

ENERGY STAR Building Design Profile

Fred Meyer Store #682
Maple Valley, WA 98038 (Black Diamond)



Partnering with the Kroger Corporation, MulvannyG2 worked with our engineering group to address a need for annual energy use reductions in the client's retail roll-out program. Working with the EPA's Target Finder, we identified our baseline and collaborated with the Design Team and Owner to identify energy efficient strategies within the context of the Grocery/Retail Space. The building type/use necessitated a series of technologies rather than a single implementation of one and inspired collaboration across the entire team.

- Contains a highly insulated exterior envelope, advanced refrigeration systems, and an enhanced commissioning process.
- Store achieved 8 out of 10 points in EAC1 LEED V2.2
- Store has more than 90 Skylights and a daylighting controls package reducing operational lighting costs
- Custom Building Automation System programming allows for multiple department store to operate at optimal efficiency
- Packaged rooftop AHU run a VAV air delivery system with CO₂ monitoring for occupant comfort
- On demand and localized protocol refrigeration system reduces operational costs
- Occupancy sensor triggered LED lighting in refrigerated cases cut refrigeration consumption.
- Used 35% recycled content in construction materials, recycling 87% of construction waste, achieving 32% regional materials usage, and 100% onsite rainwater retention and infiltration.
- Zero leak tolerance for refrigeration system.
- Heat reclaim on refrigeration system for hot water heating.
- Loop based high efficiency water system.

Talking Points:

- Projects that achieve the Designed to Earn the ENERGY STAR certification are designed to reduce energy and CO₂ emissions.
- It was important that our project achieve Designed to Earn the ENERGY STAR because it signals to the market that the project is intended to perform in the top 25% of the nation's most energy efficient buildings. **MulvannyG2 Architecture** is also helping the environment by delivering a low energy design to our client, which in turn sets the stage for operating the building to actually earn the ENERGY STAR label. ENERGY STAR buildings have a proven track record and yield average annual energy savings of 30 percent.
- Projects that achieve the Designed to Earn the ENERGY STAR also promote future financial benefits from reduced energy costs over the life of the building.
- Target Finder was helpful in evaluating how various design strategies affected the energy estimates for the project.



Architect of Record:

MulvannyG2 Architecture

Engineering Firm:

Engineering Consultants, Inc.

Building Owner:

Kroger Company

Design Energy Rating:

76

Percent Energy and CO₂ Reduction*:

22

Design Year/ Estimated Occupancy Date:

2008/2012

Space Type:

Supermarket/Grocery

Floor Space:

185,470 sq ft

Estimated Energy Use Intensity:

290 kBtu/sf/yr

Estimated Total Annual Energy Use:

16,970,505 kBtu/yr

Estimated Annual Energy Cost:

\$358,393

Technologies Specified:

See bullet point list

For More Information

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*Percent Energy and CO₂ Reductions are based on comparison to a median building of similar type.

Suggested Details:

- The projected annual energy and CO₂ savings of the design is **22 percent** as compared to the median building.
- The estimated total annual energy savings for this project is **14,728,019 kBtu** with an estimated cost savings of **\$98,244**.

EPA wants to feature your projects on the [Architects and Projects](#) Web page and in ENERGY STAR program materials. We encourage the AOR to submit a completed Profile with the certification application or by e-mail to spp@cadmusgroup.com.