Lamar Construction Company, a general contracting firm based in Hudsonville, Michigan, specializes in commercial design and construction, project management, certified steel erection* and facility maintenance services.

With a striking design and structural efficiency, the Lamar Construction headquarters is both visually captivating and environmentally friendly, illustrating their expertise in innovation and sustainability.

Constructed in 2007, the facility has a 30,000 square foot shop attached to 16,000 square feet of office space. The second level, approximately 6,500 square feet, is the building’s focal point: a magnificent structural steel cantilever (a beam supported on only one end). The load of the cantilever bends downward, but to

*American Institute of Steel Construction (AISC)
counteract the downward force, the joint exerts a resistance level of equal and opposite force against the cantilever’s load. This visual and architectural accomplishment is an extremely unique aspect of the Lamar building.

The walls, constructed with reinforced steel and glass, coupled with massive steel beams and exposed metal decking create minimal interior ornamentation in the offices. This simple interior approach minimizes the load, allowing the 100 foot long by 52 foot wide structure to be one of the largest occupied cantilevers in the U.S. The concrete and steel durability lessens the structure’s maintenance and upkeep.

The supporting tower and cantilever were constructed from 236 tons of structural steel. This architectural achievement, designed by Integrated Architecture of Grand Rapids, Michigan, demonstrates that Lamar is a leader in the steel erection business. Due to its elevated design, the cantilevered offices lack contact with any other part of the facility and ground surface, eliminating potential radiant ground source heat from being absorbed by the building. To compensate for this heat loss, the cantilever contains closed-loop, in-floor heating.

The above diagram shows a basic cantilever and the forces acting upon it.
Pipes installed in the concrete floor circulate 100°F water from boilers. This system keeps the floors at a steady temperature of 75°F, reducing the need for additional heating. During the summer months, the building uses a cooling tower to regulate the indoor air temperature.

The lighting and building management systems also contribute to the building’s efficiency. Using Lamar’s specific latitude and longitude, the lighting system calculates the amount of sunlight the building receives each day. From this data, the system automatically adjusts the timing and amount of light required to operate within the building. The system goes into a conservative “night mode” on weekends when the office is not in use. All of these systems can be controlled off-site by wireless technology.

The offices feature an open format with few walls and floor-to-ceiling low-E glass reflective windows. The flow of natural lighting throughout the building, with little need for electric lighting, helps keep the offices cool in the summer and contributes to SERF’s mission of reducing energy usage.

The home of Lamar Construction highlights how sustainability and innovative construction can be woven together to produce an iconic structure. By incorporating efficiency into the striking cantilever, Lamar demonstrates SERF’s mission of Practical Environmental Stewardship™.

For more information on Lamar Construction Company, please contact Jason Gibbs at (616)662-2915 or jgibbs@lamarconstruction.com.

Building Awards:

2010 AISC Innovative Design in Engineering and Architecture with Structural Steel (IDEAS2) Award
Projects Under $15 Million

2008 AIA Grand Valley Honor Award

2008 AIA Michigan Honor Award

2007 Associated Builders and Contractors (West Michigan Chapter) Excellence in Merit Shop Construction Award Structural Steel over $250K
PRACTICAL ENVIRONMENTAL STEWARDSHIP

SERF is a coalition of property owners and professionals certifying and promoting environmentally responsible homes and buildings.

SERF affirms that with private property rights come responsibilities — not least of which is the responsibility to construct, rehabilitate and operate our homes and facilities to enhance our communities and minimize environmental impact.

SERF recognizes that protection of our environment is the duty of every steward of the land, and that such stewards who act accordingly should be recognized and encouraged.

SERF holds that honest cost-benefit analysis should be applied to building improvements and systems intended to help the environment. To endure, sustainability must be affordable.

SERF is an inclusive organization which provides live and online forums for members to share methods to cost-effectively meet our goals.

SERF builds future generations of environmentally responsible property owners. Our examples and support teach and endow future generations to live in harmony with our planet and to conserve its precious resources.

SERF: Catch the wave — get certified!

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