Site-Specific Work Plan for:

HYDROGEOLOGIC INVESTIGATION
AT THE
UTICA CITY DUMP
NYSDEC REGION 6 - ONEIDA COUNTY
UTICA, NEW YORK

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7012

Prepared By:

OBG
Part of Ramboll

333 W. Washington St.
Syracuse, New York 13202
Phone: (315) 956-6100
Fax: (315) 463-7554

January 2019

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Site Specific Work Plan For Hydrogeologic Investigation At Utica City Dump Site

1.0 PROJECT BACKGROUND

This hydrogeologic investigation is part of the New York State Department of Environmental Conservation's (NYSDEC's) Inactive Landfills Initiative. The objective of the Initiative is to assess inactive landfills in New York State for potential impacts to drinking water sources and other potential receptors.

2.0 PROJECT OBJECTIVES

The objective of this hydrogeological investigation is to provide an initial assessment of the potential for impacts to groundwater in the immediate vicinity of the Utica City Dump (Site # 633015) **(Figure 1)**. This objective will be accomplished by sampling four groundwater monitoring wells and analyzing the samples for a suite of target organic and inorganic contaminants. The sample data will be evaluated to assess whether groundwater quality has been impacted by the landfill operations.

3.0 SITE SETTING

The landfill is located on Incinerator Road, east of Leland Avenue, in between the Mohawk River and Erie Canal. The landfill is bound to the west by the City of Utica inactive landfill site and to the east by undeveloped land and a meander of the Mohawk River.

According to the Record of Decision from August 2003 by NYSDEC, the Utica City Dump was a municipal landfill that operated from 1930-1972 and accepted on-site generated incinerator ash, industrial, municipal, and residential waste. From 1972-1997, demolition disposal materials (historically referenced as 'Utica City Demolition Landfill') and arson materials (historically referenced as the 'Arson Area') were landfilled at the site. Historically, metal drums, tires, and demolition debris including metal and concrete slabs were piled on the surface in several areas of the landfill. The materials were disposed over an approximate 52-acre area.

3.1 GROUNDWATER AND SURFACE WATER OCCURRENCE AND FLOW

The Utica City Dump is located adjacent to the Erie Canal and Mohawk River within the city limits of Utica, New York. The landfill is located on a strip of land between these two bodies of water and consists of many low-lying, inundated areas.

Based on boring logs and site investigations, the water table is within 1-15 feet of the ground surface. Landfill waste ranges in thickness from 10-15 feet and in some areas the landfill waste is within the water table. The groundwater flow is generally radial in the direction of the Erie Canal and Mohawk River.

According to the Record of Decision from August 2003, the site is underlain by recent alluvial deposits, followed by glacial outwash deposits of interbedded sand and gravel, glacial till, and lake deposits consisting of clays and silts. The overburden at the surface is very disturbed by the extensiveness of dumping and historical invasive activities completed on and around the landfill. Underlying the unconsolidated deposits is the Utica Shale formation which is reportedly encountered at approximately 100 feet below ground surface.

4.0 HYDROGEOLOGICAL INVESTIGATION AND SCOPE OF WORK

Field activities will be conducted in accordance with the Quality Assurance Project Plan (QAPP), Field Activities Plan (FAP), and Health and Safety Plan (HASP), which have been prepared and approved specifically for the NYSDEC Inactive Landfill Initiative program.

The specific field procedures to be used during this investigation are described in the FAP. That document describes the drilling methods, well installation and sampling methods, and handling of investigation-derived waste. The QAPP describes the analytical procedures to be used by the laboratory in analyzing the groundwater samples.

4.1 GROUNDWATER SAMPLING

Due to the anticipated radial groundwater flow at the landfill, the following four existing perimeter monitoring wells will be sampled:

- MW-UNK-01 (northwest)
- MW-UNK-03 (north)
- MW-UNK-05 (east)
- MW-UNK-06 (south)

Additionally, monitoring well B-4 (located east of historically referenced Utica City Demolition Landfill) will be sampled to evaluate groundwater quality immediately downgradient of the Utica City Demolition Landfill. The wells will be developed according to the FAP prior to groundwater sampling.

Samples will be collected from each specified well location and analyzed as described in the FAP. If a well yield is insufficient to support low flow sampling, the sampling will be completed using another acceptable technique as outlined in the FAP. The wells will be purged prior to sampling, and all sampling equipment will be dedicated to that sampling location, or will be decontaminated between sampling locations using the methods provided in the FAP.

Samples will be analyzed for modified baseline VOCs, polycyclic aromatic hydrocarbons, 1,4-dioxane, perfluorinated compounds, baseline leachate indicators, and modified baseline metals. A complete list of analytical parameters is provided in **Table 1**.

5.0 INVESTIGATION REPORTING

Groundwater sampling logs, analytical data, and a site work summary will be provided at the completion of field activities for the site.

TABLE 1 – ANALYTICAL PARAMETERS

Parameter	Method	Parameter	Method
Leachate Indicators		**Inorganics**	
Ammonia	350.1 / SM20 4500NH3 B/D	Aluminum	SW6010C
Chemical Oxygen Demand	410.4	Antimony	SW6010C
Total Organic Carbon	EPA 9060 / SM20 5310B/C	Arsenic	SW6010C
Total Dissolved Solids	SM20 2540C	Barium	SW6010C
Sulfate	300	Boron	SW6010C
Alkalinity	SM20 2320B	Beryllium	SW6010C
Chloride	300	Cadmium	SW6010C
Bromide	300	Calcium	SW6010C
Total hardness as CaCO3	SM20 2340C	Chromium	SW6010C
		Cobalt	SW6010C
PAHs + 1,4-Dioxane		Copper	SW6010C
Acenaphthene	8270D SIM	Iron	SW6010C
Acenaphthylene	8270D SIM	Lead	SW6010C
Anthracene	8270D SIM	Magnesium	SW6010C
Benzo(a)anthracene	8270D SIM	Manganese	SW6010C
Benzo(a)pyrene	8270D SIM	Nickel	SW6010C
Benzo(b)fluoranthene	8270D SIM	Potassium	SW6010C
Benzo(g,h,i)perylene	8270D SIM	Selenium	SW6010C
Benzo(k)fluoranthene	8270D SIM	Silver	SW6010C
Chrysene	8270D SIM	Sodium	SW6010C
Dibenzo(a,h)anthracene	8270D SIM	Thallium	SW6010C
Fluoranthene	8270D SIM	Vanadium	SW6010C
Fluorene	8270D SIM	Zinc	SW6010C
Indeno(1,2,3-cd)pyrene	8270D SIM	Mercury	SW7470A
Naphthalene	8270D SIM	Mercury	E1631
Phenanthrene	8270D SIM	Dissolved Mercury	E1631
Pyrene	8270D SIM		
1-4-Dioxane	8270D SIM		

TABLE 1 – ANALYTICAL PARAMETERS
(Continued)

Parameter	Method	Parameter	Method
Volatiles			
Acetone	SW8260C	Ethylbenzene	SW8260C
Acrylonitrile	SW8260C	2-Hexanone	SW8260C
Benzene	SW8260C	Bromomethane	SW8260C
Bromochloromethane	SW8260C	Chloromethane (Methyl chloride)	SW8260C
Bromodichloromethane	SW8260C	Dibromomethane	SW8260C
Bromoform	SW8260C	Methylene chloride	SW8260C
Carbon disulfide	SW8260C	2-Butanone (Methyl ethyl ketone)	SW8260C
Carbon tetrachloride	SW8260C	Idomethane (Methyl iodide)	SW8260C
Chlorobenzene	SW8260C	4-Methyl-2-pentanone (Methyl isobutyl ketone)	SW8260C
Chloroethane	SW8260C	Styrene	SW8260C
Chloroform	SW8260C	1,1,1,2-Tetrachloroethane	SW8260C
Dibromochloromethane	SW8260C	1,1,2,2-Tetrachloroethane	SW8260C
1,2-Dibromo-3-chloropropane	SW8260C	Tetrachloroethene	SW8260C
1,2-Dibromoethane (Ethylene dibromide)	SW8260C	Toluene	SW8260C
1,2-Dichlorobenzene	SW8260C	1,1,1-Trichloroethane	SW8260C
1,4-Dichlorobenzene	SW8260C	1,1,2-Trichloroethane	SW8260C
trans-1,4-Dichloro-2-butene	SW8260C	Trichloroethene	SW8260C
1,1-Dichloroethane	SW8260C	Trichlorofluoromethane	SW8260C
1,2-Dichloroethane	SW8260C	1,2,3-Trichloropropane	SW8260C
1,1-Dichloroethene	SW8260C	Vinyl acetate	SW8260C
cis-1,2-Dichloroethene	SW8260C	Vinyl chloride	SW8260C
trans-1,2-Dichloroethene	SW8260C	o-Xylene	SW8260C
1,2-Dichloropropane	SW8260C	m,p-Xylene	SW8260C
cis-1,3-Dichlororpropene	SW8260C	Xylenes, Total	SW8260C
trans-1,3-Dichlororpropene	SW8260C		

TABLE 1 – ANALYTICAL PARAMETERS
(Continued)

Parameter	Method
Perfluorobutanoic acid (PFBA)	Modified 537
Perfluoropentanoic acid (PFPeA)	Modified 537
Perfluorohexanoic acid (PFHxA)	Modified 537
Perfluoroheptanoic acid (PFHpA)	Modified 537
Perfluorooctanoic acid (PFOA)	Modified 537
Perfluorononanoic acid (PFNA)	Modified 537
Perfluorodecanoic acid (PFDA)	Modified 537
Perfluoroundecanoic acid (PFUnA)	Modified 537
Perfluorododecanoic acid (PFDoA)	Modified 537
Perfluorotridecanoic Acid (PFTriA)	Modified 537
Perfluorotetradecanoic acid (PFTeA)	Modified 537
Perfluorobutanesulfonic acid (PFBS)	Modified 537
Perfluorohexanesulfonic acid (PFHxS)	Modified 537
Perfluoroheptanesulfonic Acid (PFHpS)	Modified 537
Perfluorooctanesulfonic acid (PFOS)	Modified 537
Perfluorodecanesulfonic acid (PFDS)	Modified 537
Perfluorooctane Sulfonamide (FOSA)	Modified 537
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	Modified 537
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	Modified 537
6:2 Fluorotelomer sulfonate (6:2FTS)	Modified 537
8:2 Fluorotelomer sulfonate (8:2FTS)	Modified 537

N

LEGEND

- MONITORING WELL
- MONITORING WELL (DAMAGED)
- MONITORING WELL (TO BE SAMPLED)
- SEEP
- EXPOSED WASTE
- MISC FEATURE
- WATER FEATURE
- APPROXIMATE INACTIVE LANDFILL EXTENT

NEW YORK STATE
DEPARTMENT OF CONSERVATION
UTICA CITY DUMP
UTICA, NEW YORK
REGION 6: ONEIDA COUNTY

SITE PLAN

0 250 500 1,000
Feet

8653.65982
JANUARY 2019

O'BRIEN & GERE ENGINEERS, INC.