

THE **ROUGE RIVER** PROJECT
A WORLD CLASS EFFORT



BRINGING OUR RIVER BACK TO LIFE

Rouge River National Wet Weather Demonstration Project

Wayne County, Michigan

FIELD RECONNAISSANCE PLAN (FRP)
Project Work Plan 6
Task 2.0 Field Inspection

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Rouge River National Wet Weather Demonstration Program

MISSION STATEMENT

The mission of the Rouge River National Wet Weather Demonstration Program is to restore the water quality in the Rouge River as necessary to:

- provide a safe and healthy environment for ourselves and future generations,
- protect downriver water resources such as the Detroit River and Lake Erie, and
- re-establish a healthy and diverse ecosystem within the Rouge River watershed.

This will be accomplished through the development, implementation, and financial integration of a technical, social, and institutional framework leading to cost efficient, and innovative, watershed based solutions to control the wet weather problems in the Rouge River watershed.

PREFACE

The Rouge River has historically suffered and continues to suffer from the combined stress of pollutant loadings from various sources. The vast majority of continuous point sources have been eliminated through the issuance and enforcement of National Pollutant Discharge Elimination System (NPDES) permits for municipal and industrial dischargers. Yet, as established in the Rouge River Remedial Action Plan (RAP), the river remains polluted primarily because of sources associated with wet weather flow.

The Rouge River National Wet Weather Demonstration Program (Rouge Demo) is intended to evaluate each of the various sources of wet weather pollution; implement alternative remedial measures; investigate wet weather waste load allocations; establish associated pollutant load reductions; examine the financial and institutional impediments to wet weather pollution control; and recommend a plan and procedure for watershedwide pollution control which is "implementable" in the Rouge and can be readily transferred to similar urban watersheds throughout the country.

The effort is not being conducted in isolation. The Rouge RAP provides a baseline from which Rouge Demo efforts have begun. In fact, the Rouge Demo can be viewed as the key component of the initial implementation of the RAP. In addition, ongoing regulatory efforts aimed at controlling Combined Sewer Overflow (CSO) discharge have also been integrated into the Rouge Demo and all construction facilities will be in accordance to NPDES permits.

It is widely recognized, and reinforced by RAP recommendations, that CSO control by itself will not be sufficient to restore water quality to acceptable levels in the Rouge River and other similar urban rivers. The project has established a watershedwide concept as its focus. Within the Rouge River watershed, a range of pollution sources have been identified. They include: traditional urban runoff, illicit connections to drainage facilities, abandoned dumps within the river flood plain, wet fall and dry fall air deposition, and contaminated sediments within the river channel and impounded lakes.

The Rouge Demo has incorporated efforts to develop analysis tools, organize existing and future data, conduct field surveys, collect and analyze water quality samples, develop and implement water quality models, design and test structural and nonstructural best management practices (BMPs), and establish loadings from nontraditional wet weather sources. Additionally, it includes components that will involve watershed residents in pollution control planning, and will study the institutional structure and financial capabilities of those entities responsible for long term implementation of the recommended watershed plan.

To efficiently manage an effort with diverse objectives, the project has been divided into ten program elements. Each of these has a specifically defined technical or operational purpose. Within each of these elements, work plans are developed to define specific activities to be performed as part of the project. These work plans define the Tasks and level of effort.

The program elements that have been established are as follows:

- Geographic Information System (GIS) and Mapping
- Data Collection and Management
- Sampling and Analytical Program
- Modeling and Decision Support System (DSS)
- Nonpoint Source (NPS) Pollution Control
- Combined Sewer Overflow (CSO) Design, Build and Test
- Value Engineering
- Public Information and Involvement
- Financial and Institutional
- Project Management, Coordination and Reporting

This document has been generated under the Nonpoint Source Program Element as a product of Work Plan No. 6 Task 2.

INTRODUCTION

This task entails field inspection of up to 20 fills and/or dumps along the Rouge River and documentation of certain characteristics pertaining to each site. This effort has several purposes as follows:

1. To locate fill areas suitable for leachate sampling and monitoring in subsequent tasks.
2. To locate one or two fill areas suitable for future stormwater monitoring.
3. To map fill areas on United States Geological Survey (USGS) 7.5 minute quadrangle (quad) maps and have them entered into the Geographic Information System (GIS) database maintained by the Rouge Program Office (RPO).
4. To document salient characteristics for pollutant sources from approximately 10 to 20 landfills for entry into the GIS database maintained at the RPO.

The following text details specific procedures for this field inspection.

TASK PROCEDURES

FILL SELECTION

Abandoned fills will be selected for field inspection from among those listed in public records. Sites for detailed field inspection will be selected based on the following criteria:

1. Proximity to the Rouge River or its tributaries.
2. Amount of available information regarding the site.
3. Size of the site.

Only those sites adjacent to, or very near, the Rouge River will be subject to detailed field inspection. If critical and substantial information is already available for a site, this area will not be selected for field inspection.

Public records reviewed for information regarding abandoned fills will include the following:

1. Files maintained at the Michigan Department of Natural Resources (MDNR) Waste Management Division.
2. Files maintained at the MDNR Environmental Response Division.
3. Records compiled by the Oakland County Environmental Health Division.
4. Records compiled by the Wayne County Environmental Health Division.
5. Records compiled by Washtenaw County Environmental Health Division.

HEALTH AND SAFETY

The goals of this task are to perform site reconnaissance only. Leachate samples will not be collected during this inspection and field staff shall avoid any potential exposure to leachate, liquids, fumes or buried waste that may be associated with these fill areas. As a result, OSHA Level D protection will be worn by personnel completing this field inspection. Additional information on health and safety procedures related to this task is presented in the RPO Technical Memorandum "Abandoned Fills Health and Safety Plan."

FIELD PROCEDURES

Each fill area will be inspected for the following characteristics:

1. Type of hydraulic connection to the Rouge River (e.g., interflow discharge, stormwater runoff, groundwater discharge, visible leachate discharge, and direct connection to the Rouge River due to interception by the river). These connections will be determined based on field observations and/or data available in the public record.
2. Slope, surface area and other drainage features. Measurements for slope and surface area will be made with a roll tape in the field if RPO staff can do this without risk of exposure to health hazards. If potential hazards are identified, slope and area will be estimated from a distance. Drainage characteristics will be determined based on field observations and on topographic contours depicted on USGS quad maps. Any information regarding the above characteristics that is described in the public record will be noted and used to update the database at the RPO once these characteristics have been field verified.

3. Depth of fill area (known or estimated). The depth of the fill areas will be determined (if possible) from historic information in the public record. If this is not available, the depth of fill will be estimated in the field (if possible) based on surrounding topographic features. For example, the depth of a landfill in a low-lying area intercepted by the Rouge River might be estimated based on the observed depth of the fill in eroded areas adjacent to the river and the elevation of the observed top of fill. Invasive techniques for determining the depth of fill will not be used in this reconnaissance procedure.
4. Waste types (known and/or suspected). Known or suspected waste types will be listed for each fill. Information may be gathered from files in the public record, from interviews with local residents, or from field observations of exposed waste.
5. Surrounding land use and land cover. Surrounding land use and land cover will be noted for all areas within at least 300 feet of each fill.
6. Potential pollutant source locations. Potential pollutant source locations will be noted and may include field observations of visibly stained soils from old leachate springs at the fill or exposed rubbish that may contact stormwater runoff.
7. Visible signs of erosion. Visible signs of erosion into, or adjacent to, the fill will be recorded in the field and may include areas where "head-cutting" is occurring due to stormwater runoff or where there has been bank erosion into the fill due to river action.
8. Potential for future leachate and stormwater sampling. Sampling potential will be determined based on the occurrence and accessibility of leachate springs and stormwater discharge locations.

Information regarding each of the above characteristics will be recorded on a field log sheet and a site summary sheet (Appendix A). A sketch of the site and relevant features will also be included on the field log sheet. In addition, the location of each fill area will be marked on a USGS quad map while in the field. Field staff conducting the field inspections will take a copy of this FRP into the field for reference.

All information will be entered onto the field log sheets in permanent ink and submitted to John O'Meara (Work Plan Manager) for review. The original, signed copy of each log sheet will be kept in the document control center at the RPO for future reference.

Once all the fill areas have been located on the USGS quad maps, their locations will be entered into the GIS database at the RPO. Fill locations on the USGS quad maps will be entered onto a basemap in the GIS data base by United States Public Land Survey

Grid coordinates. The original USGS quad maps used for field notation will then be stored in the document control center at the RPO.

The fill areas will be identified in field documents and in the Nonpoint Source database using a unique identification code in accordance with the following protocol:

XXYYZ#

where:

XX = Subwatershed identification code (see Appendix B for a complete listing of codes)

YY = Alpha-numeric indicator "LF" for landfill

Z = Number of fill within subwatershed assigned in ascending order (if possible) from downstream to upstream.

= GIS Facility identification (ID) number to be assigned in ascending order beginning with 5201.

For example, the fifth fill identified in the Main 2 subwatershed would be labeled M2-LF5 using the above protocol followed by the appropriate Facility ID number.

Each fill identification code will be entered into an RPO Facility Identification Log Form (Appendix B) and forwarded to the RPO document control center for storage. A copy of the Field Identification Log Form will also be forwarded to the RPO GIS team for their use. Updated copies of the log forms will be carried with the field team to ensure that fill areas are not assigned duplicate identification codes.

Information gathered from this task will be used to select fill areas for leachate and stormwater monitoring as described in Tasks 3 and 4 of Nonpoint Source Pollution Control Work Element, Work Plan 6.

PROPERTY ACCESS

RPO field crews will follow the following protocol to access property for the purposes of this investigation.

1. Field crews will try to avoid private property if possible.
2. Field crews will carry the form letter shown in Appendix C which summarizes the purpose of the investigation, what types of activities will be conducted, and who to contact for additional information. This letter can be distributed to people who stop and question the crew.

3. If access is denied, the property is fenced, or the property is posted for no trespassing, the RPO will request assistance from the Wayne or Oakland County Environmental Health Division (EHD) who have right of entry privileges for private property.

Finally, RPO field staff will wear Wayne County/RPO identification badges when conducting the field work in this survey.

SCHEDULE

The RPO team assigned to this task will proceed with the field inspection immediately upon approval of this FRP. The target completion date for this task is November 15, 1993.

**APPENDIX A
FIELD LOG SHEET**

RPO FILL CHARACTERISTIC SUMMARY SHEET	
Project & Task #:	Page ___ of ___
RPO Fill #:	
SIGNATURES:	
Field Staff:	Date:
Project or Task Manager:	Date:
Visitor:	
Weather:	
Telephone Calls:	
FILL CHARACTERISTICS	
Hydraulic connection to the Rouge River:	
Slope, aspect, surface area and other drainage features:	
Depth of fill (know estimated):	
Waste types (known or suspected):	
Surrounding land use and land cover:	
Visible signs of erosion:	
Potential for future leachate and stormwater monitoring:	

***Please draw a plan view of the fill and surrounding area on the back of this sheet.

**APPENDIX B
RPO FIELD IDENTIFICATION NUMBERING SYSTEM
AND FACILITY IDENTIFICATION LOG**

FACILITY IDENTIFICATION NUMBERING SYSTEM DATA MANAGEMENT/COLLECTION

Date: Record the date that the identification number was assigned.

Work Element Name: Record the name of the Rouge work element team that requested the field work.

Work Element Contact Name: Record the contact person of the above work element team.

Field Workers Involved: List the names of the RPO staff who are assigning identification numbers to facilities.

Subwatershed Identification:

Main 1	M1	Middle 1	I1
Main 2	M2	Middle 2	I2
Main 3	M3	Middle 3	I3
Main 4	M4	Middle 4	I4
Upper 1	U1	Lower 1	L1
Upper 2	U2	Lower 2	L2

Identification Number: This is the unique number that will be assigned to a facility point.

Description: This field is to describe the work that will be or has been done in the field. This may be a description of the actual facility point.

**APPENDIX C
FIELD FORM LETTER**

