The green roof atop the new truck plant retains approximately 50% of incident rainfall.

Porous paving and drainage swales mitigate site storm water.

A. Storm Water
The green roof on the new truck assembly plant forms part of a comprehensive plan to mitigate storm water at the Ford Rouge complex. The roof is expected to prevent 447,000 gallons (1,690,000 L) per year, or 50% of the rainfall incident on the roof, from entering the storm sewer (GRHC, 2003). Porous paving and drainage swales on site also reduce and filter runoff.

B. Energy

C. Acoustics

D. Structure

E. Compliance

F. Cost


FORD DEARBORN TRUCK ASSEMBLY PLANT

A+B+F
Vegetative solar shading at the roof and walls of the new truck plant minimizes heat gain. According to Green Roofs for Healthy Cities, the project’s engineers expect the green roof to reduce energy use by 7% (2003). The Ford Motor Company’s green roof tour placards claim that the green roof’s insulation properties “save millions of dollars in energy costs” and that it “lowers temperatures inside by up to 10°F (6°C)].” While these benefits are currently difficult to demonstrate, researchers will monitor the building to determine compliance with design goals (Litt, 2004).

Solar thermal panels above sedum mats at grade are another experimental energy-saving strategy on site.

Roof monitors bring natural light to factory space.

Solar shading using vines on building facades.
Visitors view the green roof from an observation level as part of a tour of the truck assembly plant.

The Ford Motor Company hired William McDonough + Partners to assist in the revitalization of the Ford Rouge complex, a project slated to take 20 years and $2 billion. McDonough estimates that the green roof alone saved the company $5 million by avoiding the construction of a new storm water treatment plant (Litt, 2004). BRC Imagination Arts, a firm whose resume also includes Disney attractions, made “the World’s Largest Living Roof” a feature of the new Ford Rouge Factory Tour, which opened in May 2004. Visitors view the roof from an observation deck overlooking the truck plant.