




**Detroit Diesel Redford Renaissance
Brownfield Redevelopment Project**

The 2008 EPA/Phoenix National Award Winner


**AHMP Annual Conference, Austin Texas
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Presented by:
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Detroit Diesel Corporation




History of Detroit Diesel

Detroit Diesel Corporation (DDC) has been a large heavy duty diesel and alternative fuel engine manufacturer for 73 years. This 3.1 million ft² facility sits on 131 acres of environmentally impacted property. There were many challenges associated with a facility this old:



- *In 2004, the commercial diesel market was slow and DDC operations were scaled back.*
- *In January 2005, the Redford Township assessor deemed this facility as "functionally obsolete" and unable to be used or to perform the functions for which it was intended.*
- *50% of the facility was idled and the operations were seriously considered to be closed.*

DDC Video Intro Daimler Trucks



Assessing for Redevelopment

DDC has a long standing history and reputation in the metro Detroit area, with deep roots and a history of community involvement. Although a green field option was considered, revitalizing its existing brownfield site could be advantageous for both the company and community – by winning the next generation diesel engine platform we would keep 2,450 jobs in Michigan!

Significant efforts and a very large capital investment would be required to renovate, revitalize, and transform the ageing facility.

- DDC invested \$275 million to initiate a large brownfield redevelopment project with the support from Corporate Daimler AG, Redford Township, and the State of Michigan. As of July 2011 our total investment has reached \$350 million.
- Redford Township awarded DDC with a \$13 million brownfield grant.
- Approximately \$65 million of total tax credits and other incentives from State of Michigan were granted.



Redevelopment Strategy and Planning

Early 2005, DDC's "Redford Renaissance" Redevelopment Project was launched (2005 – 2008). To meet this commitment, DDC needed to:

- Demolish 8 machining and assembly lines
- Renovate and upgrade the building envelope
- Install the next generation new diesel engine production and machining lines
- Reduce environmental liabilities (asbestos, PCBs, USTs, etc.)
- Continuously remediate the subsurface pollution
- Establish an effective environmental management system



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Redford Renaissance Kick-Off



On February 23, 2005, Michigan Governor, Ms. Jennifer Granholm, presided over the opening ceremony when Detroit Diesel announced to the plant and the general public our commitment to revitalizing the facility.

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Challenges Faced Along the Way

To turn around a 73-year old large production facility was not easy. It would cost a tremendous amount of time, money, and effort:


- Infrastructure improvements: water, steam and utility upgrades.
- Removal of old machinery lines and foundations.
- Replacement of 1 million ft² of the roof.
- Raising 127,000 ft² of the roof to fit the new production equipment.
- Removal of 30 active and abandoned roof-top PCB transformers.
- Repave 60% of parking lots.
- Repair & upgrade 52 air supply houses, expand the chiller plant, & upgrade the cooling towers.
- Renovate office areas for 5 new tenants.

The facility demolition, renovations, and environmental improvements cost exceeded \$64 Million.




All this needed to be done while production continued!


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Facility & Community Benefits from the Project


- Retained 2,450 jobs and created additional 450 jobs.
- Installed innovative technologies to reduce the plant emissions.
- Installed energy efficient systems (i.e., roof, energy optimization system, natural and censored lighting improvements, etc.)
- Added 7,700 ft² of new green space.
- Secured and increased the tax base.
- Attracted new tenants to this location (MTU-Detroit Diesel, Axle Alliance Company, Pures, Mercedes Benz, Sterling Trucks, and Western Star Trucks.)
- Public road improvements were funded from the State Brownfield Redevelopment Plan.
- Local commercial establishments, suppliers, vendors, and service providers continue to benefit from the plant operations.




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ENVIRONMENTAL IMPROVEMENTS


Asbestos Abatement
35% of the asbestos has been removed




Lead Abatement
81 columns were abated & cut to raise the roof




PCB Removal
30 PCB-transformers were disposed of and replaced




Groundwater Protection
2 of 6 USTs were removed and 3 misclassified USTs were de-listed



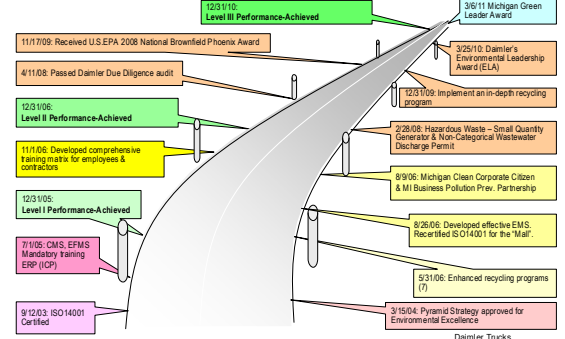
Subsurface Remediation
Historical soil and ground water pollution were successfully reduced and contained



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DDC's Environmental Excellence Roadmap



The roadmap shows a progression of milestones from 1993 to 2011, categorized by performance levels:

- Level III Performance-Achieved (2011):**
 - 3/6/11 Michigan Green Leader Award
 - 3/25/10 Damier's Environmental Leadership Award (ELA)
- Level II Performance-Achieved (2010):**
 - 11/17/09 Received U.S.EPA 2008 National Brownfield Phoenix Award
 - 4/11/08 Passed Damier Due Diligence audit
 - 12/31/09 Implement an in-depth recycling program
 - 2/28/08 Hazardous Waste - Small Quantity Generator & Non-Categorical Wastewater Discharge Permit
- Level I Performance-Achieved (2005-2006):**
 - 12/31/06 Developed comprehensive training matrix for employees & contractors
 - 9/9/06 Michigan Clean Corporate Citizen & MI Business Pollution Prev. Partnership
 - 8/26/06 Developed effective EMS. Recertified ISO 14001 for the "Mill"
 - 7/1/05 CMS, EFMS Mandatory training ERP (ICP)
 - 9/31/06 Enhanced recycling programs (7)
- Other Milestones:**
 - 9/12/03 ISO 14001 Certified
 - 3/15/04 Pyramid Strategy approved for Environmental Excellence


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Received the Daimler 2009 Environmental Leadership Award

Category C
Extraordinary Efforts
for the Environment


environmental leadership award
Our Commitment to the Environment





Redford Renaissance—Brownfield Redevelopment

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Before and After Photos

1-Day Construction Video Daimler Trucks

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Hazardous Waste Storage Area Improvements



Before...

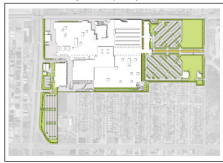
A new waste storage area was built to better manage and control wastes collected for disposal. The new construction provides visual aids, waste isolation, and spill containment.



After...

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Green-space Additions



7,700 ft² of additional green space was added during the Renaissance project.

The facility green-space plan was developed to reduce the amount of stormwater runoff and to improve the overall appearance of the facility.

The addition of flower beds, lighting improvements and outdoor tables were installed for the enjoyment and use by all employees and visitors to the facility.



Upgrades to Building Facade for New Tenants



- Natural lighting in the new lobby.
- New tenants include:
 - Sterling Trucks
 - Western Star
 - Mercedes Benz



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Adding Natural Lighting into the Plant



Old non-functional windows in the plant were replaced with modern light enhancing windows.



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Upgrades to Electrical Substations



Before...

30 active and abandoned Polychlorinated Biphenyl (PCB) transformers were removed.
8 substation were upgraded to meet the additional electrical demands.



After...

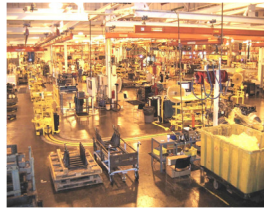
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New MBE 900 Assembly Line



Before...

The old 2-cycle Dyno Test Stands were removed making way for the new Mercedes Benz Engine (MBE-900) Assembly Line.



After...

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New HDE Connecting Rod Machining Line



Before...

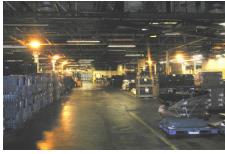
The old 2-cycle head machining line was demolished to make way for the new HDE Connecting Rod Machining line.



After...

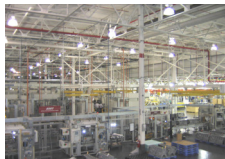
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New HDE Machining and Assembly Lines



The old material storage area was rebuilt.

- Asbestos and lead paint abated.
- Utilities replaced and re-routed.
- 127,000 ft² of the roof was raised to for HDE Block Machines
- Automated Guided Vehicle (AGV) HDE Assembly line installed.



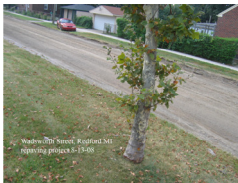
New Tenant Gear Set Machining Line



Removed the old 2-cycle Block Machining to make way for the Axle Alliance Gear Set Machining.



Local Road Repaving



The Brownfield funds were used by Wayne County to repave dirt roads in Redford Township.



Redford Renaissance One Team Drives Excellence

After 4 years of hard work, DDC successfully completed the "Redford Renaissance" Brownfield Re-development Project and re-invented itself as a world class leader!

We revitalized and transformed this old diesel engine plant into a modernized "Manufacturing Mall" to produce a range of commercial vehicle components for the world market.

We continuously strive for excellence and innovation to be an industry leader in manufacturing, as well as a respected, responsible member of our community.



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Phoenix Award Application Process

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What is the Phoenix Award?



The Phoenix Award honors groups that have implemented innovative, yet practical, programs that remediated environmentally-impacted sites, and simultaneously stimulated economic development and job creation or retention in North America.

The National Brownfield Conference seeks to showcase the successful solutions and publicize the premier redevelopment projects as a model for other communities around the world.

Granted under the authorities of U.S. EPA, ICMA, HUD, DOE, and DOC.

The Phoenix Awards™ is the highest award in North America, and is considered the pinnacle of achievement of excellence in brownfield redevelopment. It is often called the brownfield's equivalent of Hollywood's Oscars!

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Phoenix Award Ceremony

Detroit Diesel – Redford Renaissance Project:

- 2008 Region 5 Phoenix Award Winner
- 2008 Phoenix Award Grand Prize Winner



Detroit Diesel of Song



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Thank you
Q & A

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