

Wastewater 101

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Discharge Types or Options

- Direct Discharge
 - Discharges to Surface Waters of the State – National Pollutant Discharge Elimination System (NPDES). Includes regulated stormwater
 - Great Lakes and connecting waters
 - All inland lakes, impoundments, rivers, streams
 - Open drains and other surface bodies of water
 - NOT INCLUDED: drainage ways and ponds solely for stormwater/wastewater conveyance, treatment or control. However, discharges through separate storm sewers still need NPDES permits
 - Discharges to ground surface or underground – Three types of regulated groundwater discharge. Does not include stormwater
 - Drain field/Subsurface
 - Spray Irrigation to ground surface
 - Rapid Infiltration Bed
 - Deep Well Injection
 - 1,700 – 10,000 feet deep, isolated from drinking water
 - May include Haz Waste
- Indirect Discharge
 - Piped to Publicly Owned Treatment Works (POTW)
 - Sanitary Sewer System
 - Combined Sewer System
 - Discharge to Storm Sewer – direct discharge. Requires NPDES
 - Pump and Haul
 - Septage
 - Hazardous Waste and Liquid Industrial By-Product
 - Transport to Haz Waste TSD or to POTW by Licensed Industrial By-Product Hauler
 - Usually where sanitary sewers do not exist

Discharge Program Details

- NPDES
 - Authority
 - Clean Water Act – Federal EPA regulation
 - State administered – Michigan’s delegated authority from EPA
 - Protect Designated Uses
 - Agriculture, fish consumption, public water supply, industrial water supply, partial and full body contact, navigation, warmwater and coldwater fish, other indigenous aquatic life and wildlife
 - Permit Types
 - Individual Permit (IP) – Process Wastewater
 - Treatment Technology Based Effluent Limits (TTBELs)
 - Water Quality Based Effluent Limits (WQBELs)
 - Contested Permits and Denials
 - General Permit – Process Wastewater, Similar Discharges

- Stormwater
 - Construction – Permit by Rule. Sites 1 acre or more. Applications for sites 5 acres or more
 - Industrial – General or Individual Permit. Exposure of industrial activities.
 - Municipal Separate Storm Sewer Systems (MS4) – IP. MS4s within Urbanized Areas.
 - Issuance timeframe <180 days by statute
 - 83 day average issuance time, longer for most IPs
 - GPs usually faster
 - Construction Permit by Rule, automatic with complete application
 - Certified Operators for all levels except MS4, by law. Certification levels vary
- Groundwater
 - Authorized under Michigan NREPA. State permits, not federal
 - Permit Types
 - Site-specific low volume discharge – Rule 2210
Example: Treated sanitary sewage <6,000 gal/day
 - Notification Only – Rule 2211
Examples: Treated sanitary sewage 6k – 10k gpd, hydrostatic test
 - Notification with Certification – Rule 2213
Example: Groundwater remediation, outside plume, <5,000 gpd
 - General Permit – Rule 2215
Examples: Vehicle wash non-public, <2,000 pgd; Sand and Gravel mining, <3,000 gpd
 - Permit with specific treatment system requirements _ Rule 2216
Example: Sanitary Sewage in constructed wetland <20,000 gpd
 - Full Permit – Rule 2218
Examples: Cooling water with additive >5,000 gpd, Process wastewater
 - Issuance timeframe <180 days by statute
 - Rule 2210 – no wait
 - Rule 2211 – generally <30 days
 - All Others – allow up to 180 days
 - Certified Operators for all levels, by law. Certification levels vary
 - Deep Well Injection
 - Dual authority: U.S.EPA; Michigan DEQ, OOGM
 - 6-12 months for issuance

Common Wastewater Discharges

- Cleaning Equipment and Floors
 - Handle as Liquid Industrial By-Product (LIBP) and minimize where possible
 - Minimize volume by using pressure washer
 - Avoid degreasers and solvents, especially if you have an oil water separator
- Floor Drains
 - All drainage = LIBP
 - Plumbing Code requires connection to POTW or approved private system
 - Check with POTW to determine pretreatment requirements
- Pit or Trench Drain Sludge
 - Liquid fraction = LIBP
 - Solid Fraction – Have it hauled as LIBP or dried for solid waste disposal
- Cooling Water
 - Non-contact
 - Contact
 - Additives
- Air Compressor Condensate
 - Discharge = LIBP
 - POTW discharge or pump and haul is preferred
 - NPDES or GW discharge permits are site specific