

COMMERCIAL BUILDING ENERGY ASSET SCORE

SUMMARY

BUILDING INFORMATION

Meridian Township Municipal
Building
5151 Marsh Rd
Okemos, MI 48864

Building Type: Office
Gross Floor Area: 26,222 ft²
Year Built: 1971

Report #: MI-380-371
Score Date: 2013
Building ID #: 380

ASSET SCORE DATA LEVEL

BUILDING ASSET SCORE

Current Building Score **80**

Score With Upgrades **89**

BUILDING USE TYPES

Office: 26,222.00 ft²

Each use type has a separate Score page included after the full building Score page.

CONTENTS

The **Commercial Building Energy Asset Score** is a national rating system developed by the U.S. Department of Energy. The **Score** reflects the energy efficiency of a commercial building based on the building's structure, heating, cooling, ventilation, and hot water systems. The **Structure and Systems** are the details on the current structure and systems for the building. The **Opportunities** show how to improve the energy efficiency of the building to achieve a higher score and save energy and money.

<http://www1.eere.energy.gov/buildings/commercial/assetscore.html>



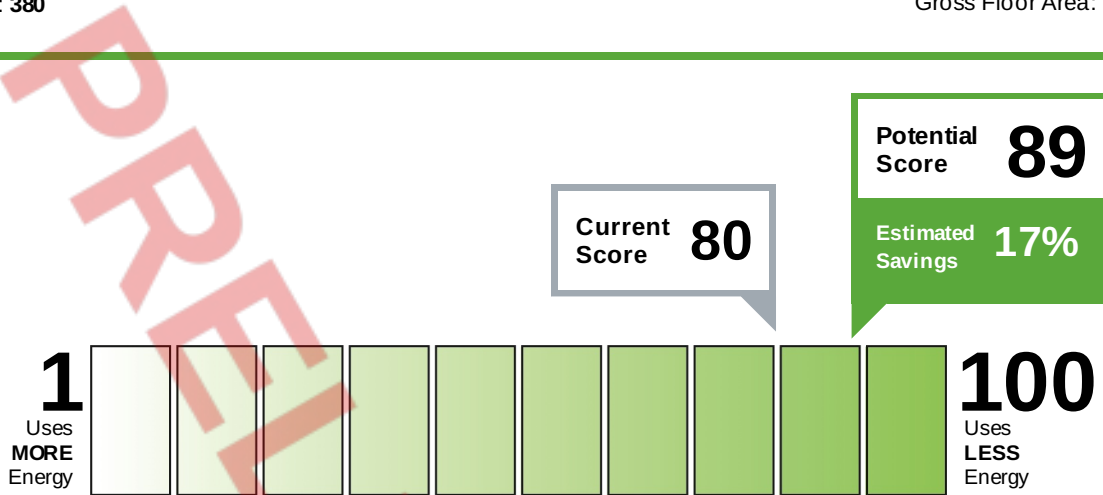
U.S. DEPARTMENT OF
ENERGY

COMMERCIAL BUILDING ENERGY ASSET SCORE

SCORE: FULL BUILDING

Building ID #: 380

Gross Floor Area: 26,222 ft²



Assumed Occupancy and Operating Conditions	Estimated Source Energy Use (kBtu/ft ²)	Energy Use Intensity by Fuel Type
Number of Assumed Occupants 154 Hours of Operation 48.6 hrs/wk Cooling Set Point 75.0 °F Heating Set Point 70.0 °F Misc. Energy Loads 0.75 W/sqft	Current Building 110.00 Upgraded Building 91.00	<p>Site Energy Use (kBtu/sf)</p> <p>Energy Use (kBtu/sf)</p> <p>Legend: Fuel Oil, Gas, Electricity, District Heating, District Cooling</p>

¹Savings reflect the reduction in source energy that would result from undertaking all of the efficiency improvements identified on the Opportunities page. Actual savings will depend on a variety of factors including actual operating conditions.

²See individual use type score pages for occupancy and operating condition assumptions.

³Estimates are calculated using information provided about the building's characteristics as well as standard assumptions about operations and weather.



COMMERCIAL BUILDING ENERGY ASSET SCORE

UPGRADE OPPORTUNITIES

Building ID #: 380

Gross Floor Area: 26,222 ft²

Cost Effective Upgrade Opportunities	Energy Savings ¹	Simple Pay Back
BUILDING ENVELOPE		
• Attic Ceiling: Increase Insulation by R-30 (blow-in cellulose) Roof Insulation R-Value 13.00	4.0%	10.8 yrs
• Blow-in Wall Insulation to Fill Available Space Wall Insulation R-Value 7.00	3.7%	21.7 yrs
• Add Storm Window Wood Frame Single Pane Window	2.4%	18.7 yrs
• Add Floor Insulation in ""	6.8%	4.1 yrs
INTERIOR LIGHTING		
• Upgrade T8 Fluorescent Lighting in "" to High Efficacy T8 Fluorescent Lighting	6.4%	16.0 yrs
HVAC SYSTEM		
<i>No opportunities identified</i>		
HOT WATER SYSTEMS		
<i>No opportunities identified</i>		

The percent savings range reflects the expected incremental savings associated with the specific EEM assuming all other recommended EEMs have already been implemented. This assumption is made to avoid double counting of savings. The estimated savings reflect site energy savings and are based on the actual building operating conditions that the user entered.



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STRUCTURE AND SYSTEMS

Building ID #: 380

Gross Floor Area: 26,222 ft²

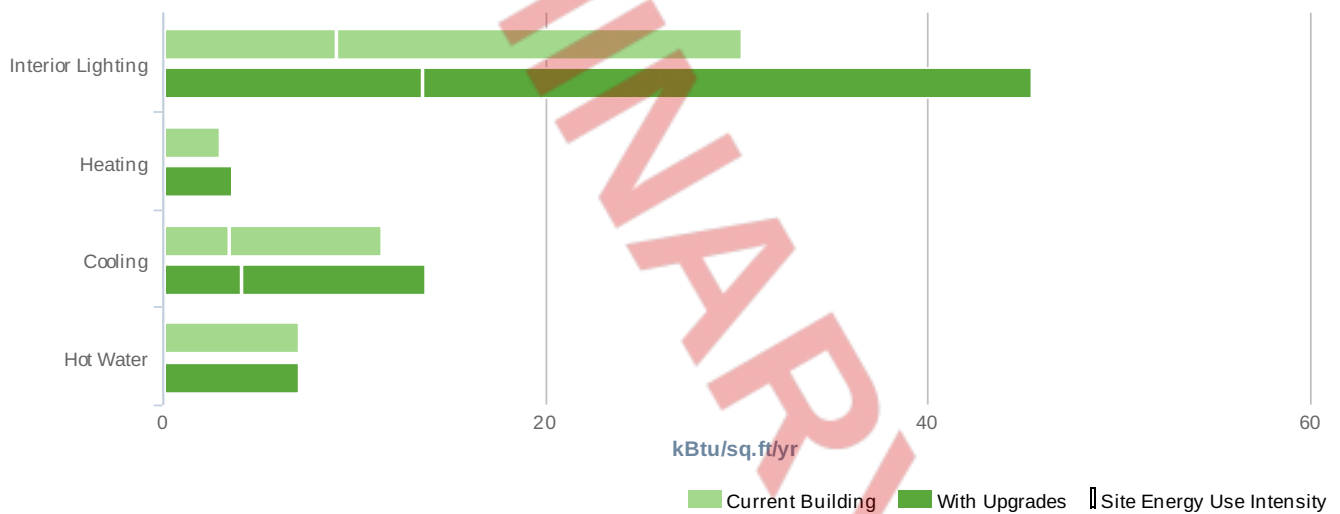
ABOUT THE BUILDING ENVELOPE

	Current Building	Ranking	Upgrade Opportunity Identified
Roof U-Value, Non-Attic (Btu/ft ² h °F)	0.063	Fair	✓
Floor U-Value, Mass (Btu/ft ² h °F)	0.080	Good	✓
Wall U-Value, Framed (Btu/ft ² h °F)	0.116	Fair	✓
Windows U-Value (Btu/ft ² h °F)	0.72	Fair	✓
Walls + Windows U-Value (Btu/ft ² h °F)	0.10	Fair	✓
Window Solar Heat Gain Coefficient	0.73	Superior	✓

ABOUT THE BUILDING SYSTEMS

Current Building			Ranking	Upgrade Opportunity Identified
Load (kBtu/ft ² /yr)	Source Use (kBtu/ft ² /yr)	Efficiency		
Coming Soon				

SOURCE ENERGY USE INTENSITY BY END USE



* Based on ANSI/ASHRAE/IESNA Standard 90.1-2004 and DOE reference building

** Poor: More than 30% less efficient than reference value
 Fair: within ± 30% of reference value
 Good: more than 30% more efficient than the reference value

*** System evaluation uses source energy intensity

COMMERCIAL BUILDING ENERGY ASSET SCORE

BUILDING ASSETS

Building ID #: 380

Gross Floor Area: 26,222 ft²

Block: - 23,120.00 ft²

Use Type

Office

Geometry

Above Ground

2 floors

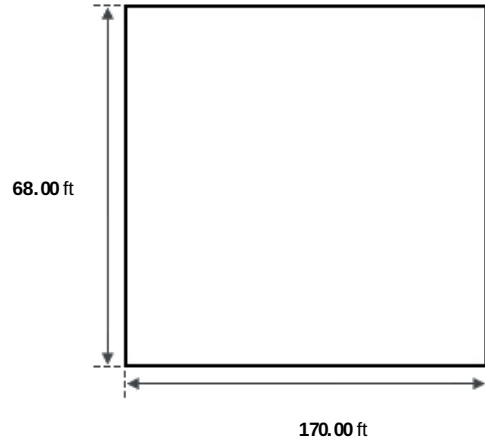
Floor-to-Floor Height: 12.00ft

No drop ceiling

Floor-to-Ceiling Height: 10.00ft

Orientation: 315.0° from North

[Edit](#)



Construction

[Roof Type:](#) Shingles/Shakes

Roof R-value: 13.0° F-ft²-h/Btu

No skylights

[Floor Type:](#) Slab-on-Grade

Surface

[Wall Type:](#) Brick/Stone on masonry

[Window Details:](#)

Window Framing Type: Metal

Window Glass Type: Double Pane

Window Gas Fill Type: Air

Window layout: Discrete

Exterior Shading Type: External Overhangs

Surface

[Wall Type:](#) Brick/Stone on masonry

[Window Details:](#)

Window Framing Type: Metal

Window Glass Type: Double Pane

Window Gas Fill Type: Air

Window layout: Discrete

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Surface

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Window Framing Type: Metal

Window Glass Type: Double Pane

Window Gas Fill Type: Air

Window layout: Discrete

Exterior Shading Type: External Overhangs

Surface

[Wall Type:](#) Brick/Stone on masonry

[Window Details:](#)

Window Framing Type: Metal

Window Glass Type: Double Pane

Lighting

[Recessed Fluorescent T8](#) - 200 fixtures

Heating/Cooling

Perimeter Zone Depth: 15.0ft

Cooling: Terminal DX

40.00 tons

Heating: No Heating

78.00%

Service Water Heating

Fuel Type: Gas

Distribution Type: Distributed

Water Heater Efficiency: 60.0%

Tank Volume: 40.0 gallons

[Edit](#)

Operations

55 total occupants

[Edit](#)

Window Gas Fill Type: **Air**
Window layout: **Discrete**
Exterior Shading Type: **External Overhangs**

* Value not directly entered by user. Value estimated from building properties entered by the user.



COMMERCIAL BUILDING ENERGY ASSET SCORE

BUILDING ASSETS

Building ID #: **380**

Gross Floor Area: **26,222 ft²**

Block: - 3,102.00 ft²

Use Type

Office

Geometry

Above Ground

1 floor

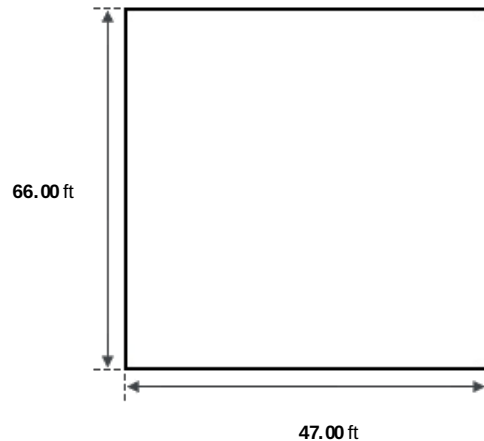
Floor-to-Floor Height: **12.00ft**

No drop ceiling

Floor-to-Ceiling Height: **10.00ft**

Orientation: **315.0°** from North

[Edit](#)



Construction

[Roof Type:](#) **Shingles/Shakes**

Roof R-value: **13.0°**F·ft²·h/Btu

No skylights

[Floor Type:](#) **Slab-on-Grade**

Surface

[Wall Type:](#) **Brick/Stone on masonry**

[Window Details:](#)

Window Framing Type: **Metal**

Window Glass Type: **Double Pane**

Window Gas Fill Type: **Air**

Window layout: **Discrete**

Exterior Shading Type: **External Overhangs**

Surface

[Wall Type:](#) **Brick/Stone on masonry**

[Window Details:](#)

Window Framing Type: **Metal**

Window Glass Type: **Double Pane**

Window Gas Fill Type: **Air**

Window layout: **Discrete**

Exterior Shading Type: **External Overhangs**

Surface

[Wall Type:](#) **Brick/Stone on masonry**

[Window Details:](#)

Window Framing Type: **Metal**

Lighting

[Recessed Fluorescent T8](#) - 20 fixtures

Heating/Cooling

Perimeter Zone Depth: **15.0ft**

Cooling: **Terminal DX**

5.00 tons

Heating: **Single Zone Central Furnace**

78.00%

Service Water Heating

Fuel Type: **Gas**

Distribution Type: **Distributed**

Water Heater Efficiency: **60.0%**

Tank Volume: **40.0** gallons

[Edit](#)

Operations

Using default settings

Window Glass Type: **Double Pane**

Window Gas Fill Type: **Air**

Window layout: **Discrete**

Exterior Shading Type: **External Overhangs**

Surface

Wall Type: **Brick/Stone on masonry**

No windows

^{*} Value not directly entered by user. Value estimated from building properties entered by the user.



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