

**Sustainable Design Highlights**

November 20, 2017

Project No. 17.107

The additions and renovations to the 1<sup>st</sup> Presbyterian Church of Holland embodies theory and practice as applied to sustainable design features. The decision to reuse and renovate the existing building keeps several tons of demolition waste out of landfills. Both the existing structure and proposed new additions will implement the following sustainable features:

**Sustainable Sites***Stormwater Design:*

- Rainwater is directed into planted "BioSwales" within the parking areas
- Site Rainwater is collected and directed to "Rain Gardens", which serve as Biology Lesson Opportunities
- Use of permeable pavers at the south plaza area will mitigate storm water run off.

*Heat Island Reduction:*

- Use of heat-reflecting Roof Materials at the proposed new additions
- Light Pollution Reduction: Use of Dark Sky Exterior Lighting Fixtures

**Water Efficiency***Water Use Reduction: 30% Reduction over normal use*

- Implementation of efficient plumbing fixtures

*Water Efficient Landscaping:*

- Use of native plants requiring little to no irrigation

**Energy & Atmosphere***Optimized Energy Performance: over 25% Reduction as compared to normal use*

- New Energy Efficient Mechanical System
- Use of Natural Daylighting
- Lighting control system automatically turns lights off when the room is not occupied
- Exterior and Interior use of energy efficient LED lighting

**Materials & Resources**

- 90% of Construction Waste was diverted from landfills with the reuse of the existing structure.
- Building materials with recycled content are to be utilized. (Carpet, Tile, reclaimed wood)
- Over 20% of all building materials specified are processed or manufactured regionally
- All wood is from Sustainable Forests or reclaimed.

**Indoor Environmental Quality***Preventive Practices*

- Environmental Tobacco Smoke Control – during construction until present time
- Construction Indoor Air Quality Control – both during construction and reinforced with a whole-building air purge at construction completion
- Monitoring of Outdoor Air Delivery

*Use of Low-Emitting Materials for all:*

- Adhesives, Sealants, Paints, Flooring, and Composite Wood

*Outdoor Views are provided for 90% of occupied spaces*