

**Introduction to**



**Promethean Structures**

**December 2009**

# Table of Contents

- I. Introduction**
- II. Situation Analysis**
- III. SIPS Technology**
- IV. Company Overview**
- V. Management**

# I. Introduction



Promethean Structures

## Introduction

Promethean Structures LLC (Promethean) is a new company created to use sustainable, energy-efficient building solutions – “sensibly green” solutions – to meet the demand for revitalized and new buildings – residential and commercial. The company believes that the best way to improve the energy efficiency of any structure is to construct a tighter building “envelope” to reduce air loss and improve structural integrity. For this reason, the company’s primary focus is on the distribution and use of structural insulated panels (SIPS). SIPS have a number of advantages over conventional construction:

- Enhanced structural performance (withstand wind shears of up to 140 mph)
- Improved insulating characteristics significantly reducing energy costs (up to 40%)
- "Class 1" fire rating – does not melt or conduct heat
- Reduced construction time (1,800 sq. ft. house shell can be erected in two days)
- Improved sound attenuation – deliver enhanced noise control

The company’s market focus includes the Gulf Coast Region – Alabama, Florida, Louisiana, Mississippi and Texas – where multiple opportunities exist to use energy-efficient building techniques to replace storm-damaged homes and commercial buildings. Additional opportunities will develop from proposed energy legislation and new EPA regulations.

Initially, Promethean is focused on the New Orleans metropolitan area. Promethean has provided polyurethane SIPS for use in Make It Right Foundation homes located in New Orleans' 9<sup>th</sup> Ward and is pursuing a number of additional residential and commercial opportunities in the New Orleans market. These opportunities include a joint venture to construct energy-efficient, storm-resistant affordable homes in the Filmore area of New Orleans.



## II. Situation Analysis



# Situation Analysis

## Construction Industry

- **Nationally, the residential market will bottom in the first half of 2010 followed by a slow but steady recovery beginning in 2011**
- **Commercial development has slowed dramatically**
  - Demand for existing retail, office and hospitality severely impacted by economy
  - New development is very difficult to finance
  - \$1.4 trillion of debt is up for renewal in the next 24 months – 55% held by U.S. banks
- **Energy-saving or “green” building solutions, also known as “sustainable” building solutions, are gaining favor**
  - 83% of commercial real estate executives are “extremely” or “very likely” to seek LEED certification
  - 70% of homebuyers favor a “green” home over conventional housing in a down market – 78% of those homebuyers earning less than \$50,000
  - Overall “green” building market – both residential and non-residential – is forecast to more than double from \$36-49 billion to \$96-140 billion by 2013
- **Certain areas of the country are more energy-conscious than others, including New Orleans**
- **New Orleans is promoting “sustainable” building solutions**
  - NORA requirements for sustainable building solutions in its programs
  - Finance Authority of New Orleans “green” requirements for its soft-second mortgage program



# Situation Analysis

## Sustainable Building Initiatives

- **Commercial and residential construction is adopting more energy-efficient building standards**
  - **U.S. Green Building Council’s LEED (Leadership in Energy & Environmental Design) Certification Program for commercial and residential structures**
    - ❖ Measures energy efficiency, water usage, sustainable site development, materials & resources and indoor air quality to provide a “green” score
  - **NAHB (National Association of Homebuilders) Green Building Certification for residential structures**
    - ❖ National green building standard
    - ❖ Focused on 7 areas – lot preparation & design, resource efficiency, energy efficiency, water efficiency and conservation, occupancy comfort and indoor environmental quality
- **Federal initiatives**
  - **The American Clean Energy and Security Act of 2009**
    - ❖ Passed the House of Representatives on June 26, 2009 with similar legislation drafted in the Senate
    - ❖ Requires new structures built after the date of enactment to be 30% more energy efficient than the mandates in the 2006 International Energy Conservation Code (IECC)
    - ❖ A further improvement of 20% by 1/1/14 and a further 5% for each 3-year period from 1/1/17 to 1/1/29
  - **Building America**
    - ❖ U.S. Department of Energy initiative to re-engineer new and existing homes for energy efficiency, security and affordability
    - ❖ Reduce whole-house energy use by 30-90% and integrate on-site power systems leading to Zero Energy Homes



# Situation Analysis

## New Orleans MSA

- **Impact of Hurricanes Katrina and Rita have been significant, but recovery is underway**
  - **Since Hurricane Katrina, over 95,000 new jobs have been created in the New Orleans Metro area**
  - **Employment levels are at 86% of pre-Katrina numbers (currently 526,000 non-farm jobs)**
    - ❖ **Biggest increases seen in government and construction industries**
    - ❖ **Biggest losses in administrative and financial services**
  - **Unemployment in the area is currently at 7.5% as compared to the national average of 10.0%**
  - **Job creation far exceeds housing permits since Katrina – ratio of 5:1**
  - **Need for affordable housing is significant**
- **Significant progress made to put abandoned real estate back into commerce**
  - **New Orleans Redevelopment Authority (NORA) transferred first residential lots in June 2009**
    - ❖ **Partnering with builders and developers to revitalize New Orleans neighborhoods**
    - ❖ **Controls 5,000 lots in New Orleans through the Road Home Program (federally funded)**
    - ❖ **Redeveloping the Gentilly Woods Shopping Center**
  - **New Orleans Finance Authority providing mortgage incentives to first-time homebuyers**
    - ❖ **“Soft-second mortgages” of up to \$65,000**
    - ❖ **140 mortgages in initial phase of program**
    - ❖ **Additional funding requested to maintain program and meet demand**
  - **A number of private initiatives underway to provide financing for redevelopment**
    - ❖ **Liberty Bank and Trust’s \$20 million home loan program**
    - ❖ **LDG and Citizens Union Bank of Kentucky – 211 unit multi-family apartments in Central City**



# Situation Analysis

## Opportunity

- **Significant need for storm-resistant, energy-efficient building solutions**
- **Immediate opportunity in the residential sector**
  - **An estimated 55,000 blighted or empty lots in New Orleans and 7,700 vacant houses**
  - **Number of households in New Orleans expected to increase 25-30% by 2030**
  - **10,000 to 25,000 new homes needed over next 5 to 7 years**
  - **Multiple new housing projects – both single-family and multi-family – are underway**
    - ❖ **Pontchartrain Park CDC**
    - ❖ **Columbia Citi Residences**
    - ❖ **The Muses**
- **Commercial opportunities will become more prevalent**
  - **Redeveloping damaged retail and commercial space throughout New Orleans as neighborhoods are revitalized**
    - ❖ **Gentilly Woods Shopping Center**
    - ❖ **Oretha Castle Haley Corridor - Central City – Office/Retail**
  - **New construction being started**
    - ❖ **New VA Hospital - \$1 billion project**
    - ❖ **Federal City – mixed-use development anchored by DOD installations, including U.S. Marine Corp.**
    - ❖ **Recovery School District’s \$700 million Phase I program for new schools in New Orleans**
    - ❖ **Library replacement and expansion**



### III. SIPS Technology



# SIPS Technology

SIPS – Rapid Assembly of High-Performance Buildings



- **Proven Technology**
  - 80 year old technology – ASTM tested
  - ICC approved – prescriptive method for EPS and Polyurethane
  - 5-in-1 building system – framing, sheathing, insulation, vapor and sound control
- **Enables LEED Certification faster and at lower costs**
- **Technology already meets proposed Federal 2010 energy efficiency standards – 30 % increase over 2006 IECC requirements**



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# SIPS Technology

## SIPS Overview

- SIPS are solid foam-core building panels generally used to replace “stick built” or steel framed exterior walls
  - Varying sizes, but typically 4X8 or 4X10 foot panels with custom sizes of up to 4X24 available
  - Panels are attached to one another by wood/metal splines or metal cam-locks
- Major advantages include energy performance, strength and reduced construction time
- 5 –in-1 building system - framing, sheathing, insulation, vapor and sound control in one system
- Exterior surfaces are generally OSB, but other materials such as fiber cement board, plywood, metal, poly-resin composites or drywall can also be used
- Core is either polystyrene (expanded or extruded) or polyurethane
- Polystyrene is lighter weight, easier to assemble and lower cost, but has lower performance
  - Outperforms fiberglass insulation but 40 % lower R-value than same thickness polyurethane foam
  - Polystyrene melts at 200°F with toxic fumes generated
  - Transfers heat to other surfaces in a fire
- Polyurethane, while more expensive, is a better product
  - “Class 1” fire rating – does not melt or conduct heat
  - Formaldehyde-free and no off-gasing during combustion
  - Significantly greater insulation rating – R26 for a standard 4.5" panel vs. R16 for polystyrene
  - Improved sound attenuation characteristics
  - Closed-cell foam does not absorb water



# SIPS Technology

## Performance and Operating Benefits

- **Energy**
  - SIPS provide a continuous envelope of insulation – prevents thermal and acoustic bridging
  - Reduces air infiltration High R-values – 4.5” wall panel = R-26 and 6.5” roof panel = R-40
  - “Right-sized” HVAC equipment – lower costs to purchase and operate
- **Storm and Fire Safety**
  - Engineered to withstand wind shears of up to 160 mph and seismic loading
  - Polyurethane SIPS with composite skins are water, fire, termite, mold and moisture resistant
  - Enhanced fire safety (polyurethane foam can’t burn)
  - Reduced insurance losses from fire and flooding – can be reflected in lower insurance premiums
- **Operating Costs**
  - Tight building envelope with high “R-values” saves energy costs every day
  - Enables achievement of 30,000 BTU per square foot per year energy consumption
  - Continuous insulation eliminates air gaps – 40 % of building’s energy loss is from air gaps
  - Variety of interior and exterior “skin” configurations reduce assembly time and finishing costs
- **Comfort**
  - Improved air quality – managed filtration
  - Better sound attenuation creates quiet interior isolated from road and ambient noise – better learning and working environment
  - Reduced moisture eliminates mold growth that can contribute to “sick building” syndrome



## IV. Company Overview



# Company Overview

## History

- In 2007, the Miller Group began exploring opportunities to support and participate in the Katrina and Rita recovery efforts in Louisiana
- The first phase of exploration focused on identifying suitable building technologies to meet market-specific requirements – energy-efficient, storm-resistant products
- The second phase focused on these building technologies – primarily SIPS, but also other “sensibly green” systems
  - solar hot water
  - photo-voltaic
  - rain water recycling
- SIPS suitability for individual residences, multi-family housing, Department of Defense housing needs and disaster response housing were all analyzed
- Concurrently, meetings were held with private sector leaders and top government officials involved in the recovery effort to obtain
  - Feedback on SIPS technology
  - Land availability
  - Financing and aid programs
  - Permitting and code approvals
- These efforts revealed multiple opportunities in Louisiana and the Gulf Coast Region



# Company Overview

## The Company

- **Promethean uses sustainable, energy-efficient building solutions to meet the demand for revitalized and new buildings – residential and commercial – in the Gulf Coast Region**
- **The company's believes the best way to improve energy efficiency of any structure is a tighter building “envelope” – to reduce air loss and improve structural integrity**
- **For this reason, the company is focused on structural insulated panels (SIPS)**
- **SIPS have a number of advantages over conventional construction**
  - **Enhanced structural performance**
  - **Improved energy efficiency – R values up to 2X higher than conventional construction**
  - **Reduced construction time**
  - **ASTM Class 1 fire-rating (polyurethane SIPS)**
  - **Improved sound attenuation**
- **Market focus is on the Gulf Coast Region – multiple opportunities**
- **Partnering with two SIPS manufacturers to provide broad range of possible applications – polystyrene, polyurethane and composite polyurethane SIPS**
- **Initial market is the greater New Orleans metropolitan area and southern Louisiana**
  - **Residential structures**
  - **Public infrastructure**
  - **Commercial applications**



# Company Overview

## Pipeline

- **Promethean provided SIPS for the Shigeru Ban house constructed by the Make It Right Foundation**
- **Promethean is providing SIPS for three additional Make It Right Foundation houses designed by Pugh+Scarpa**
- **Additional active opportunities for SIPS include**
  - **Filmore Area Revitalization Project**
    - ❖ Venture with TKO Maintenance & Construction and others to revitalize this area of New Orleans – both residential and commercial structures
    - ❖ Response to NORA RFQ for the Oak Park Neighborhood submitted 8/27/09 and awarded to Promethean on 11/16/09
  - **Catholic Charities Treme – a 500-unit housing project in the Treme Neighborhood of New Orleans**
    - ❖ Homes include single-family residences, duplexes, and 4- and 6-plexes
    - ❖ Currently in discussions for scope of project focusing on all components of building shell
  - **Gulf Coast Housing Partnership**
    - ❖ The Muses
    - ❖ Old South Baton Rouge
    - ❖ Neighborhood Development Foundation
  - **New Orleans Recovery School District Phase I Construction Initiative**
    - ❖ \$700 million construction program for 30 new schools
  - **Enterprise Community Partners**



**Promethean Structures**

# Company Overview

## Filmore Area Project

- **Revitalize 53 blocks located in the Filmore area of New Orleans**
  - Includes the Oak Park and Vista Park neighborhoods
- **Promethean, in partnership with several other companies, will be involved in**
  - **Constructing new energy-efficient, storm-resistant homes**
    - ❖ Prices to range from \$175,000 to \$400,000 depending on size and location
    - ❖ Affordable housing qualifying for soft-second mortgage programs from HOME and the New Orleans Finance Authority (up to \$65,000)
  - **Rehabilitating existing homes that are still structurally sound**
  - **Redeveloping commercial, educational and public facilities in the neighborhood**
- **Why Filmore?**
  - **Sufficient number of residential sites in a concentrated area that can be refurbished to overcome the “jack-o-lantern” effect resulting from incomplete recovery efforts**
  - **Location – near airport, central business district, several universities and Lake Ponchartrain**
  - **Redevelopment underway with Holy Cross School and Lake View High School being constructed in area**
  - **Commercial and public sites available for redevelopment to further enhance the area**
- **Partners include TKO Maintenance & Construction and Wilkinson & Jeansomme Realtors**
- **Initial focus on Oak Park neighborhood**
  - **Selected by NORA to purchase Road Home lots for new construction**



# Company Overview

## Future Expansion

- **Product expansion to offer other “sensibly green” building products**
  - Solar hot water systems and in-line hot water heaters to reduce the cost of heating and storing water
  - Rain water recycling systems to reduce rain water run-off and save on potable water
  - Spray-on polyurethane insulation to better seal existing structures and new construction
- **Future SIPS manufacturing plant in New Orleans**
  - Erect a manufacturing facility in New Orleans to serve the Gulf Coast Region
    - ❖ Delivery within a 300-mile radius of New Orleans – from Houston, Texas to Pensacola, Florida
    - ❖ Capture profit from manufacturing process
    - ❖ Reduce transportation cost incurred by Promethean as a distributor
    - ❖ Create jobs in the New Orleans area and take advantage of low-cost development bonds
  - Finance with GO Zone or Build America bonds as and when commercially viable
- **Geographical expansion into other Gulf Coast states**
  - Galveston market to reconstruct residential and commercial properties damaged by Hurricane Ike
  - Market for affordable modular/mobile temporary housing for use in future storm-damaged areas
    - ❖ Initial discussions with FEMA commenced
  - Existing homebuilders seeking energy-efficient building techniques to meet pending new federal guidelines



## V. Management



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# Management

## **Marsden “Bill” Miller – Chairman**

Mr. Miller has been involved in various positions as an independent in oil and gas exploration, development, production, marketing and transportation for 42 years in most areas of the U.S., as well as in China, the Philippines, Indonesia, Canada, Ukraine, Georgia, Africa, the Caribbean and the North Sea, including being part of the initial discoveries in several areas. Many of these activities were in newly developing, large, highly competitive areas similar to the development now occurring in the Barnett Shale.

## **Tom Hudson – CEO**

Mr. Hudson was formerly the Managing Partner of the DC office of Brownstein, Hyatt and Farber, which was named by *Roll Call* magazine in 2006 as one of the fastest growing law firms in DC. Mr. Hudson practiced in the areas of federal and state legislative law emphasizing energy, environmental, technology, telecommunications and administrative law. Prior to joining the firm he was the Chief of Staff of U.S. Senator John Breaux. Mr. Hudson has practiced law in Baton Rouge, served in the Louisiana State Senate for 12 years and was elected President Pro Tempore and Chairman of the Commerce Committee. He received his B.A. and J.D. degrees from LSU. Mr. Hudson and Mr. Miller have worked together for 32 years.



# Management

## **Phil Whitcomb – President & COO**

Mr. Whitcomb has over 20 years experience in various aspects of commercial and residential real estate. Most recently he served as head of the Residential Real Estate Group of JMP Securities LLC, a San Francisco-based investment bank, where he acted as advisor to residential builders and building supply companies. Prior to that he served for over 5 years as the Vice President of Corporate Development for Centex Homes, for 10 years in various management positions with Electronic Data Systems Corporation, and for 11 years in private legal practice specializing in real estate transactions and corporate finance. Mr. Whitcomb is a contributing writer for *Big Builder* magazine. He holds two B.A. degrees and a J.D. degree from Southern Methodist University.

## **Brian Strombotne – Vice President of Business Development**

Mr. Strombotne has spent over 25 years in marketing and business development roles in construction materials, building technologies and information technology. His career has included positions at Masco Corporation, Owens Corning and BuildNet. At Masco Corporation, Mr. Strombotne acted as a liaison between Masco's Research and Development division and national production home builders exploring advanced building envelope technologies. Most recently, Mr. Strombotne helped launch *Green Builder Magazine*, the leading national trade publication on green and sustainable new home building products and practices. Mr. Strombotne holds his MBA from Thunderbird – The American Graduate School of International Management.



# Management

## **Angel Barron – Controller**

Ms. Barron has worked in oil and gas accounting for nearly 18 years, in which time she was responsible for the SEC financial reporting for a public oil and gas company. She has worked with the other members of the Miller Petroleum team for 17 years. She holds a BS in Accounting from the University of Louisiana – Lafayette. Ms. Barron is also a certified public accountant.

# Promethean Structures LLC

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