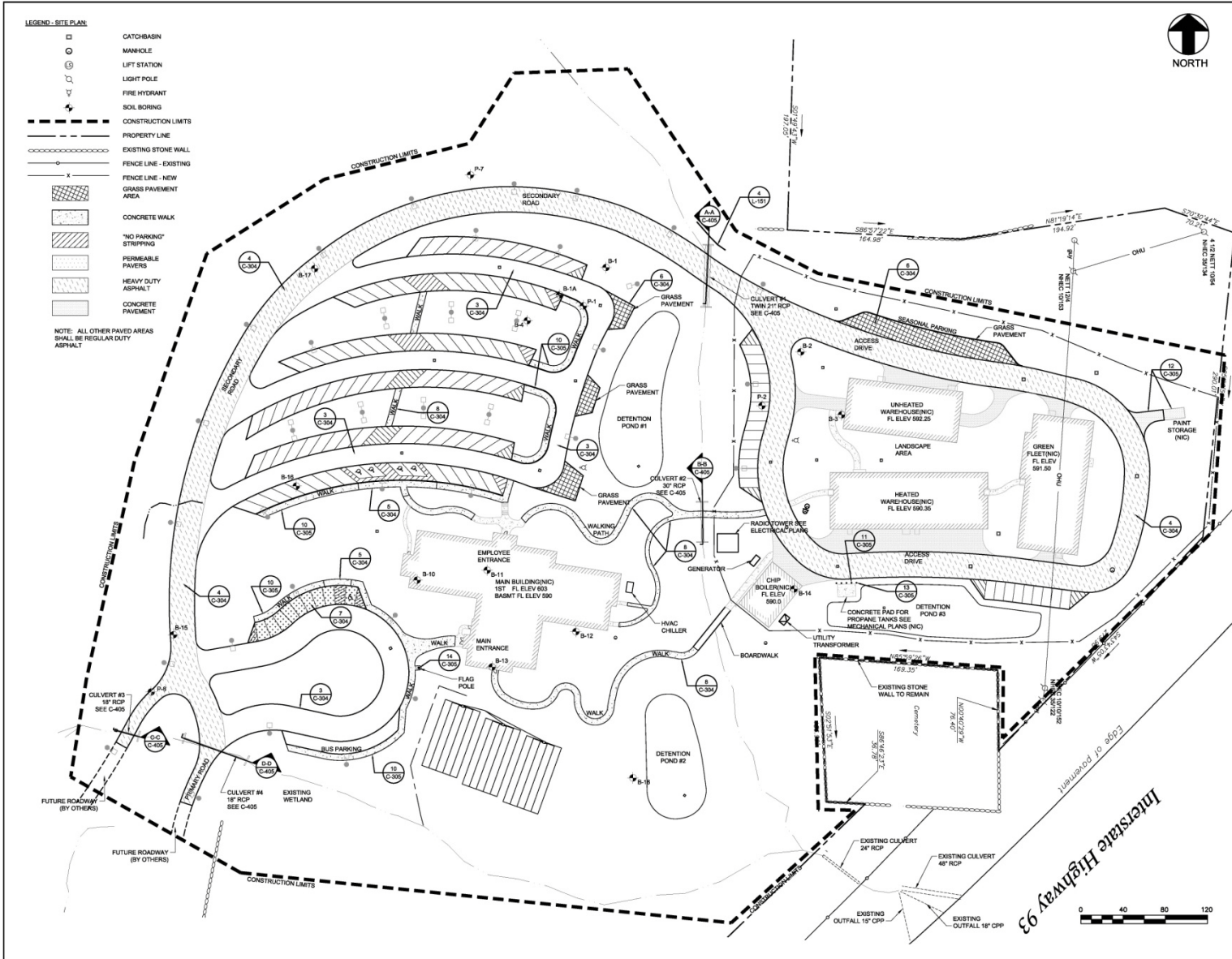


Site Plan

LEGEND - SITE PLAN

	CATCHBASIN
	MANHOLE
	LIFT STATION
	LIGHT POLE
	FIRE HYDRANT
	SOL BORING
	CONSTRUCTION LIMITS
	PROPERTY LINE
	EXISTING STONE WALL
	FENCE LINE - EXISTING
	FENCE LINE - NEW
	GRASS PAVEMENT AREA
	CONCRETE WALK
	"NO PARKING" STRIPPING
	PERMEABLE PAVERS
	HEAVY DUTY ASPHALT
	CONCRETE PAVEMENT

NOTE: ALL OTHER PAVED AREAS SHALL BE REGULAR DUTY ASPHALT



- General Notes
- CONTRACTOR SHALL INSTALL INTEGRAL CURB & WALK WHERE WALK IS ADJACENT TO ASPHALT PAVEMENT.
 - SEE SHEET L-100 FOR WALK DIMENSIONS AND LAYOUT.
 - PAVEMENTS, WALKS, AND FROST PROOF SLABS ADJACENT TO BUILDINGS AND WAREHOUSES ARE SHOWN FOR REFERENCE ONLY AND ARE NOT IN THIS CONTRACT. THESE ITEMS ARE INDICATED BY SCREENED LINE TYPES.

100% CONSTRUCTION DOCUMENTS		
No.	Revision/Issue	Date

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

WHITE MOUNTAIN NATIONAL FOREST
710 North Main Street
Laconia, NH 03246
(603) 528-8710

Project Name
WHITE MOUNTAIN ADMINISTRATIVE COMPLEX
INDUSTRIAL WAY
CAMPTON, NEW HAMPSHIRE

Designer
RONI DEPALLO
CIVIL ENGINEER

Drawing Title
SITE PLAN

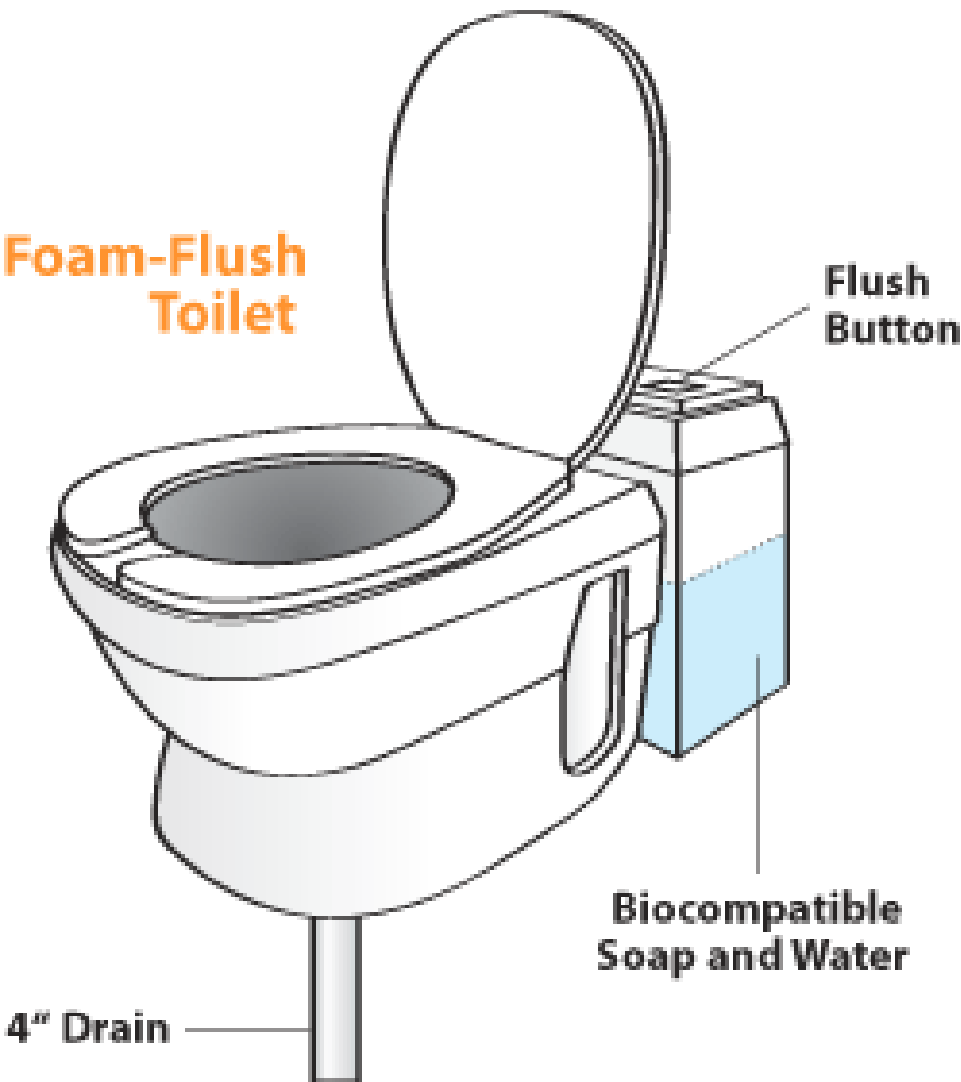
Drawn	RD	Project	0602
Checked	JKF	Drawing No.	
CAD File #	WMAC-C-201.dwg	C-201	
Date	3-05-07		Sheet
Scale	1" = 40'		

Water Management

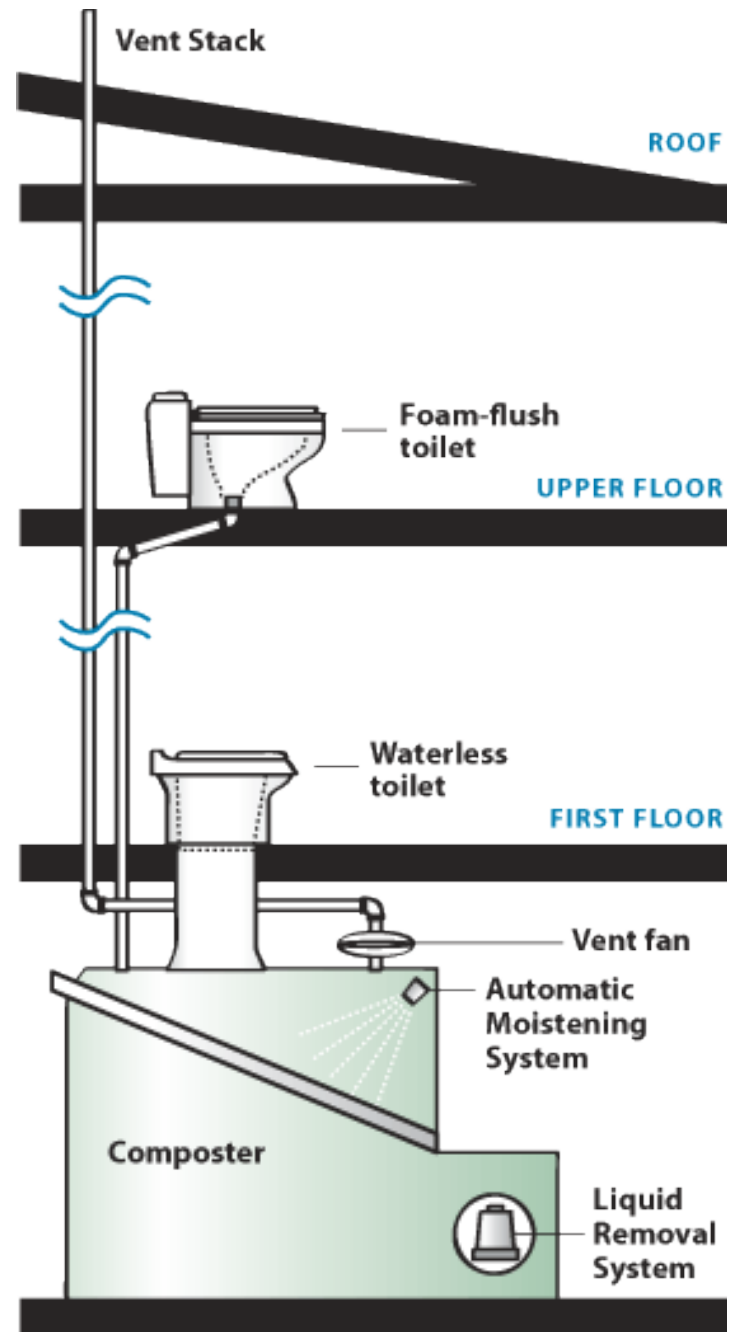
Category 2

- Composting Toilets in Main Office
 - Approx 80,000 gallons saved annually
 - No methane produced (Aerobic Digestion)
 - Final byproduct - Fertilizer
- Site averages 12-15 gal of water use per day
- Grey Water Recirculation System
 - Minimal water used, minimal to leach field
- Drainage Management and Treatment – 3 Detention Ponds (Turning into constructed wetlands)
- Permeable Pavement (2 Types)
 - Brick Pavers and Permeable Concrete

Foam-Flush Toilet



www.clivus.com



Operating Instructions!!!



Foam Flush Toilets Look Almost Normal!!!!!!



Working Parts & Normal Urinal

(Not “waterless” – Note no water fixture)



One of two
Clivus
composters –
Pine shavings
used as
starter
medium



Installed by Clivus New England



Gray Water Collection Tank and Filters



Grey Water Planters



Planters from Visitors Area



Three Detention Ponds On Site



Constructed Wetland



Permeable Parking – Brick Pavers



Permeable Concrete




Magic!! The Water Disappears



Energy Management

Category 3

- Light Shelves to Maximize Natural Light
 - Automatic Lighting Controls
 - Heated with Biomass – Pellets
 - Co-Generation of Power with Biomass
 - Minimized Outside Light Pollution
 - Parking Lot Outlets for Electric Vehicles
 - Bicycle Racks and Showers
 - Super Efficient (Silver) Envelope
 - WMNF Hybrid and Electric ??? Fleet
 - Energy Management System
 - Variable Frequency Drives
 - Solar Domestic Hot Water Heater
- 

Light Shelves All Around



First and Second Floor Ceilings

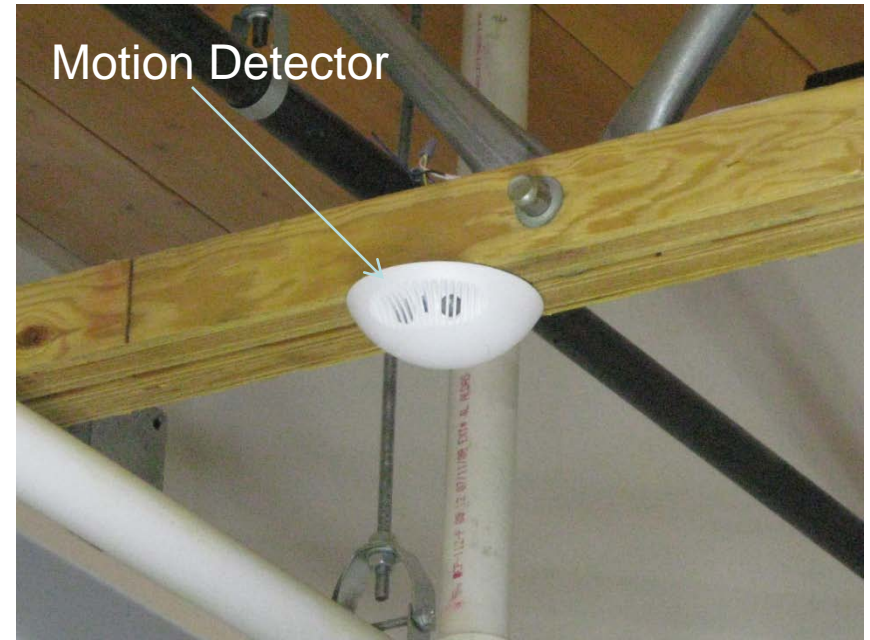
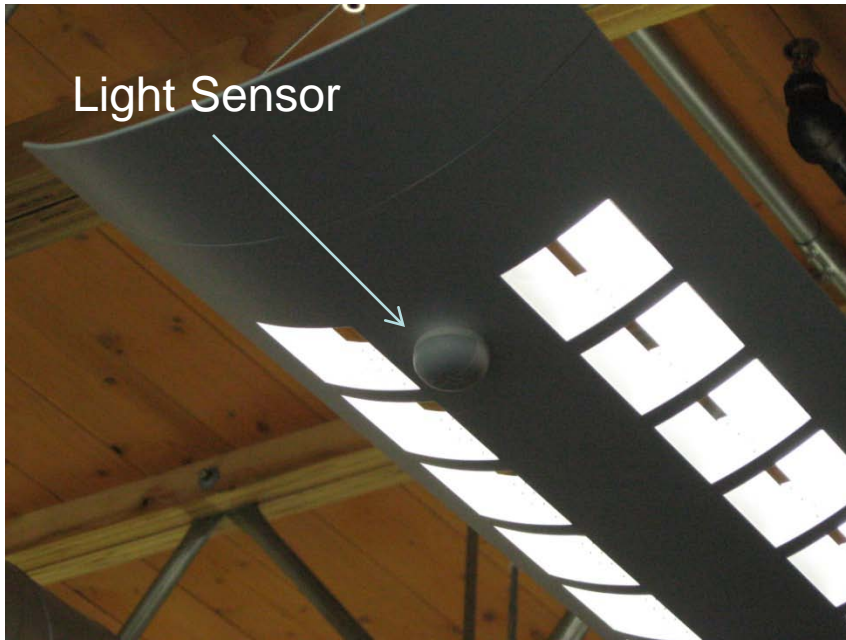
Open Look



Drop Ceiling



Light and Motion Sensors



Sensor monitors natural lighting and will dim to as low as 1% of energy use

Variable Air Valves





40 Ton Pellet Silo



Premium Grade New England Hardwood Pellets



4 Ton Day Bin



1 Million BTU, 90% Efficient, 3 Pass, Gasification, Pellet Boiler





Automated Pellet Delivery and Ash Removal

3 Pass Gasification System



Heat Distribution



An Innovative Bioenergy Power System From Community Power Corporation

**Gas Production
Module**



**Automatic Drier/Feeder
Module**

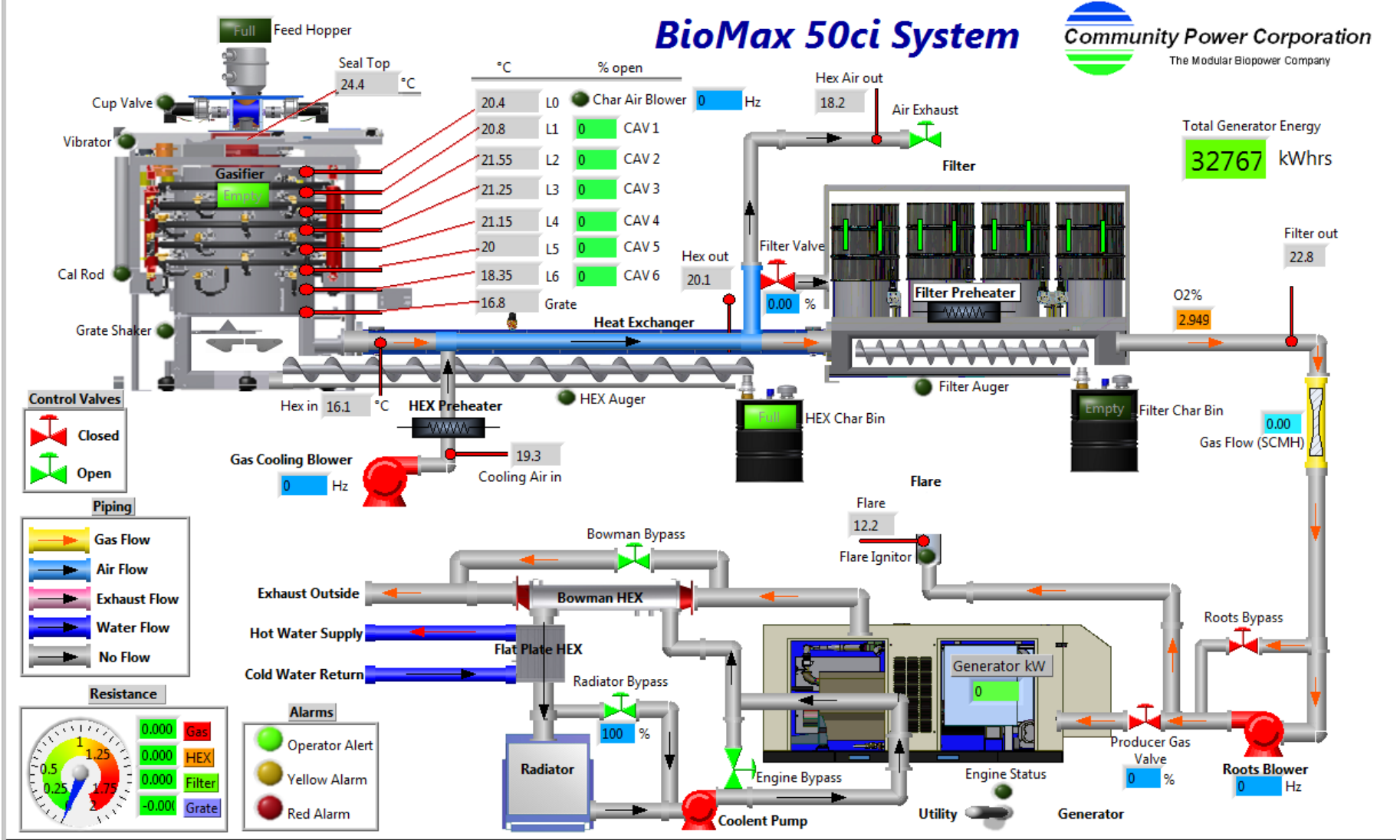
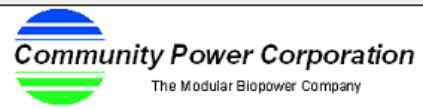


**Power Generation
Module**



www.gocpc.com

BioMax 50ci System



Biomax 25 Gasifier

Community Power Corporation, Littleton, CO



Filter Cabinet

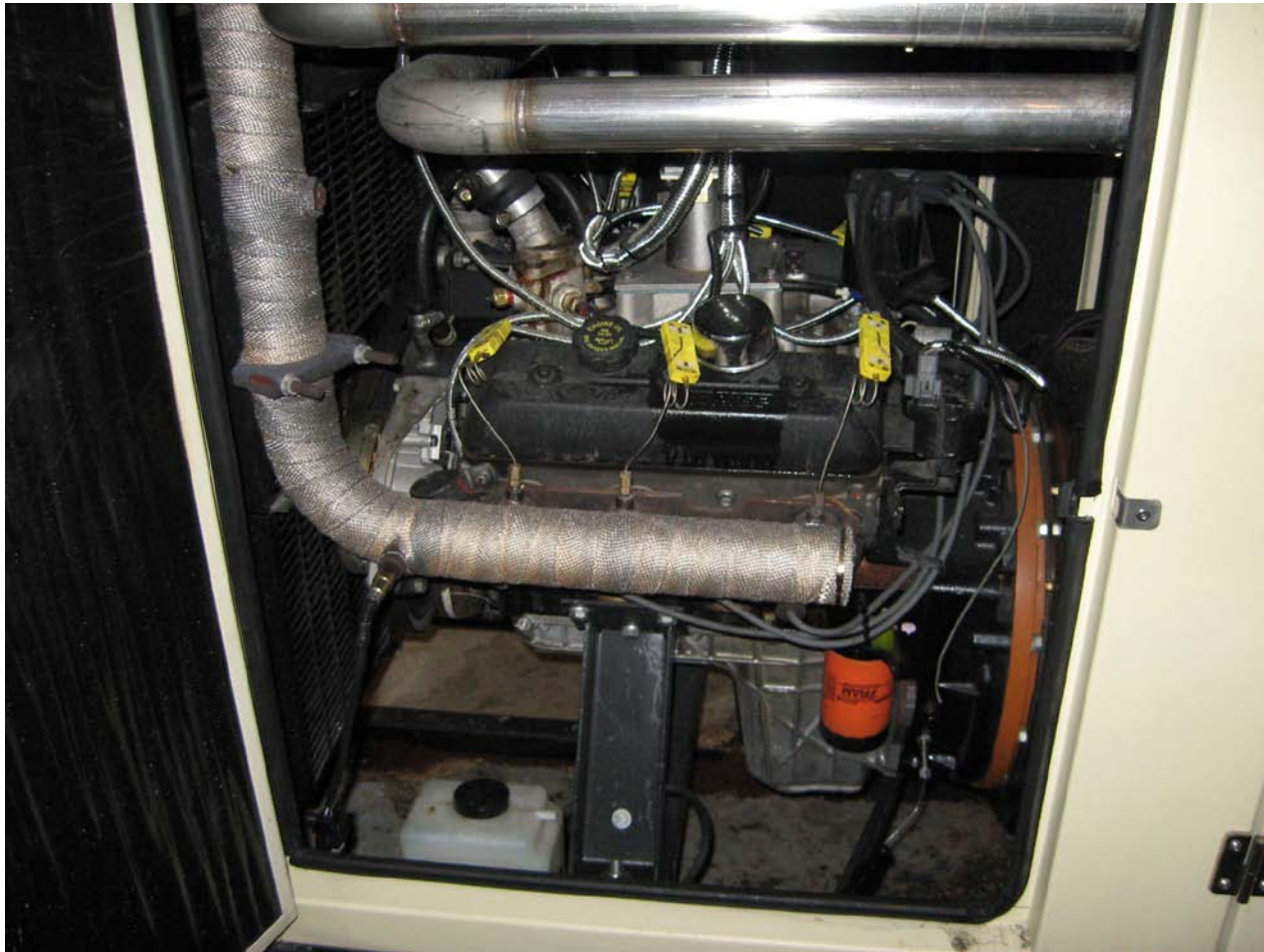


Gasifier Heat Exchangers GenSet



GM V6 Vortec Gasoline Engine

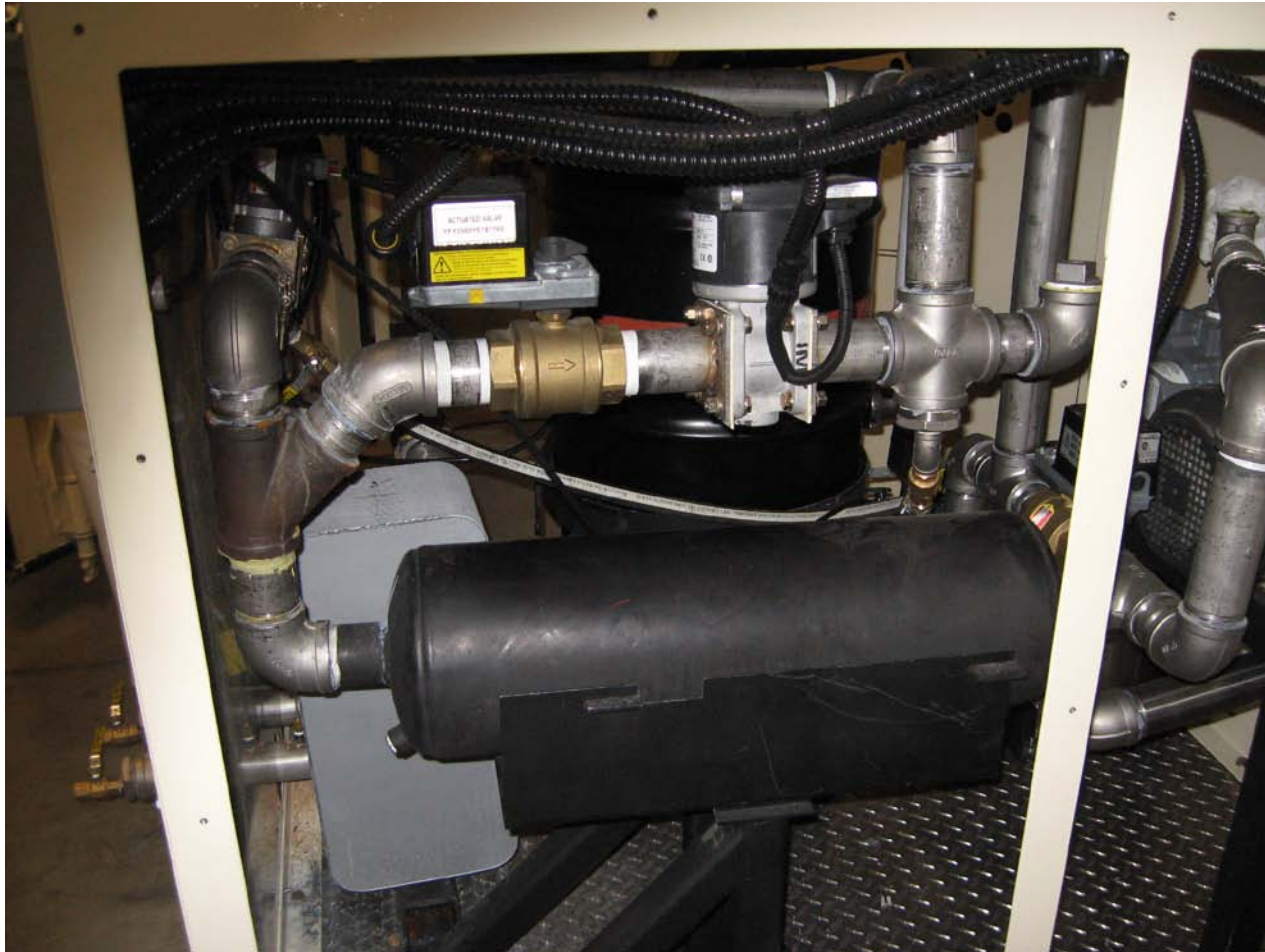
(Runs completely on Wood Gas)



Engine Connected to 30 KW Generator



Coolant and Exhaust Heat Exchangers



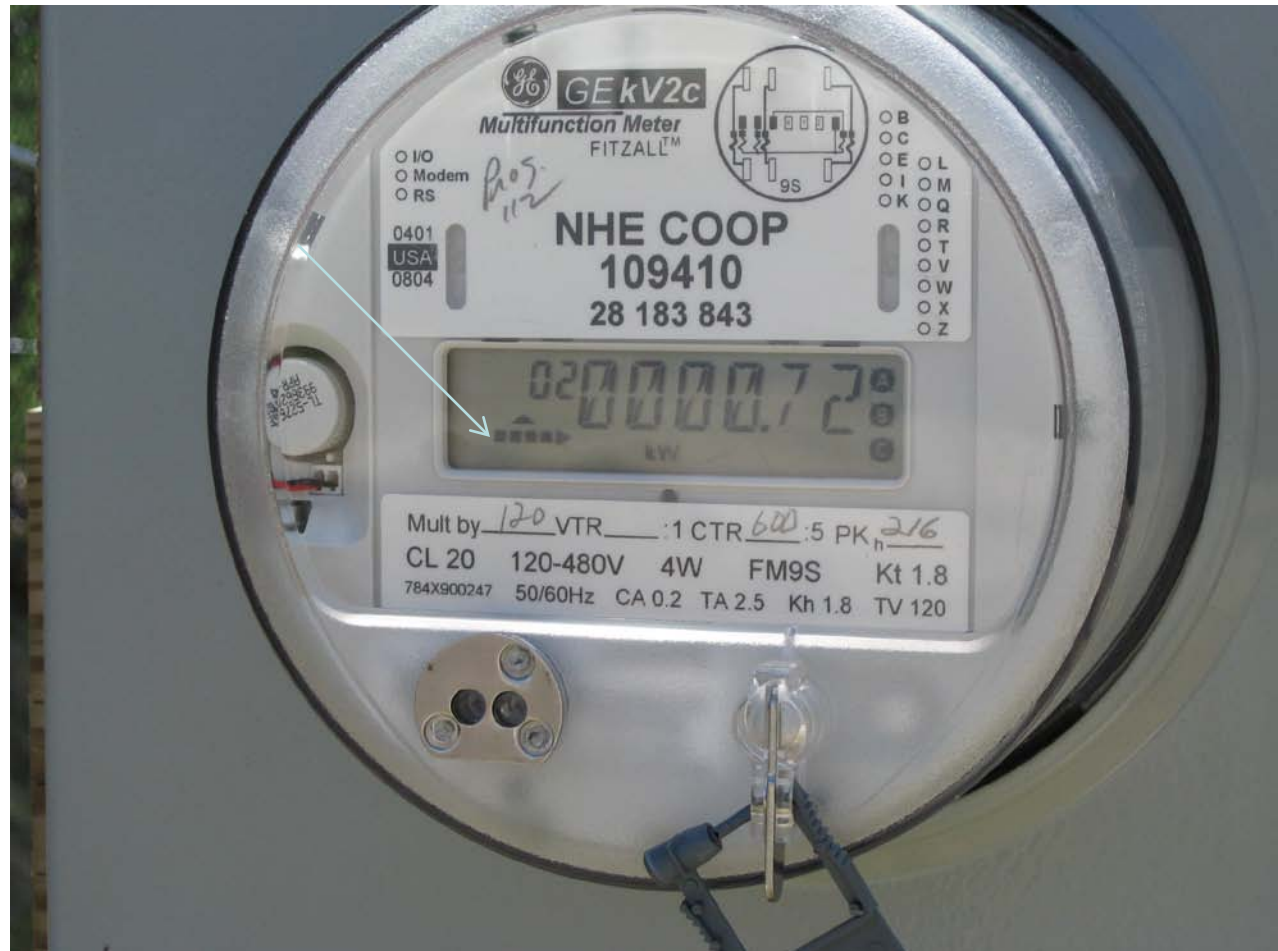
Combined Heat and Power

(Exhaust and Coolant Heat Pumped to Pre-heat Boiler)



Smart Meter/Net Metering with New Hampshire Electric Co-Op

When the arrow points to the right – pulling from the grid.
When arrow points to the left, storing power on the grid.



Variable Frequency Drives on all pumps and blower motors



Down Facing Site Lighting Minimize Light Pollution



Parking Lot Outlets



Biomass Powered Electric Pick-up



Showers in Heated Warehouse

(Promote cycling/walking/jogging to work)



Solar Hot Water Panels



Solar Storage Tanks



Super Insulated and Sealed Envelope

- R-60 Ceiling
- R-38 Walls
- Spray Foam and Blown in Insulation
- Exterior Seal and 1" Rigid Insulation
- Blower Door test to seal all leaks



Exterior Seal and Rigid Foam

Membrane to Seal Sheathing

Rigid Insulation



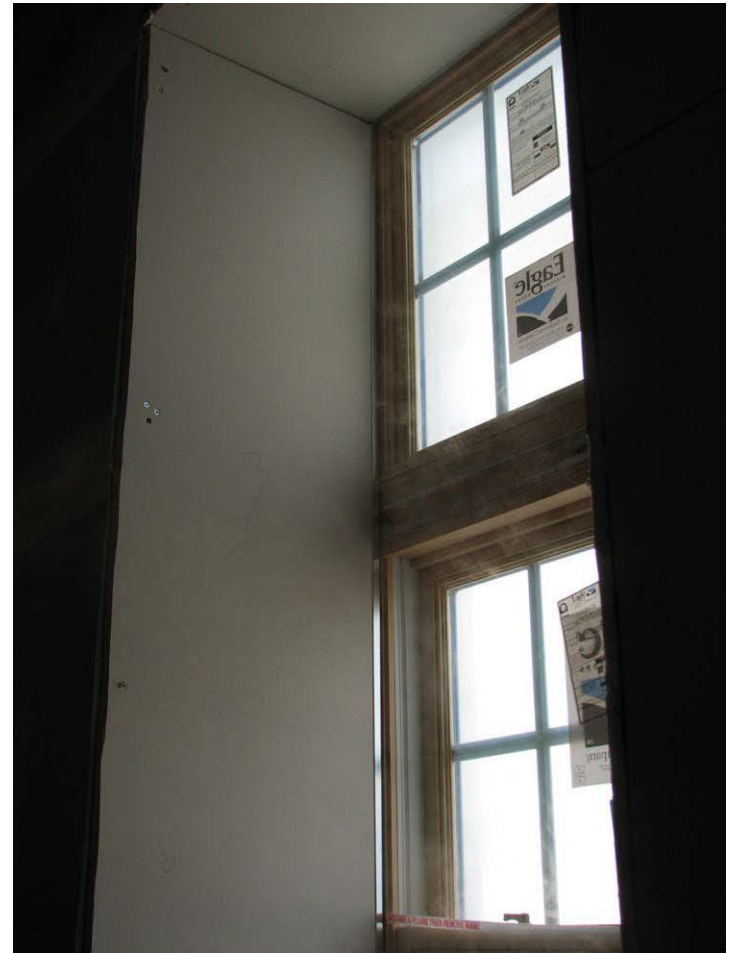
Spray Foam and Blown-in Cellulose



Blower Door Test




Theatrical Smoke Machine



Material Use

Category 4

- Maximized Use of Locally Produced and Recyclable Materials
 - Recycled Tire Flooring
 - Recycled Tile Flooring
 - Recycled Content Carpet - Squares
 - Locally Certified Timber and Lumber
 - Engineered Timber and Lumber
 - Minimized Chemicals and Hazardous Components – Minimize VOC's
 - Recycling Program – During and After Constr.
 - Single Stream Recycling
- 

Materials



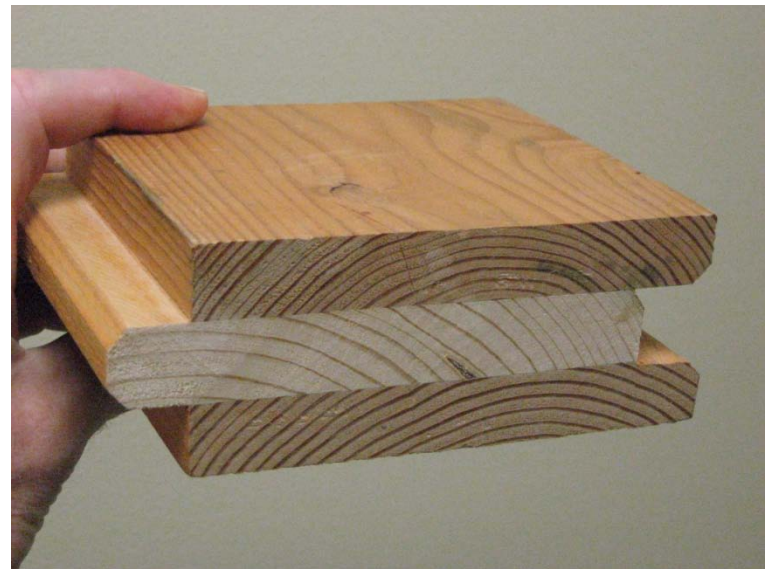
Recycled Content Materials



Engineered Wood



Stair Treads and Flooring



Minimal Exterior Maintenance

(All components warranted for 25+ years)





Indoor Air Quality

Category 5

- Minimized Chemicals and Odors in Construction Products
- Fresh Air System with Recirculation Component
- Openable Windows
- Post Construction/Pre Occupancy Indoor Air Cleansing



Primary Air Handler

Air exchange/Filtration x 3/Heating/Cooling



Innovation and Design

Category 6

- Sustainable Education and Tours
- Commissioning Agent – The Jordan Institute
- Green Roof – Picnic Shelter
- Fire Water Storage Pond/Wildlife Pond



What Does It Look Like Today?



North View



From the Air



Other WMNF Sustainable Efforts

- Numerous Solar Applications
- 50/50 Biodiesel Use by Road Crew
- Hybrid Fleet x 5
- Bio Heating Fuel
- Converting Gas Powered Trucks to Diesel For Biodiesel Use
- Biomass Heat in Andro Warehouse Plan
- Forest Sustainability Team
- White Mountain Trail Alternative Trans. Proposal



WMNF Hybrid Fleet (x5)



Come Visit

Open 8:00 AM

Till

4:30 PM

Every Day



Friendly Welcoming Committee



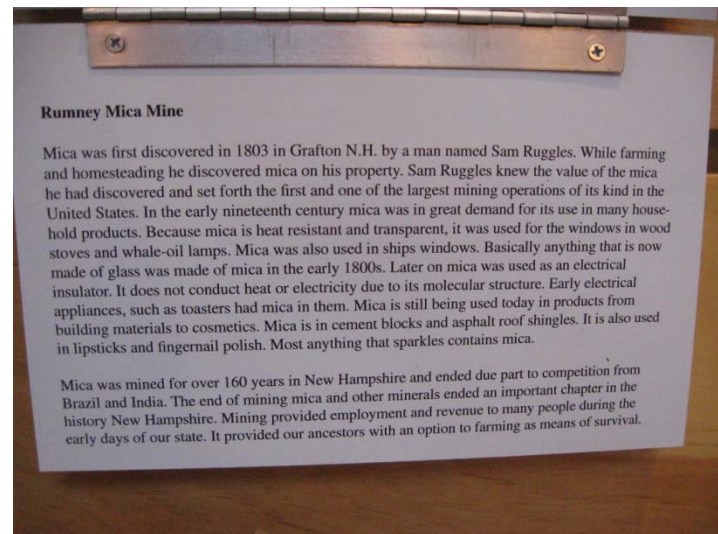
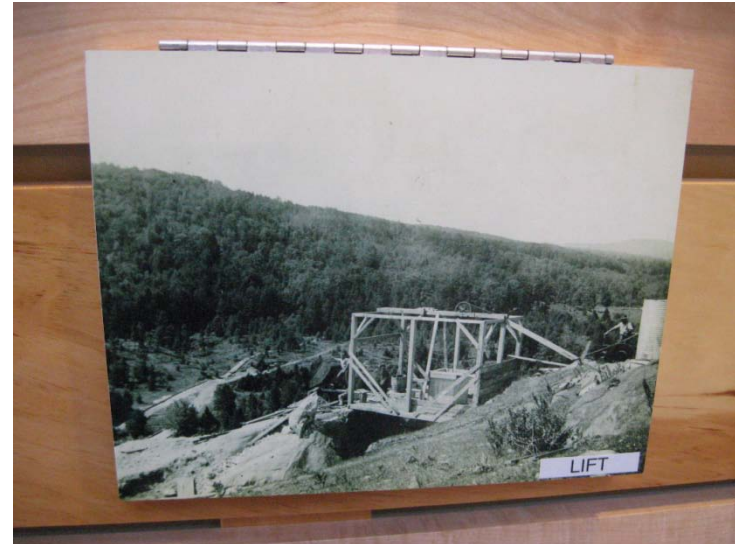
Kids Corner



White Mountain Interpretive Association Sales



Historic Photos



Video and Smokey/Woodsey



QUESTIONS???

Bill Dauer

Forest Engineer

536-6207 Office

455-1462 Cell

