

PROPOSED BOOTH LAYOUT

MAIN LOBBY
BOOTH

RCRA
BOOTH

CERCLA
BOOTH

U.S. EPA/
IDEM
BOOTH

DISPLAY
OF
SAMPLING
EQUIPMENT

PROPERTY
BOOTH

ASTDR/
ISDH
BOOTH

COMMUNITY
RELATIONS
BOOTH

ENTRANCE

RCRA BOOTH POSTERS

GM Bedford Powertrain
Corrective Action/Removal Action

CORRECTIVE ACTION/REMOVAL ACTION

Aerial Photograph

1:24,000 Quadrangle Map

CERCLA Removal Action Area

GM Bedford Powertrain
Corrective Action/Removal Action

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CORRECTIVE ACTION

Dye Trace Study

- Assessment of hydraulic connection of Facility groundwater to off-Facility seeps and springs (within local creeks)
- Fluorescein dye injected in groundwater @ AOI B in the area upstream of Owltail Area 102 on August 30, 2004.
- Dye monitoring at seeps/springs continued until September 20, 2004.
- The majority of the dye was detected in the Site Source Control collection system designed and implemented as part of the CERCLA Removal Action
- Additional dye trace studies are scheduled for completion in other portions of the Plant later in the year.

Photos: Forming the source into soil, Placing fluoroscein dye in soil, Flushing soil with potable water for dispersion, Dye monitoring from seep/spring, Flushing Control collection system with dye for an indicator dye within the plant.

GM Bedford Powertrain
Corrective Action/Removal Action

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CORRECTIVE ACTION

RCRA Facility Investigation (RFI)

- Systematic Investigation of Plant property through environmental media sampling
 - soil
 - surface water
 - groundwater
 - sediments
- Completion of dye trace studies
- Planned Interim Actions
 - East Plant Area
 - Western Tributary
 - Unnamed Northern Tributary

Site Plan and AOI Locations

GM Bedford Powertrain
Corrective Action/Removal Action

NATURAL RESOURCES

Biological Assessment

- The Indiana bat is a threatened species that spends the fall and winter hibernating in the spring and summer. Female Indiana bats hibernate and are very fragile between the hibernation, making them an extremely fragile species.
- The Biological Assessment evaluates the potential effects to the Indiana bat from habitat disturbance due to RCRA corrective actions. The biological assessment includes evaluating the amount, quality and location of trees and downy woodpecker habitat areas that will remain. A risk assessment and consultation effects of any of RCRA corrective actions to the Indiana bat.
- Biological Assessment Report approved by USFWS on 10/20/04, June 28, 2004.
- The Fish & Wildlife Service, which is entrusted with protecting endangered species, has agreed that CERCLA Removal Action will not affect the Indiana bat.

Ecological Risk Assessment

- A risk assessment will be performed on representative species to determine the effect of any of RCRA corrective actions. After the CERCLA Removal Action has been completed.
- Species are selected to represent different degrees of biological and ecological risk to sensitive species. The selected species and risk represent different degrees of biological and ecological risk. The selected species represent risk to the plant, represent risk to grass and vegetation cover and their associated root systems in an area of RCRA corrective actions.
- The risk assessment uses modeling of chemical intake and toxicity to predict any adverse effects from exposure to contaminated soil and sediments.

Wetlands Restoration

- Wetlands provide many important functions for our environment, including water quality, flood control, fish spawning areas, and many others.
- Wetlands that are removed during construction will be replaced or restored by a design wetland constructed on the region.

Indiana Bat (*Myotis Sodalis*)

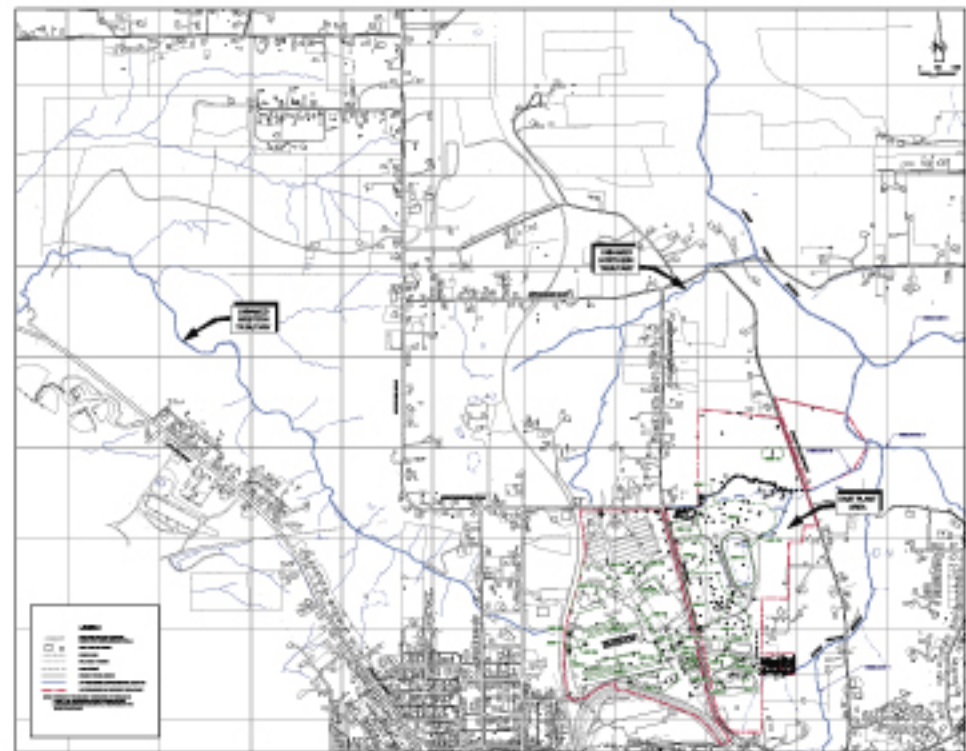
Click on image to see a larger/printable version



RCRA Facility Investigation (RFI)

- Systematic investigation of Plant property through environmental media sampling
 - soil
 - surface water
 - groundwater
 - sediments
- Completion of dye trace studies
- Planned Interim Actions
 - East Plant Area
 - Western Tributary
 - Unnamed Northern Tributary

Site Plan and AOI Locations





Biological Assessment

- The Indiana bat is an endangered species that spends the fall and winter in caves. In the spring and summer, female Indiana bats make a shelter and raise their young between the loose, sagging bark on tree trunks
- The Biological Assessment evaluates the potential effects to the Indiana bat from habitat disturbance and residual PCB levels after the CERCLA Removal Action has been completed. The habitat assessment involves evaluating the amount, quality and location of trees cut down relative to those forested areas that will remain. A risk assessment was conducted on effects, if any, of residual PCB levels to the Indiana bat
- Biological Assessment Report submitted to USFWS/USEPA/IDEM on June 21, 2004
- The Fish & Wildlife Service, which is entrusted with protecting endangered species, has agreed that CERCLA Removal Action will not disrupt the Indiana bat



Indiana Bat (*Myotis Sodalis*)

Ecological Risk Assessment

- A risk assessment will be performed on representative species to determine the effect, if any, of residual PCB levels after the CERCLA Removal Action has been completed
- Species are selected to represent different degrees of feeding and exposure, as well as sensitivity to PCBs. The belted kingfisher and mink represent fish eaters, the red-tailed hawk represents meat eaters, the deer mouse represents a grain and vegetation eater and the short-tailed shrew represents an insect and worm eater
- The risk assessment uses modeling of chemical intake and toxicity to predict any adverse affects from exposure to contaminated soil and sediment



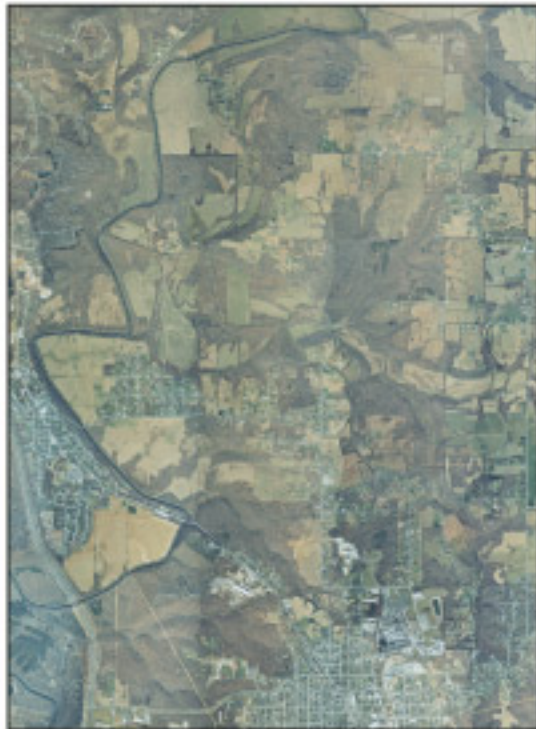
Wetlands Restoration

- Wetlands provide many important functions for our environment, including unique ecological niches, feeding areas, flood control, fish spawning areas, and many others
- Wetlands that are removed during construction will be restored or replaced by a larger wetland constructed in the region





**Aerial
Photograph**



**1:24,000
Quadrangle Map**



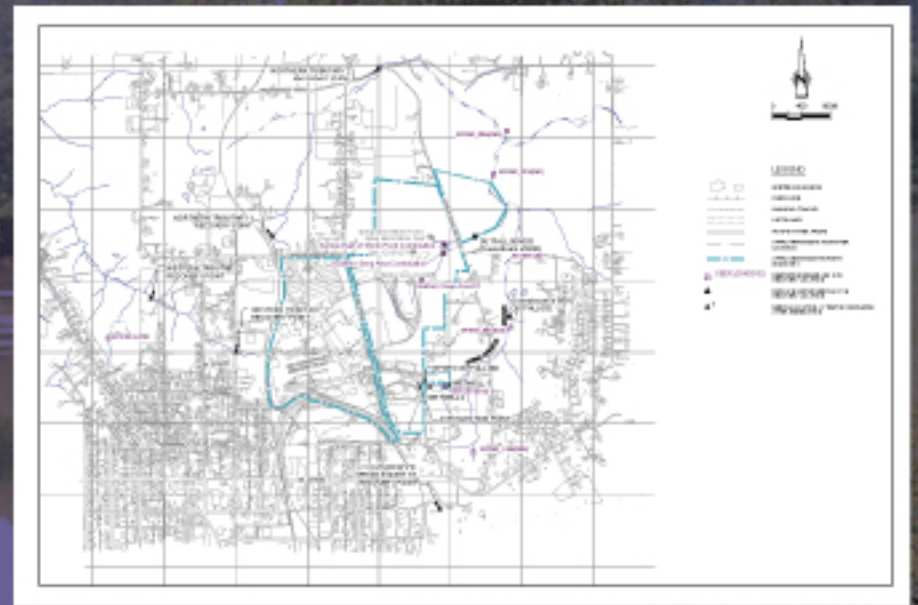
**CERCLA
Removal Action Area**





Dye Trace Study

- Assessment of hydraulic connection of Facility groundwater to off-Facility seeps and springs (within local creeks)
- Fluoroscein dye injected in groundwater at AOI 8 in the area upgradient of Outfall Area 002 on August 30, 2004
- Dye monitoring at seeps/springs continued until September 20, 2004
- The majority of the dye was detected in the Site Source Control collection system designed and implemented as part of the CERCLA Removal Action
- Additional dye trace studies are scheduled for completion in other portions of the Plant later in the year



Funnels for pouring into well



Pouring Fluorescein dye into well



Flushing well with potable water after dye injection



Dye monitoring in the Western Tributary



Site Source Control collection system where most dye was detected. Dye visible in this photo.

CERCLA BOOTH POSTERS

GM Bedford Powertrain
Corrective Action/Removal Action

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA) REMOVAL ACTION

CERCLA Removal Action Status

- The yellow areas represent the areas requiring excavation as part of the Removal Action.
- The red hatched areas represent areas in which excavation has been completed or is currently underway.

CERCLA Removal Action Status

GM Bedford Powertrain
Corrective Action/Removal Action

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) REMOVAL ACTION

Waste Disposal Management

- All waste shipped off-site for disposal is taken to a commercial landfill. GM is currently monitoring all off-site disposal that has a PCB concentration less than 50 mg/kg. GM will continue to monitor all off-site disposal and will accept and pay for removal of any PCB concentrations.
- All waste shipments are tracked through a rigid paperwork process, which documents how much waste was sent, where it was sent and where it was sent. All trucks are properly marked with signs that indicate the types of waste materials they are transporting.

Air Monitoring

- Air quality is regularly monitored at and around all sites where soil and sediment is being removed.
- Air monitoring includes collecting samples for dust and PCB emissions.
- Additional observations of odors that emanate about all work areas and control soil, clean, temporary roads inside of the removal area.
- Water is applied to roads and work areas to reduce the generation of dust.

Truck Traffic

- Transportation plans have been developed and account for local roads and conditions.
- Special lanes, such as school bus riding and schedules, have been planned.
- Truck traffic is periodically regulated for safety speed practices.
- GM is repairing road damage near our work areas.

GM Bedford Powertrain
Corrective Action/Removal Action

CORRECTIVE ACTION/REMOVAL ACTION

Removal Action

- Delineation Sampling**
 - 100m delineation samples collected from 1 meter of creek
 - Creek sediments and floodplain soils sampled
 - Delineation of areas to work areas
- Site Setup**
 - Mobilization, site security, site trailers
 - Erosion controls
 - Access roads and parking areas
- Water Control**
 - Soil berms and ditches to isolate clean water adjacent work areas
 - Water within work areas controlled and collected
 - Potentially polluted water treated prior to discharge
 - Constructed temporary on-site wastewater treatment facility to treat water prior to discharge
- Excavation**
 - Dust and erosion control measures in place prior to excavation
 - Creek sediments and soil above cleanup criteria removed
 - Controls maintained until restoration complete
- Soil Pile**
 - Excavated material managed in a contained area pending shipment for off-site disposal
- Verification Sampling**
 - Creek and floodplain sampled to ensure cleanup criteria is met
 - Additional excavation completed, if necessary, and additional verification samples collected
- Restoration**
 - Areas identified to generally match pre-existing conditions
 - Vegetation re-established
 - Habitat features added to creek and floodplain

GM Bedford Powertrain
Corrective Action/Removal Action

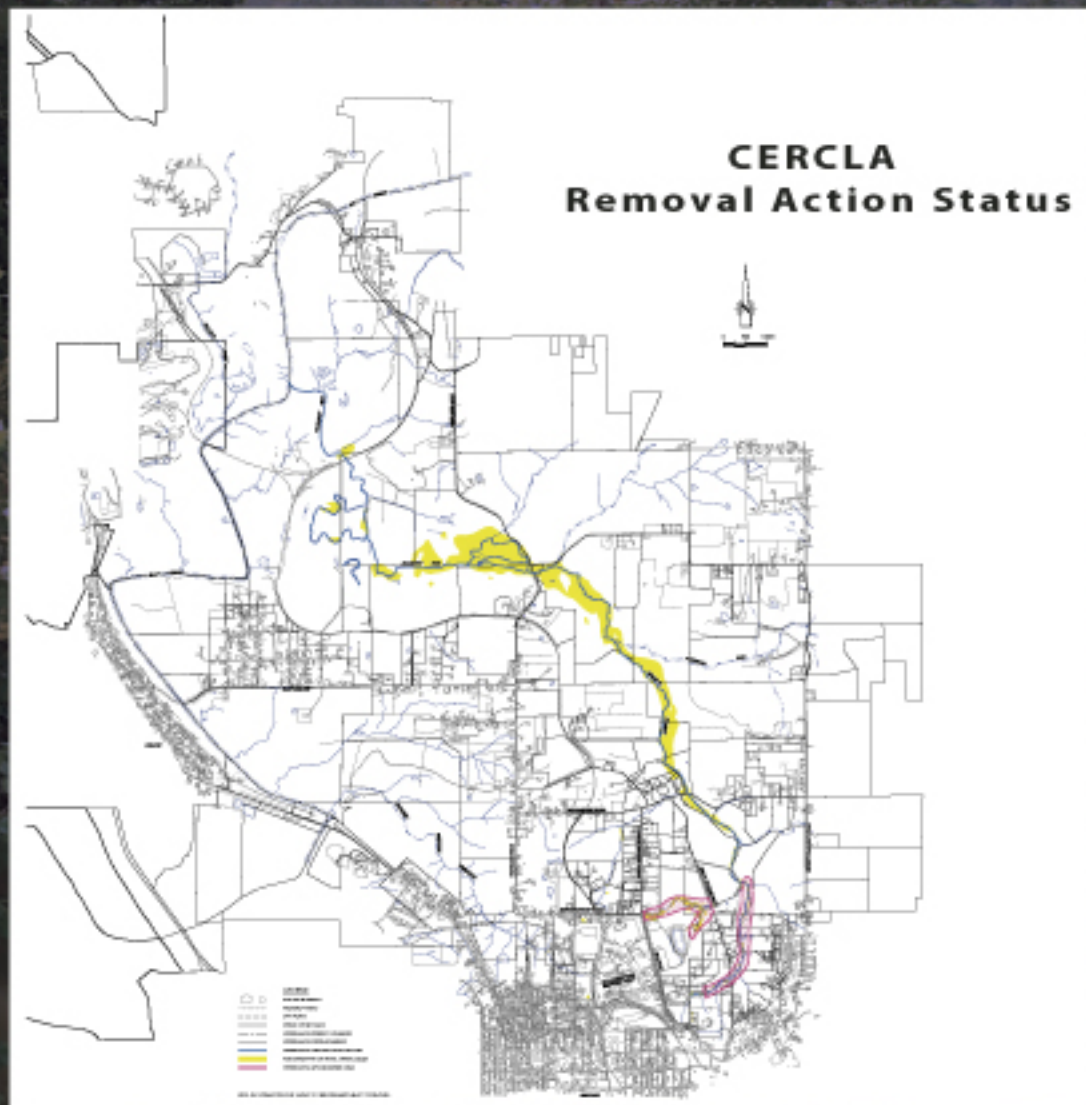
CREEK CLEANUP AND RESTORATION

Click on image to see a larger/printable version



CERCLA Removal Action Status

- The yellow areas represent the areas requiring excavation as part of the Removal Action
- The red hatched areas represent areas in which excavation has been completed or is currently underway





Bedford Powertrain
Corrective Action/Removal Action

CREEK CLEANUP AND RESTORATION





Removal Action

Delineation Sampling

- 3,000+ delineation samples collected over 5 miles of creek
- Creek sediments and floodplain soils sampled
- Clearing of trees in work area

Site Setup

- Mobilization, site security, site trailers
- Erosion controls
- Access roads and parking areas

Water Control

- Soil berms and swales to route clean water around work areas
- Water within work areas contained and collected
- Potentially impacted water treated prior to discharge
- Constructed temporary on-site wastewater treatment facility to treat water prior to discharge

Excavation

- Dust and erosion control measures in place prior to excavation
- Creek sediments and soil above cleanup criteria excavated
- Controls maintained until restoration complete

Soil Pile

- Excavated material managed in a contained area pending shipment for off-site disposal

Verification Sampling

- Creek and floodplain sampled to ensure cleanup criteria are met
- Additional excavation completed, if necessary, and additional verification samples collected

Restoration

- Areas backfilled to generally match pre-existing conditions
- Vegetation re-established
- Habitat features added to creek and floodplain

Delineation Sampling



Water Control



Verification Sampling



Site Setup



Soil Pile



Restoration



Excavation





COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) REMOVAL ACTION

Waste Disposal Management

- All waste shipped off-site for disposal is taken to a commercial landfill. GM is currently using two commercial landfills. One landfill can only accept soil and sediment that has a PCB concentration less than 50 mg/kg (50 parts per million), while the other landfill can accept soil and sediment of any PCB concentration.
- All waste shipments are tracked through a rigid paperwork process, which documents how much waste was sent, when it was sent and where it was sent. All trucks are properly marked with signs that indicate the types of waste materials they are transporting.



Air Monitoring

- Air quality is continually monitored at and around all areas where soil and sediment is being removed.
- Air monitoring includes collecting samples for dust and PCB analysis.
- Infrequent observations of airborne dust around clean fill restoration areas and constructed, clean, temporary roads outside of the removal areas.
- Water is applied to roads and work areas to reduce the generation of dust.



Truck Traffic

- Transportation plans have been developed and account for local roads and conditions.
- Special issues, such as school bus routes and schedules, have been assessed.
- Truck traffic is periodically monitored for safety/speed practices.
- GM is repairing road damage near our work areas.





Bedford Powertrain
Corrective Action/Removal Action

GOVERNMENT REGULATORY AGENCY TEAM

United States Environmental Protection Agency (U.S. EPA)

- **RCRA Corrective Action**
Mr. Peter Ramanauskas
(312) 886-7890
- **CERCLA Removal Action**
Mr. Brad Stimple
(440) 250-1717



Indiana Department of Environmental Management (IDEM)

- **Mr. John Gunter**
(317) 232-3413





Bedford Powertrain
Corrective Action/Removal Action

GOVERNMENT HEALTH ASSESSMENT TEAM

Agency for Toxic Substances and Disease Registry (ATSDR)

• Mr. Clayton G. Koher
(312) 353-6086

ATSDR

AGENCY FOR TOXIC SUBSTANCES
AND DISEASE REGISTRY



Indiana State Department of Health (ISDH)

• Ms. LaNetta Alexander
(317) 233-7162
• Mr. Garry Mills
(317) 233-7525

ISDH



Bedford Powertrain
Corrective Action/Removal Action

GM COMMUNITY RELATIONS TEAM

General Motors Corporation (GM)

Real Estate
Michael Hilfinger
(313) 665-6603

GM OWNED HOMES FOR SALE



402
BAILEY SCALES ROAD



1119
BRECKENRIDGE ROAD



450
NORTH JACKSON STREET



415
BAILEY SCALES ROAD



1073
EAST OOLITIC ROAD



507
NORTH JACKSON STREET



490
BROOMSAGE ROAD



321
NORTH JACKSON STREET



603
NORTH JACKSON STREET

Real Estate Agents

Hamilton and Associates
* Bob Hamilton
(812) 275-5400

Williams GMAC Real Estate
* Cedar Williams
(812) 275-4401

RE/Max Real Estate Center
* Karla Tackett
(812) 276-1111

Keach and Grove Real Estate
* George Luallen
(812) 279-4482



General Motors Corporation (GM) Communications

Becki Akers
1-866-223-0856

NORTH JACKSON STREET OPEN HOUSE
Sponsored by the City of Bedford
June 10, 2004 3:00 to 7:00 pm

EVENTS

For more information on
the events please contact
Becki Akers at
1-866-223-0856

GENERAL INFORMATION SESSION

Monday, October 18, 2004
7:00 PM - 8:00 PM
105 GM Drive, Bedford, Indiana

Join GM and the State of Indiana to learn about the
remediation project and the impact it will have on the
community. This session will provide an overview of the
project and answer your questions.

Remediation Project Impact on Land
• Each of the remediation projects will have an impact on the
land. This session will provide an overview of the project and
answer your questions.

Remediation Project Impact on the Environment
• Each of the remediation projects will have an impact on the
environment. This session will provide an overview of the project
and answer your questions.

Remediation Project Impact on the Community
• Each of the remediation projects will have an impact on the
community. This session will provide an overview of the project
and answer your questions.

Remediation Project Impact on the Future
• Each of the remediation projects will have an impact on the
future. This session will provide an overview of the project
and answer your questions.

Remediation Project Impact on the Past
• Each of the remediation projects will have an impact on the
past. This session will provide an overview of the project
and answer your questions.

Remediation Project Impact on the Present
• Each of the remediation projects will have an impact on the
present. This session will provide an overview of the project
and answer your questions.

Remediation Project Impact on the World
• Each of the remediation projects will have an impact on the
world. This session will provide an overview of the project
and answer your questions.



Web Site
www.GMBedfordCorrectiveAction.com

- Project Fact Sheets**
- Project Fact Sheet 1 - May 24, 2001
 - Project Fact Sheet 2 - July 16, 2001
 - Project Fact Sheet 3 - February 10, 2002
 - Project Fact Sheet 4 - September 9, 2002
 - Project Fact Sheet 5 - February 12, 2003
 - Project Fact Sheet 6 - August 11, 2003
 - Project Fact Sheet 7 - January 20, 2004
 - Project Fact Sheet 8 - May 28, 2004
 - Project Fact Sheet 9 - October 28, 2004

**Public Information
Repositories**

- **Bedford Public Library**
1323 K Street
Bedford, Indiana
Tel: (812) 275-4471
- **GM Bedford Powertrain Facility**
Visitors Entrance Lobby
105 GM Drive
Bedford, Indiana
Tel: 1-866-223-0856

**Community Liaison Panel
Public Meetings**