



Visual Assessment of Industrial Storm Water Discharges

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Visual Assessment Defined

The observation of storm water runoff – observe the discharge to assess effectiveness of control measures.

Visual Assessment Components

1. Written procedures
2. Sample collection
3. Assessment
 - Discharge at time of collection
 - Sample collected at time of discharge
 - Documentation

Visual Assessment of Storm Water Discharges

- Included as a component (part) of the comprehensive inspection
- Comprehensive inspections conducted quarterly
- Or on an department approved alternative schedule
- Conducted by the Industrial Storm Water Certified Operator

Develop Procedures

- Written procedures for conducting the visual assessment
 - Developed within **6 months** of Certificate of Coverage or Individual Permit issuance or reissuance
 - Incorporated into the Storm Water Pollution Prevention Plan, Comprehensive Inspection section
 - Determined to be acceptable as part of the SWPPP review.

Assistance Documents and Tutorials on DEQ Storm Water Web Site: www.michigan.gov/deqstormwater

Written Procedures

- Include:
 - Identifying those who will be conducting the visual assessment
 - Certified Operator must be a Industrial Storm Water Certified Operator
 - Staff working in conjunction with or under the supervision of the Certified Operator
- Sample Collection

Discharge Points

- Identification of Discharge Points
- Two types of Discharge points
 - Outfalls - Direct discharges to surface waters
 - Points of Discharge - Discharges to a separate storm sewer system

Monitoring Point

Multiple Discharge Points

- Substantially identical storm water effluent
- Conduct Visual Assessment at one of the discharge points

Substantially Identical Discharge Points

- How is this determined?
 - Significant materials evaluation or inventory
 - Significant materials
 - Industrial Activities
 - Indicated on SWPPP site map

Unregulated areas

- Areas without industrial activity
 - Customer or Employing Parking Areas
 - Lawn

Unregulated discharges

- Areas that do not discharge directly or indirectly to surface waters
 - Combined sewer discharges
 - Ground water discharges
 - Sanitary sewer

Written Procedures

- Component of the Storm Water Pollution Prevention Plan
- Part of the Comprehensive inspection
- Reviewed to determine if they meet requirements of permit
- Changes may be required

Sample Collection and Discharge Observations:

- Sample Collection From Discharge Points
- Frequency
 - As often as the comprehensive inspection
 - Once in each quarter
 - According to Approved Alternative Schedule
- Timing
 - Within 1 month of the control measure observations
 - At least 72 hours from a previous storm event (qualifying storm event)
 - Within 30 minutes of beginning of the storm water **discharge** (first flush)
 - Within 60 minutes if not possible to do in 30 minutes (document why)
- Collection
 - Collect storm water discharge sample in a clean clear container
 - Collect a sample representative of the discharge
 - Detailed sampling procedures
 - The written procedures must include the details as to how the sample will be collected
 - Sampling flowing water
 - From a pipe just collect the water in a container
- Adverse Weather Conditions
 - If unable to conduct assessment
 - Conduct Assessment during next qualifying storm event
 - Documentation for not conducting visual assessment
 - Situations that make sampling impossible (no discharge)
 - Drought
 - Frozen conditions
 - Include the rationale for not conducting a visual assessment during that quarter
- Be Prepared
- Specialized Equipment
- Take the Necessary Precautions
- Sample collection from Structural Controls
 - Sample locations
- Cold Weather Visual Assessments
 - For snowmelt- during a period with a measureable discharge
- Sample Collection and Observation Alternatives?
 - Automated samplers
 - Certified Operator is not available?
 - Use staff that have received appropriate training for taking the storm water sample
 - Use a device to visually record the discharge (optional)

Staff Training

- View Visual Assessment webinar or u-tube videos
- Provide documentation that staff assisting in the visual assessment have received the appropriate training
- Included in Written Procedures

Sample storage

- Assessed after collection or
- Ensure that the sample is properly stored
- Storage procedures included in written procedures

Visual Assessment

- Storm water discharging
- Sample collected at time of discharge
- Observations of the discharge
 - Color
 - Turbidity (cloudiness)
 - Petroleum Sheens or Films
 - Floating Solids
 - Foams
 - Settleable solids
 - Suspended solids
 - Odor
 - Combinations
 - Naturally Occurring Variations

Documentation

- Documentation of Visual Assessment
 - Discharge points
 - Storm event information
 - Date and time discharge began
 - Length (Hours)
 - Amount of precipitation (inches)
 - Duration of time since previous event or snow melt discharge
 - Get a rain gauge
 - Weather Underground: www.wunderground.com www.wunderground.com/history
 - National Weather Service: www.weather.gov
- Observing the Sample (Assessment) By Certified Operator
 - In a well-lit area
 - Within 48 hours of collection
 - Sample must be gently mixed
- Documentation-Labeling
 - Sample collection
 - Discharge Point
 - Date and time
 - Collection
 - Beginning of discharge
 - Collector
 - Slide Label
 - Documentation-Report Form
 - Collector
 - Assessment

- Photographic evidence
- Explanation why sample was not taken during the first 30 minutes of the storm event if applicable
- Nature of Discharge (Rain or snowmelt)
- Probable source of contamination
- Any unusual characteristics

Take Action

Summary

- Be Prepared
- Provide appropriate training and supervise the collection of the sample
- Summary
- Document the characteristics of the discharge at the time of the discharge
- Certified Operator must visually assess the sample collected
- Document the visual assessment
- Photograph
- Written report
- Make corrective actions in a timely manner

Assistance

- www.michigan.gov/degstormwater
 - Contact Industrial Storm Water Staff
 - Compliance assistance
 - FAQ sheet
 - U-tube videos
 - Written procedures outline
 - Report forms
 - Recorded Webinar