The Aventine LEED Platinum Certification Project Case Study
Glenborough, LLC brings over three decades of experience to the commercial real estate industry. Formerly a NYSE listed real estate investment trust, the company is a privately held full service real estate investment and management company focused on the acquisition, management, and leasing of high quality commercial properties. We invest in core and value add properties in major markets across the country including San Francisco, Southern California, and Washington DC.
Company Overview

Denver, CO

La Jolla, CA

Washington, DC

San Mateo, CA
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This case study show’s how Glenborough transformed the Aventine Office Building towards becoming one of the most energy efficient and sustainable buildings in the nation.

For the last 3 years, the Aventine has undergone several major equipment retrofits changing its operations towards conducting the highest sustainable best practices.

Glenborough’s dedication towards Energy Efficiency & Sustainability is reflected by its company wide Commitment and Leadership.
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This project started with the vision of reaching the highest level of sustainability and energy efficiency possible.

Glenborough is committed as an industry leader working towards transforming “ALL” of its office buildings across the nation.

The Aventine LEED Platinum project consisted of putting together a knowledgeable team of vendor partners interested in contributing to this one of a kind undertaking.
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- Located in La Jolla California
- Class-A Office Building / Multi Tenant
- Built in 1990 – 22 Years Old
- Approximately 252,000 Sq.Ft.
- 2007 EPA ENERGY STAR Rating 84
- 2007 Electrical Cost at $2.90 per/Sq.Ft.
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Sustainability Overview

**LEED Summary** - The Aventine Building Submitted its project to the U.S. Green Building Council in September 2009 earning “71” LEED Credits Qualifying for Platinum Level Certification. *(December 2010)*

**ENERGY STAR Summary** – The Aventine Building has Achieved an ENERGY STAR Score of “100” Rating it as One of the Most Energy Efficient Buildings in the Nation.

Maintained a Score of “100” in 2009 - 2012!
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Sustainability Overview

• Over 750,000 Kilowatts of Energy Saved Annually
• 540 (MtCO2e) Emissions Reduced Annually
• Over 1,000,000 Gallons of Water Saved Annually
• Over 50% Waste Diverted from Landfill to Recycling
• 100% of Energy Produced at Site Off-Set by Renewable Energy Credits - Wind Power
• “Strategic Vendor Energy Team” Created to Integrate LEED Project Resources & Expertise
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“Strategic Vendor Team”

1. Alpha Mechanical – Engineering & Services
2. ABM Engineering Services – Energy Services
3. Brickman Landscaping – Sustainable Landscaping
4. CentiMark Roofing – Cool Roof Installation
5. CleanSource – Green Cleaning Products
6. Chelsea Group – LEED Consultant
7. Cushman & Wakefield – Leasing Brokers
8. Light Source & G.E. – Sustainable Lighting Products
9. Mitsubishi Elevators – Sustainable Elevators
10. Optimum Energy – Chiller Plant Optimization Software
12. Workspeed – Web Based Tenant Service Programs
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“LEED Project Team”

**Project Team Administrator** - Carlos Santamaria, Vice President Engineering Services / Glenborough, LLC
**Project Team Manager** – Chris Munn, Regional Technical Manager
Chelsea Group, Ltd.

**Project Team Members**
Doug Eagle, Chief Engineer, ABM Eng.
Dave Munn, Chief Technical Officer, Chelsea
Travis Gorzeman, Property Manager, Glb
Dave Peacock, Regional Leasing Director, Glb
Pat Simoni, Manager Corporate Services, Glb
Wayne Wheeler, Building Engineer, ABM Eng.
Alexandra Price, Regional Leasing Assistant, Glb
Kerry Jenkins, Chief Engineer, ABM Eng.
Michelle Micciche, Property Manager, Glb
Nicole Moser, Senior Project Manager, Workspeed
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Energy Management Strategies

Started Comprehensive Energy Management Plan
3 - Phase Approach

1. Energy Profile, Identify Hi Energy Uses & Users & Set-Goals
2. Evaluate & Prioritize New Technology Implementation
3. Continue Implementation of Cost Saving Opportunities with Measuring Results
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Energy Management Strategies

Largest Areas of Energy Consumption Identified & Upgraded. HVAC Systems

Energy Use Breakdown - Major Loads

- Lighting: 12%
- HVAC: 48%
- Plugs: 18%
- Misc. Bldg: 22%
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Energy Management

• Chiller Plant Identified as Energy Load with Single Biggest Savings Opportunities

Installs Optimum Energy’s Software Solution / “OptimumLOOP”

- Improved Plant Efficiency from a 1.4 KW/ton to a < .40 - .60 KW/ton Plant Efficiency
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Chiller Plant Performance

Using Next Generation Technologies

By using – OptimumEnergy’s OptimumLOOP & Performance Assurance Monitoring:

The Aventine Reduced over 501,745 Kilowatts of Energy Saving $75,763
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Chiller Plant Performance

Year 1 RESULTS

• Increased EPA ENERGY STAR score to from “84?” to “100”

• GHG Emission Reduction From Baseline –234 (MtCO2e)

• Pre-Retrofit Electrical Cost at $2.90 $per/Sq.Ft.

• Post-Retrofit Electrical Cost at $2.20 $per/Sq.Ft.
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Chiller Plant Performance (.50 - .60/kW/ton)
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Exterior Building Upgrades

• Installed New EPA “Cool” Roof
• Reused over Two Tons of “Old” Red Rock Ballast
• Reduced Over 45,000 Kilowatts of Energy
• Reduced Heat Island Effect
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Water Conservation Strategies - Building

- Water Efficient Toilets & Urinals Installed
- Hands Free Faucets Installed
- Hands Free Soap Dispensers Used
• The Aventine Uses **100% Reclaimed Water** for Irrigation
• **Smart Controls** Utilizing Drip Irrigation Used
• Drought Resistant & **Native Plants** Installed
• **Open Space** is Maintained for 25% of Project
• **Sustainable Landscape Practices** are Performed
• Environmentally **Safe Chemicals Used**
• Landscape Waste **Composted Off-Site**
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Waste Management Program

• Implemented Comprehensive Waste Management Program
• Current Waste Diversion Rate at 50%
• E - Recycling Conducted Throughout Year
• Tenant Education Sessions Conducted Throughout Year
• Web-Based Recycling Program Dashboard Developed
• Comprehensive Waste Audit Conducted
• Construction Recycling Program Standard Used
• Battery & Lamp Recycling Program in Place
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Purchasing Policy

- EPA Sustainable Purchasing Program Used as Standard
- Energy Efficient Lighting Supplies Used
- Green Cleaning Supplies Purchased through Clean Source SMA
- Sustainable Supplies Purchased for All Base Building Operations
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Operational Best Practices

• Paperless Web Based Tenant Work Order Program
• Web Based Tenant Handbook Created
• Electronic Lobby Directory Used by Tenants & Guests
• Web Based Preventive Maintenance Program Utilized
• Drawing Vault, Web Based System Used for Buildings Blueprints
• Paperless Utility Bill Payment Service Used
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Tenant Education & Outreach

• Annual Earth Day Events Conducted
• Environmental Score Card Created – Glenborough’s Green Space Advantage
• Workspeed InfoCenter Used for Tenant Education of Sustainability Initiatives
• Tenant Electronic Lobby Board Used to Update & Notify Tenants of Building Sustainable Activities
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USGBC & ENERGY STAR Results


ENERGY STAR Rating of “100” for last Four Years
Glenborough’s Energy Efficiency & Sustainability Accomplishments

- NAREIT Leader in the Light “Gold” Award for Energy Efficiency - 2005
- EPA Top Leaders Award for Achieving a Portfolio Wide Average ENERGY STAR Score above 75 - 2008
- Flex Your Power Energy Efficiency Award - 2008
- EPA Top Leaders Award for Reducing Energy Across the Portfolio by over 10% - 2009
- EPA – ENERGY STAR National Building Competition Finalist and 4th Place Award Winner – Highest Percentage Reduction
- EPA Top Leaders Award for Achieving a Portfolio Wide Average ENERGY STAR Score above 85 & 83 – 2010 & 2012
Questions

If you would like to contact us, please feel free to send an email to Carlos Santamaria, RPA, LEED AP – Vice President – Engineering Services

carlos.santamaria@glenborough.com

Or call 650-343-9300x522