

Why is it innovative?

The 10.4 plus acres of "green" roof on the Assembly Building at the Ford Rouge Center is the Guinness World Book of Record's largest green roof in the world. It is a German "Xero-flor" trademark system that utilizes a lightweight three-dimensional woven polymer fabric to hold soil to support 11 different varieties of sedum ground cover.

This innovative green roof system offers the following unique advantages

- Reduces the urban heat island effect via evapotranspiration.
- Provides increased storm water retention and is less taxing on the sewer system.
- Improves atmosphere by absorbing carbon dioxide and releasing oxygen.
- Contributes to phytoremediation by using plants to neutralize toxins
- Provides insulating value for energy savings and increased interior comfort year round
- Provides aesthetic and therapeutic effects upon viewing
- Provides habitat for migrating birds and other insects
- Protects roof membrane from harmful UV light for longer membrane life

What it changed or replaced

The green roof on the Assembly Building was part of a site-wide initiative to remediate one of the more infamous brown field sites in southeastern Michigan, the Rouge Complex. It provides an environmentally friendly solution that is "cleaning up" the site to achieve a healthy environment for visitors, plants, and animals. The site has been designated a wildlife habitat by the national Wildlife Habitat Council. Bird eggs are being found on the roof, and ducks and hatchlings are thriving in the storm water filtration ponds.

Per William Clay Ford, Jr.: "The revitalization of the Rouge project is a terrific opportunity to demonstrate sustainability by transforming the icon of the 20th century industrial manufacturing into a model of a 21st century sustainable manufacturing center. It will also be a very visible testament to Ford's commitment to environmental leadership and social responsibility."

Where and when it originated, has been used, and is expected to be used in the future

The green roof concept has been very popular in Europe for the 10 to 20 years. It has been used successfully, especially in dense urban environments where the European government mandates or gives tax advantages for environmental benefits inherent in the use of green roof systems. It is expected to become a popular innovation in the United States since many states and municipalities are seeing the advantages of "green" or "sustainable" design solutions and have legislated increased environmental incentives.

If the nomination is for an innovative project, specifically identify its innovations

The project has many unique and innovative sustainable ideas including:

- Wetlands and five acres of stormwater filtration ponds for environmental benefit and storm water control
- 14 acres of porous pavements and underground groundwater storage beds
- 1.25 acres of factory day lighting including 66 skylights and 10 monitors for increased visibility and therapeutic interior effect
- Interior lighting is coordinated with daylight and controlled by photometric sensors
- Engineered swales and indigenous plants and trees naturally clean contaminated soil and water via phytoremediation
- Lean manufacturing building and process systems
- Exterior wall "greenscreens" for building shading

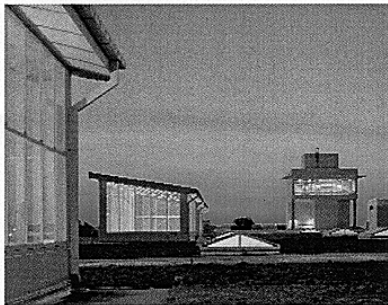
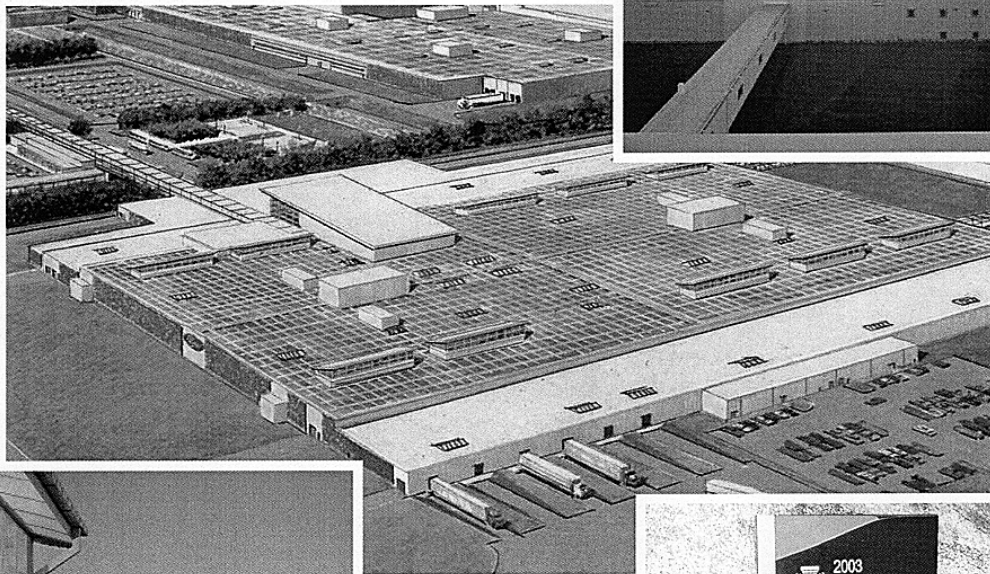
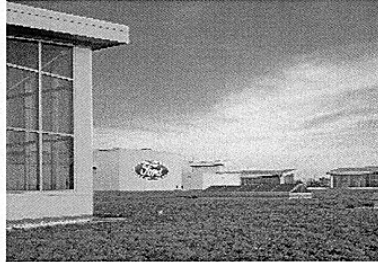
The project received the Michigan AIA Honor Award in 2003 for Sustainable Design and also a Landscape Honor Award from the Michigan Society of Landscape Architects.

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Ford Rouge Center Site Revitalization Dearborn Truck Plant Assembly Building - "Green Roof"



McDONOUGH



"A colossal project - notable in that the architect was able to design the sustainable technology into such a breathtakingly good example of the reuse of industrial sites." - 2003 AIA Michigan Honor Award inscription

