

# REGULATORY AUTHORITY, PERMITTING REQUIREMENTS, AND POTENTIAL ENVIRONMENTAL LIABILITY

Activity	Authority and Liability	Agency Contact/Permit
Dioxin contaminated soil and sediment questions including construction activities and sand mining operations	NREPA*: Part 201 (Environmental Remediation)	DEQ – Remediation and Redevelopment Division Sue Kaelber-Matlock/Brenda Brouillet 989-686-8025, Ext. 8303 or 8300
Characterization, handling and disposal of contaminated soils including construction activities and sand mining operations	NREPA: Part 201 (Environmental Remediation) and Part 115 (Solid Waste Management)	DEQ – Waste and Hazardous Materials Division oversight regulation, approval by landfill 989-686-8025, Ext. 8203
Installation or removal of most underground storage and heating oil tanks	NREPA: Part 211 (Underground Storage Tanks), and MI Public Act 207 (MI Fire Prevention Code) for heating oil	DEQ – Waste and Hazardous Materials Division may need a Permit under Part 211 989-686-8025, Ext. 8906
Construction activities disturbing soils >5 acres of area	NREPA: Part 31 (Water Resources Protection)	DEQ – Water Division, Stormwater Discharge Certificate of Coverage for Construction Activities 989-686-8025
Sand and gravel mining with process water discharges	NREPA: Part 31 (Water Resources Protection)	DEQ – Water Division, National Pollutant Discharge Elimination System Permit 989-686-8025, Ext. 8907
Treatment and discharge of treated wastewater from trenching and dewatering activities	NREPA: Part 31 (Water Resources Protection)	DEQ – Water Division, National Pollutant Discharge Elimination System Permit 989-686-8025, Ext. 8907
Construction of water mains	NREPA: Part 399 (Water Mains)	DEQ – Water Division, Construction Permit 989-686-8025, Extension 8907
Construction of sanitary sewers and force mains	NREPA: Part 41 (Sewage Systems)	DEQ – Water Division, Construction Permit 989-686-8025, Extension 8907
Trenching or installation of structures below the high water levels in lakes, streams, and rivers	NREPA: Part 301 (Inland Lakes and Streams)	DEQ – Geological and Land Management Division, Inland Lakes and Streams Permit 989-686-8025
Fill within a flood way or flood plain, culverts and drains affecting flood plains, buildings, etc.	NREPA: Part 31 (Water Resources Protection)	DEQ – Geological and Land Management Division, Floodplain Permit 989-686-8025
Alteration of wetlands	NREPA: Part 303 (Wetlands Protection)	DEQ – Geological and Land Management Division, Wetlands Permit 989-686-8025
Public health concerns		Department of Community Health 1-800-648-6942
Agricultural concerns		Department of Agriculture Brian Hughes 517-241-3267
Construction activities disturbing 1-5 acres of soil	NREPA: Part 91 (Soil Erosion and Sedimentation Control), Part 31 (Water Resources Protection), and Part 201 (Environmental Remediation)	Local Enforcing Agency – County Drain Commission permit
Construction of county drains	Drain Code	County Drain Commission, County Road Commission
Construction of storm sewers	Drain Code or local ordinances	County Drain Commission or local government

\* Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended, (NREPA).

## Soil Movement Advisory for Private, Public, and Commercial Projects

*Tittabawassee River Furan and Dioxin Flood Plain Soil and Sediment Contamination*  
Midland and Saginaw Counties

### INTRODUCTION

This advisory addresses soil movement activities for private, public, and commercial projects in Midland and Saginaw Counties as a result of Tittabawassee River flood plain soils and sediment furan and dioxin contamination. The following information was prepared by the Departments of Environmental Quality (DEQ), Community Health (DCH), and Agriculture (MDA). For additional information or contacts, please refer to the table on the back page of this document, and to the DEQ web site, [www.michigan.gov/deq](http://www.michigan.gov/deq) (select Dioxin Information under “QuickLinks”).

### AREA OF CONCERN

This Soil Movement Advisory applies to all Tittabawassee River flood plain areas, located within the boundaries of the estimated 100-year flood plain, downstream of The Dow Chemical Company manufacturing complex in Midland. This area can be generally defined as that portion of land bounded by River Road to the west and Midland Road to the east. In general, the land area closest to River Road and Midland Road is at higher elevation and is less contaminated. Also, it is likely that significant contamination consistently extends into the flood plain soils to a depth of 3-4 feet in the area of concern.

### MINOR HOUSEHOLD SOIL MOVEMENT ACTIVITIES

#### Types of Activity

Examples include: flower gardening, crop gardening, tree planting, lawn work, post hole digging, mowing, electrical and plumbing conduit trenching.

#### Increases Human Health Exposure Risk

**Yes.** Soil dermal contact, soil inhalation, soil ingestion.

#### Personal Precautions To Take

Refer to DEQ, DCH, and MDA guidance on the DEQ web site [www.michigan.gov/deq](http://www.michigan.gov/deq). Minimize soil exposure. Avoid allowing children to play in soils. Wash hands and any other exposed body

surfaces after any soil contact. Do not eat unwashed foods from your garden. Do not engage in other activities that may introduce soil into the mouth. Keep soil moist to control dust. Remove footwear before entering the house. Store all used gardening clothing outdoors.

### Permits Required

Generally no.

### Potential Environmental Liability

Part 115 (Waste Management), Part 31 (Water Resources), Part 201 (Environmental Remediation) of the Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended, (NREPA).

### Actions to Avoid Potential Liability

Minimize or eliminate soil displacement and movement activities on property located within the flood plain. Dispose of any removed soil at the licensed landfill serving your area and only use clean fill or topsoil to regrade area. Do not move soil from low lying, more potentially contaminated areas to higher, potentially uncontaminated or less contaminated areas. Immediately put in place measures sufficient to prevent soil erosion from wind and rain.

## MAJOR HOUSEHOLD SOIL MOVEMENT ACTIVITIES

### Types of Activity

Examples include: construction of ponds or berms, construction of footings for homes or outbuildings, installation of septic tanks or tile fields.

### Increases Human Health Exposure Risk

**Yes.** Dermal contact, inhalation, and ingestion of soil during construction/soil movement activities.

### Personal Precautions To Take

Avoid contact with soil during construction activity, insist that piles of disturbed/excavated soil be fully covered with plastic sheeting until they are properly disposed of, insist that only clean fill from outside of the flood plain area be used to bring any areas back up to grade.

### Permits Required

**Yes.** Part 31 (Water Resources) of the NREPA for all major household soil movement activities occurring within the flood plain/flood way. Part 91 (Soil and Erosion Control) of the NREPA.

### Potential Environmental Liability

Part 115 (Waste Management), Part 31 (Water Resources), Part 201 (Environmental Remediation) of the NREPA. **Note:** A

contractor hired by the home owner, or the owner of a disposal location, could also acquire liability for mishandling contaminated soil.

### Actions to Avoid Potential Liability

Minimize or eliminate soil displacement and movement activities on property located within the flood plain. Avoid placement of outbuildings, or the expansion of the home, to areas within the flood plain. Dispose of any removed soil at the licensed landfill serving your area and only use clean fill or topsoil to regrade area. Do not move soil from low lying, more potentially contaminated areas to higher, potentially uncontaminated or less contaminated areas. Immediately put in place measures to prevent soil erosion from wind and rain.

## COMMERCIAL SOIL MOVEMENT ACTIVITIES

### Types of Activity

Examples include: sand mining, road construction/repair, bridge construction/repair, sewer/water line construction/repair, utility (electric, hard line phone) construction/repair, and underground storage tank repair/removal.

### Increases Human Health Exposure Risk

**Yes.** Worker safety issues related to dermal contact, soil inhalation, and soil ingestion during construction and soil movement activities.

**Yes.** Residential exposures related to dermal contact, soil inhalation, and soil ingestion due to fugitive dust created during construction and soil movement activities.

### Personal Precautions To Take

Provide appropriate safety equipment and clothing to workers that are in contact with disturbed soil areas as guided and prescribed by the Michigan Occupational Safety and Health Act. Depending on the activity, safety equipment could include dust masks or other appropriate inhalation protection devices, gloves and/or appropriate clothing to avoid dermal contact. Analytical testing may be needed to evaluate the soils at depth. Proper soil erosion techniques must be implemented including covering of disturbed soil piles with plastic sheeting until they are properly disposed. Wash vehicles prior to transport and cover soils in the truck to prevent blowing.

### Permits Required

**Yes.** Part 31 (Water Resources), Part 31 (Stormwater), Part 301 (Inland Lakes & Streams), Part 91 (Soil Erosion & Control), Part 41 (Sewer and Wastewater Systems), Part 399 (Water Mains) of the NREPA, depending on the activity.

### Potential Environmental Liability

Part 115 (Waste Management), Part 31 (Water Resources), Part 301 (Inland Lakes & Streams), Part 201 (Environmental Remediation) of the NREPA.

### Actions to Avoid Potential Liability

Dispose of all disturbed flood plain soil or river sediment at a licensed landfill, or **in accordance with permit conditions**. In situ testing of soil can be considered in lieu of disposal. Do not move soil from low lying, more contaminated areas to higher elevation, potentially uncontaminated or less contaminated areas. Do not move soil from the flood plain for use as fill at properties located outside of the flood plain. Immediately put in place soil erosion control measures to prevent soil movement from wind and rain.

## SEDIMENT DREDGING ACTIVITIES

### Types of Activity

Examples include: boat launch maintenance, marina maintenance, bridge construction and repair. Installation or removal of pilings.

### Increases Human Health Exposure Risk

**Yes.** Worker safety issues related to dermal contact, soil inhalation, and soil ingestion during dredging, sediment handling, and sediment movement activities.

**Yes.** Residential exposures related to dermal contact, soil inhalation, and soil ingestion due to fugitive dust created during construction and soil movement activities.

### Personal Precautions To Take

Provide appropriate safety equipment and clothing to workers in contact with disturbed soil or sediment areas as guided and prescribed by the Michigan Occupational Safety and Health Act. Depending on the activity and the dredge equipment used, this safety equipment could include masks or other appropriate inhalation protection devices, gloves, and/or other appropriate clothing to avoid dermal contact. Proper soil erosion techniques must be implemented including the covering of disturbed soil piles with plastic sheeting until they are properly disposed.

### Permits Required

**Yes.** Part 31 (Water Resources), Part 301 (Inland Lakes & Stream), Part 91 (Local Agency) of the NREPA, depending on the activity.

### Potential Environmental Liability

Part 115 (Waste Management), Part 31 (Water Resources), Part 301 (Inland Lakes & Streams), Part 201 (Environmental Remediation) of the NREPA.

### Actions to Prevent Potential Liability

Dispose of all disturbed flood plain soil or river sediment at a licensed landfill, upland disposal area, or **in accordance with permit conditions**. Do not use flood plain soil or sediment as fill at properties located outside of the flood plain. Immediately conduct measures sufficient to prevent soil erosion from wind and rain.

## COMMERCIAL OR LARGE SCALE FARMING

### Types of Activity

Examples include: commercial or large scale farming, soil drainage and tile system construction activities

### Increases Human Health Exposure Risk

**Yes.** Worker safety issues related to dermal contact, soil inhalation, and soil ingestion during routine plowing, planting, and harvesting activities.

**Yes.** Residential exposures related to dermal contact, soil inhalation, and soil ingestion due to fugitive dust created during the plowing, planting, and harvesting process as well as from wind-blown erosion.

### Personal Precautions To Take

Refer to the MDA "Food, Farming, and Gardening Guidelines for Minimizing Dioxin Exposure," on the DEQ web site. The MDA recommends utilization of minimum tillage and dust reduction practices in any production cycle, and following the personal risk reduction strategies recommended for gardening. Anyone raising livestock should contact MDA.

### Permits Required

**No.** Anyone raising livestock for commercial or personal use should contact MDA.

### Potential Environmental Liability

Part 201 (Environmental Remediation) of the NREPA.

### Actions to Avoid Potential Liability

Follow MDA guidance on the utilization of minimum tillage and dust reduction in any production cycle.

### DEQ Dioxin web site

From the DEQ web site: [www.michigan.gov/deq](http://www.michigan.gov/deq), select Dioxin Information under the "Quick Links" column. For site-specific dioxin information, select Land, then Dioxin Information (under Quick Links), then Tittabawassee River Flood Plain Contamination (under Quick Links).

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