Village of Arlington Heights

33 South Arlington Heights Road
Arlington Heights, Illinois 60005-1499
(847) 368-5000
Website: www.vah.com

June 1, 2015

Illinois Environmental Protection Agency, DWPC
Compliance Assurance Section #19
1021 North Grand Avenue East,
Post Office Box 19276
Springfield, Illinois 62794-9276

Re: NPDES Phase II – Year 11 Annual Report
Village of Arlington Heights ILR400282

To Whom it May Concern:

Please find enclosed a completed IEPA Annual Facility Inspection Report for Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4) for Arlington Heights with supplemental information.

If you should have any questions or require additional information, please call our Environmental Consultant, Ms. Marcy Knysz at 847-732-5172.

Sincerely,
Arlington Heights Public Works

Scott T. Shirley
Director of Public Works

cc: Marcy Knysz, Cardno

Illinois Environmental Protection Agency

Bureau of Water • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control
ANNUAL FACILITY INSPECTION REPORT
for NPDES Permit for Storm Water Discharges from Separate Storm Sewer Systems (MS4)

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Compliance Assurance Section at the above address. Complete each section of this report.

Report Period: From March, 2014 To March, 2015

Permit No. ILR40 0282

MS4 OPERATOR INFORMATION: (As it appears on the current permit)

Name: Arlington Heights Mailing Address 1: 33 S. Arlington Heights Road

Mailing Address 2: County: Cook

City: Arlington Heights State: IL Zip: 60005 Telephone: 847-368-5800

Contact Person: Scott T. Shirley Email Address: sshirley@vah.com
(Person responsible for Annual Report)

Name(s) of governmental entity(ies) in which MS4 is located: (As it appears on the current permit)

Cook County

Arlington Heights

THE FOLLOWING ITEMS MUST BE ADDRESSED.

A. Changes to best management practices (check appropriate BMP change(s) and attach information regarding change(s) to BMP and measurable goals.)

1. Public Education and Outreach ☐
2. Public Participation/Involvement ☐
3. Illicit Discharge Detection & Elimination ☐
4. Construction Site Runoff Control ☐
5. Post-Construction Runoff Control ☐
6. Pollution Prevention/Good Housekeeping ☐

B. Attach the status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and your identified measurable goals for each of the minimum control measures.

C. Attach results of information collected and analyzed, including monitoring data, if any during the reporting period.

D. Attach a summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule.)

E. Attach notice that you are relying on another government entity to satisfy some of your permit obligations (if applicable).

F. Attach a list of construction projects that your entity has paid for during the reporting period.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Scott T. Shirley — Owner Signature:

6/2/15 — Date:

Scott T. Shirley — Printed Name:

Director of Public Works — Title:

EMAIL COMPLETED FORM TO: epa.ms4annualinsp@illinois.gov

or Mail to: ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL
COMPLIANCE ASSURANCE SECTION #19
1021 NORTH GRAND AVENUE EAST
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

MS4 Annual Facility Inspection Report

Illinois Environmental Protection Agency
National Pollutant Discharge Elimination System Phase II

Permit Year 12: March 2014 to February 2015

Village of Arlington Heights

Contents

Part A. Village Changes to Best Management Practices, Year 12

Information regarding the status of all of the BMPs and measurable goals described in the Village's SWMP is provided in the following table.

Note: X indicates BMPs that were implemented in accordance with the Village's draft SWMP
✓ indicates BMPs that were changed during Year 12

Year 12 Village of Arlington Heights	
A. Public Education and Outreach	
X	A.1 Distributed Paper Material
	A.2 Speaking Engagement
X	A.3 Public Service Announcement
	A.4 Community Event
	A.5 Classroom Education Material
	A.6 Other Public Education
B. Public Participation/Involvement	
	B.1 Public Panel
	B.2 Educational Volunteer
	B.3 Stakeholder Meeting
X	B.4 Public Hearing
	B.5 Volunteer Monitoring
	B.6 Program Coordination
	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
X	C.1 Storm Sewer Map Preparation
X	C.2 Regulatory Control Program
X	C.3 Detection/Elimination Prioritization Plan
	C.4 Illicit Discharge Tracing Procedures
X	C.5 Illicit Source Removal Procedures
	C.6 Program Evaluation and Assessment
	C.7 Visual Dry Weather Screening
	C.8 Pollutant Field Testing
X	C.9 Public Notification
	C.10 Other Illicit Discharge Controls

Year 12 Village of Arlington Heights	
D. Construction Site Runoff Control	
X	D.1 Regulatory Control Program
X	D.2 Erosion and Sediment Control BMPs
	D.3 Other Waste Control Program
X	D.4 Site Plan Review Procedures
X	D.5 Public Information Handling Procedures
X	D.6 Site Inspection/Enforcement Procedures
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	E.2 Regulatory Control Program
X	E.3 Long Term O&M Procedures
	E.4 Pre-Const Review of BMP Designs
X	E.5 Site Inspections During Construction
X	E.6 Post-Construction Inspections
	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	F.1 Employee Training Program
X	F.2 Inspection and Maintenance Program
X	F.3 Municipal Operations Storm Water Control
X	F.4 Municipal Operations Waste Disposal
	F.5 Flood Management/Assess Guidelines
	F.6 Other Municipal Operations Controls

No changes were made to the Best Management Practices described in the Village's SWMP during Year 12.

Part B. Village Status of Compliance with Permit Conditions, Year 12

Stormwater Management Activities, Year 12
The stormwater management activities that the Village performed during Year 12 and the status of each of the BMPs and measurable goal as of the end of Year 12 are described below. Tracking forms are used to track the implementation of BMPs.

A. Public Education and Outreach

The Village is committing to implementing a Public Education and Outreach Program. The Public Education and Outreach program includes the distribution of educational material to the community or conducting equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants to storm water runoff. The Village commits to implementation of BMPs as described below.

A.1 Distribute Paper Material

The Village makes various downloadable materials available to its residents on the Village website. Topics include collection of special household products, garbage disposal, recycling, leaf collection, and flooding.

Measurable Goal(s): Continue existing practice. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

A.3 Public Service Announcement

The Village broadcasts a Public Service Announcement on their local channel.

Measurable Goal(s): Continue existing practice. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

B. Public Participation/Involvement

B.4 Public Hearing

The Village holds a public meeting in which the Public Works department provides an annual report to the board and public on storm water management.

Measurable Goal(s): Continue existing practice. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

C. Illicit Discharge Detection and Elimination

The Village of Arlington Heights will implement program activities related to the Illicit Discharge Detection and Elimination (IDDE) minimum control. The requirements of an IDDE program include the following:

- Develop a storm sewer system map that shows the locations of all outfalls and the names and locations of all water bodies that receive discharges from those outfalls.

- Prohibit non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions.
- Develop and implement a plan to detect and address illicit discharges into the storm sewer system.
- Educate public employees, businesses and general public of hazards associated with illegal discharges and improper disposal of waste.
- Identify the appropriate best management practices and measurable goals

C.1 Storm Sewer System Map
The Village prepared an outfall map to allow for tracking of dry weather flow inspections and outfall maintenance.

Measurable Goal(s): Review and update as needed. Implement and track progress of BMPs.

The Village continues to implement the BMP described above. The Village has continued to modify and update the storm sewer atlas as further information is gathered to provide more detail and as new development occurs.

C.2 Regulatory Control Program
The Village Code includes restrictions on illegal and/or illicit discharges to storm sewer systems or water courses.

Measurable Goal(s): Review and update as needed. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

C.3 Detection/Elimination Prioritization Plan
The Village currently implements the Illicit Detection/Elimination Plan which provides the Village with requirements to report illicit discharges. The Village regularly inspects storm sewers for illicit discharges. These inspections occur during regular operations and maintenance and also during new construction.

Measurable Goal(s): Maintain current program. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

C.5 Illicit Source Removal Procedures
The Village notifies the Metropolitan Water Reclamation District (MWRD) of illegal discharge and assists to resolve the issue.

Measurable Goal(s): Maintain current program. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

C.9 Public Notification
Promote call-in procedures for observed illicit discharges on the Village website.

Measurable Goal(s): Maintain existing practice. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

D. Construction Site Runoff Control

D.1. Regulatory Control Program

The Village educates stakeholders (developers and contractors) on the current codes on the village website. Guidance reference materials are available upon request.

Measurable Goal(s): Maintain current program to educate stakeholders.

The Village continues to implement the BMP described above.

D.2 Erosion and Sediment Control BMPs

The Village follows the Cook County Watershed Management Ordinance (WMO) which includes minimum requirements for erosion and sediment control.

The Village continues to implement the BMP described above.

D.4 Site Plan Review Procedures

The Village implements a site development review process. Current practices include reviewing construction plans and erosion control is required on all projects. Code variances require a public hearing.

Measurable Goal(s): Maintain current plan review procedures and staff.

The Village continues to implement the BMP described above and outlined in the Village's SWMP.

D.5 Public Information Handling Procedures

Installation/Inspection Training: Plan reviewers are licensed PE's with professional training in NPDES requirements. The plan reviewer is the direct supervisor for the project inspector who performs the field visits on the construction sites. *Site inspection and enforcement:* construction sites are currently inspected once a week or more as needed as those that do not comply are shut down.

Measurable Goal(s): Continue current training and inspection procedures.

The Village continues to implement the BMP described above and outlined in the Village's SWMP.

D.6 Site Inspection/Enforcement Procedures

The Village adopts codes and ordinances to establish minimum standards to safeguard the general health, safety and welfare of all Village residents and businesses. Requirements are strictly enforced. The Village codes and ordinances relating to building projects are

referenced in the Arlington Heights Municipal Code as follows (all are available for viewing online at www.vah.com):
Village Business Licenses (Chapter 14)
Village Building Regulations (Chapter 23)
Village Plumbing Regulations (Chapter 24)
Village Electricity Regulations (Chapter 25)
Village Fire Regulations (Chapter 27)
Village Zoning Regulations (Chapter 28)
Village Subdivision Control Regulations (Chapter 29)
Village Sign Code (Chapter 30)
Village General Comprehensive Plan

Measurable Goal(s): Continue enforcing codes and ordinances.

The Village continues to implement the BMP described above.

E. Post-Construction Runoff Control

E.2 Regulatory Control Program

The Village implements a site development review process, which includes required inspections before, during and post construction.

Measurable Goal(s): Continue enforcing codes and ordinances.

The Village continues to implement the BMP described above.

E.3 Long Term O&M Procedures

The Village implements a structural BMP maintenance ordinance. The ordinance addresses long term structural BMP maintenance.

Measurable Goal(s): Maintain current ordinance and enforcement procedures.

The Village continues to implement the BMP described above.

E.5 Site Inspections During Construction

Village staff currently inspects construction sites and shuts down projects that do not meet code.

Measurable Goal(s): Continue existing code enforcement program.

The Village continues to implement the BMP described above.

E.6 Post-Construction Inspections

The Village performs retention/detention pond inspections throughout the year.

Measurable Goal(s): Inspect detention/retention ponds after heavy rains and as needed.

The Village continues to implement the BMP described above.

F. Pollution Prevention/Good Housekeeping

F.1 Employee Training Program

The Village provides several employee training programs for its staff.

Measurable Goal(s): Continue practice. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

F.2 Inspection and Maintenance Program

The Village inspects detention ponds and outfall structures. Village owned detention ponds are cleaned regularly and structures are repaired as necessary. Catch basins/inlets are also inspected and cleaned on a rotational cycle during road maintenance operations.

Measurable Goal(s): Maintain current practices. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

F.3 Municipal Operations Storm Water Control

Regular inspections and maintenance are performed on Village infrastructure to ensure that sediment, trash and overgrown vegetation are not impeding stormwater flow.

Measurable Goal(s): Maintain stormwater control practices. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

F. 4 Municipal Operations Waste Disposal

The Village participates in street cleaning materials disposal. Materials are placed in a dumpster that is hauled off to a land fill. In addition to street cleaning, the Village participates in a leaf collection and disposal program. Leaf material is taken to an EPA transfer station for final disposal.

Measurable Goal(s): Maintain waste current disposal practices. Implement and track progress of BMPs.

The Village continues to implement the BMP described above.

Stormwater Management Program Assessment, Year 12

The Village conducted an overall assessment of the Village's stormwater management program and the appropriateness of its BMPs. This was conducted by a series of internal meetings with various department staff. Revisions to the SWMP based on the internal review are currently underway. A meeting was held on May 6th with representatives from the Village's Engineering

and Public Works Departments and their MS4 consultant to review their SWMP and current practices.

Part C. Village Information and Data Collection Results, Year 12

IDDE Monitoring and Data Collection, Year 12
Information and data that the Village collected as part of its illicit discharge detection and elimination program are summarized below.

A total of 39 stormwater outfalls were inspected during dry weather conditions (no precipitation within 72 hours of inspection). Of these 39 dry weather flows, none of them were identified as a potential illicit discharge. If a potential illicit discharge would have been identified, in accordance with the procedures outlined in the Township's SWMP, water quality testing would have been performed and results analyzed.

As a member of the Buffalo Creek Watershed Partnership, the Village has conducted water quality monitoring according to the Partnership's Coordinated Pollutant Monitoring Program. There are two locations within the Village limits, BC9 and Creekside for which the lab results are attached.

Permit Compliance: Tracking and Data Collection, Year 12
A summary of activities performed in accordance with the Village's SWMP are presented in the following pages.

Public Education and Outreach

Village of Arlington Heights

Entry Type	Method of Distribution	Target Audience	Description
A.7-Other Public Education	Website	Residents	Website: http://www.vah.com/departments/public_works/stormwater.aspx
A.7-Other Public Education	Website		Article and videos detailing HAZMAT response at McDonald Creek. Link: http://www.arlingtoncardinal.com/2015/04/emergency-hazmat-cleanup-operation-at-mcdonald-creek-lake-arlington-near-palatine-rd-and-windsor-dr-impromptu-earth-day-event/

Public Participation/Involvement

Village of Arlington Heights

Entry Type	Date	Description	Location
B.3-Stakeholder Meeting	05/29/2014	Jeff Musinski - Attendance at Buffalo Creek Clean Water Partnership Stakeholder Meeting.	Wheeling Public Works
B.3-Stakeholder Meeting	09/03/2014	Jeff Musinski - Attendance at Buffalo Creek Clean Water Partnership Stakeholder Meeting.	Buffalo Grove Park District
B.3-Stakeholder Meeting	11/19/2014	Jeff Musinski - Attendance at Buffalo Creek Clean Water Partnership Stakeholder Meeting.	Kildeer Village Hall

Illicit Discharge Detection and Elimination

Village of Arlington Heights

Entry Type	Outfall ID	Location Description	Date	Reason For Inspection
C.7-Visual Dry Weather Screening	1-6, 8-9	Higgins Creek	05/08/2015	Annual Inspections
C.7-Visual Dry Weather Screening	1-31	Salt Creek	05/14/2015	Annual Inspections

Construction Site Runoff Control

Village of Arlington Heights

Entry Type	Issuance Date	Project Name	Location
D.3-Other Waste Control Program		Christopher Burke Engineering Flood Study	

Pollution Prevention/Good Housekeeping

Village of Arlington Heights

Entry Type	Description	Date	Quantity
F.2-Inspection and Maintenance Program	Street and Leaf Sweeping (average hours/month)		206
F.6-Other Municipal Operations Controls	Buffalo Creek Clean Water Partnership (BCCWP) Member	03/01/2014	
F.6-Other Municipal Operations Controls	Snow & Ice Control: Road Salt (Tons)	03/01/2014	303
F.6-Other Municipal Operations Controls	Snow & Ice Control: Beet Juice De-Icer (Gal)	03/01/2014	11945
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	03/01/2014	2
F.6-Other Municipal Operations Controls	Snow & Ice Control: Sodium Acetate (lbs)	03/01/2014	4300
F.6-Other Municipal Operations Controls	Dome constructed over pulverized topsoil spoil.	04/01/2014	
F.2-Inspection and Maintenance Program	Garage Washdown	04/01/2014	2
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	04/01/2014	2
F.1-Employee Training Program	North American Snow Conference	05/01/2014	
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	05/01/2014	2
F.2-Inspection and Maintenance Program	Garage Washdown	05/01/2014	1
F.2-Inspection and Maintenance Program	Garage Washdown	06/01/2014	1
F.2-Inspection and Maintenance Program	Storm Sewer Flushing (lineal feet)	06/01/2014	19662
F.2-Inspection and Maintenance Program	Storm Sewer Televising (Lineal Feet)	06/01/2014	231
F.2-Inspection and Maintenance Program	Storm Sewer Root Cutting (Lineal Feet)	06/01/2014	6545
F.2-Inspection and Maintenance Program	Catch Basin Repair	06/01/2014	17
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	06/01/2014	2
F.4-Municipal Operations Waste Disposal	Used Tire Disposal ($US)	06/01/2014	492
F.1-Employee Training Program	FEMA: Disaster Management for Water Facilities	06/01/2014	
F.1-Employee Training Program	NIPSTA: Snow Plowing	06/01/2014	

Entry Type	Description	Date	Quantity
F.1-Employee Training Program	Sampling: How to Sample and What to Avoid	06/01/2014	
F.1-Employee Training Program	APWA Chicago Chapter's Snow and Ice Conference	06/01/2014	
F.2-Inspection and Maintenance Program	Catch Basin Cleaning	06/01/2014	371
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	07/01/2014	2
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	08/01/2014	2
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	09/01/2014	2
F.6-Other Municipal Operations Controls	Storm Clean-Up	09/01/2014	
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	10/01/2014	2
F.6-Other Municipal Operations Controls	Snow & Ice Control: Beet Juice De-Icer (Gal)	11/01/2014	23053
F.2-Inspection and Maintenance Program	Storm Sewer Repair	11/01/2014	1
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	11/01/2014	2
F.4-Municipal Operations Waste Disposal	Holiday light recycling (lbs)	11/01/2014	2750
F.6-Other Municipal Operations Controls	Snow & Ice Control: Sodium Acetate (lbs)	11/01/2014	5600
F.6-Other Municipal Operations Controls	Snow & Ice Control: Road Salt (Tons)	11/01/2014	516
F.1-Employee Training Program	Morton Arboretum Anuual Urban Tree Conference: Climate Effects on Invasive Pests, Managing for Extreme Storms, and Designing Resilient Urban Ecosystems	11/01/2014	
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	12/01/2014	2
F.2-Inspection and Maintenance Program	Buffalo Creek Debris Removal	12/01/2014	
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	01/01/2015	2
F.2-Inspection and Maintenance Program	Lake Arlington Inlet and Outlet Cleaning	02/01/2015	2

Coordinated Pollutant Monitoring Program

Prepared by: Marcy R. Knysz, Watershed Coordinator & Jeff Weiss, Founder
Buffalo Creek Clean Water Partnership
November 11, 2012 (rev. December 16, 2012)

Purpose

The proposed project will develop Buffalo Creek Clean Water Partnership's (BCCWP) capacity through engagement of local communities, partner agencies and volunteers in an efficient and Coordinated Pollutant Monitoring Program for the Buffalo Creek sub-watershed. At present, infrequent and uncoordinated water quality monitoring efforts result in limited usefulness of the water quality data to identify sources or assess trends in watershed water quality. For example, there is currently no monitoring at key points in the watershed. There is also a lack of frequent monitoring to identify seasonal trends and pollutants at different flow rates. There is no analysis available for lake sediments, which contribute to problems of eutrophication, suspended solids and low dissolved oxygen. Finally, current monitoring is conducted using inconsistent testing regimes, at different times by MS4 communities, making it impossible to compare these data across the watershed.

The proposed Coordinated Pollutant Monitoring Program will enable experts to pinpoint sources of pollutants and support cleanup initiatives and Best Management Practices. The outcome of this project will be a coordinated, efficient monitoring program that makes the most of community and agency investment in assessing water quality trends over time, sufficient to be used to optimize Best Management Practice locations and address water quality impairments across the Buffalo Creek watershed. This program will enable water quality issues to be addressed across community and county borders, and build the spirit of cooperation needed to address other watershed issues, such as flooding, erosion and habitat quality.

Protocol

I. Sediment Sampling (funded with Watershed Management Assistance Grant)

Sediment sampling is proposed at three locations:

1. Lake Albert
2. Buffalo Grove Reservoir – Upper Basin
3. Buffalo Grove Reservoir – Lower Basin

One sediment analysis will be run for each basin. Each test sample will be comprised of multiple soil samples collected throughout each basin (inflow, outflow, deeper spots, etc.). Sediment will be tested for the following parameters:

- Volatile Organic Compounds
- Semi-Volatile Organic Compounds (includes PNAs)
- Organochlorine Pesticides
- Polychlorinated Biphenyls (PCBs)
- Metals- Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Zinc
- Total Kjeldahl Nitrogen
- Total Phosphorus
- Cyanide
- Herbicides (2,4, D, 2,4,5 TP)

II. Water Quality Monitoring

There are three components to the Water Quality Monitoring portion of the Coordinated Pollutant Monitoring Program as follows:

1. **Upstream Reservoir Monitoring** - Water quality testing at two locations located immediately upstream of the reservoir (funded by Watershed Management Assistance Grant)
2. **Downstream Reservoir Monitoring - MWRD** - Water quality testing at one downstream location (to be conducted by the Metropolitan Water Reclamation District of Greater Chicago (MWRD)). This portion of the program is not included for funding by the Watershed Management Assistance Grant.
3. **MS4 Water Quality Monitoring** - Water quality testing conducted by MS4 communities. This portion of the program is not included for funding by the Watershed Management Assistance Grant.

1. Upstream Reservoir Monitoring

Upstream reservoir monitoring will consist of both dry weather and wet weather water quality sampling at two locations. BCCWP will collect and analyze the samples for the parameters outlined below. The dry weather sampling will be conducted using grab samples while the wet weather sampling will be conducted using two continuous samplers (6700 series). The two samplers will be on loan to the BCCWP by the Lake County Health Department – Lakes Management Division for the duration of the project. Both upstream reservoir monitoring locations will be upstream of the Buffalo Creek Reservoir. One will be located near Checker Road ("Upstream North") and the second will be located near Lake Cook Road ("Upstream South"). The exact locations will be determined in the field in coordination with the Lake County Health Department. A watershed map showing the locations of existing MS4 test sites and these two additional proposed test sites is attached. Sampling at these two locations will give us the best information as to the types of pollutants that are entering the reservoir via storm water from the two main tributaries that make up Buffalo Creek.

2. Downstream Reservoir Monitoring – MWRD

The BCCWP plans to utilize the MWRD's existing test site (WW-12) as the downstream sampling point for this project. The use of the data collected by MWRD at this downstream test site is imperative to the success of the water quality monitoring program. MWRD staff will collect and analyze the samples for the parameters outlined below. The combined results of this monitoring will be used to develop a more intensive monitoring and surveillance program to identify and target specific sources of pollutants entering Buffalo Creek. If the monitoring program can be established for the long term, it can be used to determine the post-construction effectiveness of green infrastructure projects and restoration efforts in the watershed.

3. MS4 Water Quality Monitoring

The BCCWP is trying to engage each MS4 in the watershed to coordinate the timing of their annual water quality testing with the BCCWP Coordinated Pollutant Monitoring Program. We are proposing that each MS4 test their sites twice per year, once in May and once in October (on the first Monday of those months – to coincide with the MWRD and BCCWP testing dates). The BCCWP can assist communities in determining which locations they can share with their neighbors to minimize the cost of the water quality sampling. The attached map shows all the locations that have been submitted to the BCCWP for inclusion in the analysis. If MS4's can share some of their sites that are on the edge of their communities, it may allow for the second test to be completed each year with minimal additional cost.

Water Quality Monitoring Schedule

The Coordinated Pollutant Monitoring Program proposes multiple water quality samples to be collected during dry and wet weather events from April through October over a two year period (see table below).

Water Quality Testing Schedule 2013-2014				
1st Monday of Each Month April-October	**BCCWP Upstream North**	**BCCWP Upstream North**	**MWRD Downstream (WW-12)**	**MS4 Communities (various sites)**
April 1, 2013	1	1	1	
May 6, 2013	1	1	1	x
June 3, 2013	1	1	1	
July 1, 2013	1	1	1	
August 5, 2013	1	1	1	
September 2, 2013	1	1	1	
October 7, 2013	1	1	1	x
April 7, 2014	1	1	1	
May 5, 2014	1	1	1	x
June 2, 2014	1	1	1	
July 7, 2014	1	1	1	
August 4, 2014	1	1	1	
September 1, 2014	1	1	1	
October 6, 2014	1	1	1	x
Unscheduled Wet Weather Events	6	6	N/A	N/A
Total Number of Samples	**20**	**20**	**14**	
	40 samples total for BCCWP		**14 Samples total for MWRD**	**Sampling twice per year**

Water Quality Monitoring Parameters

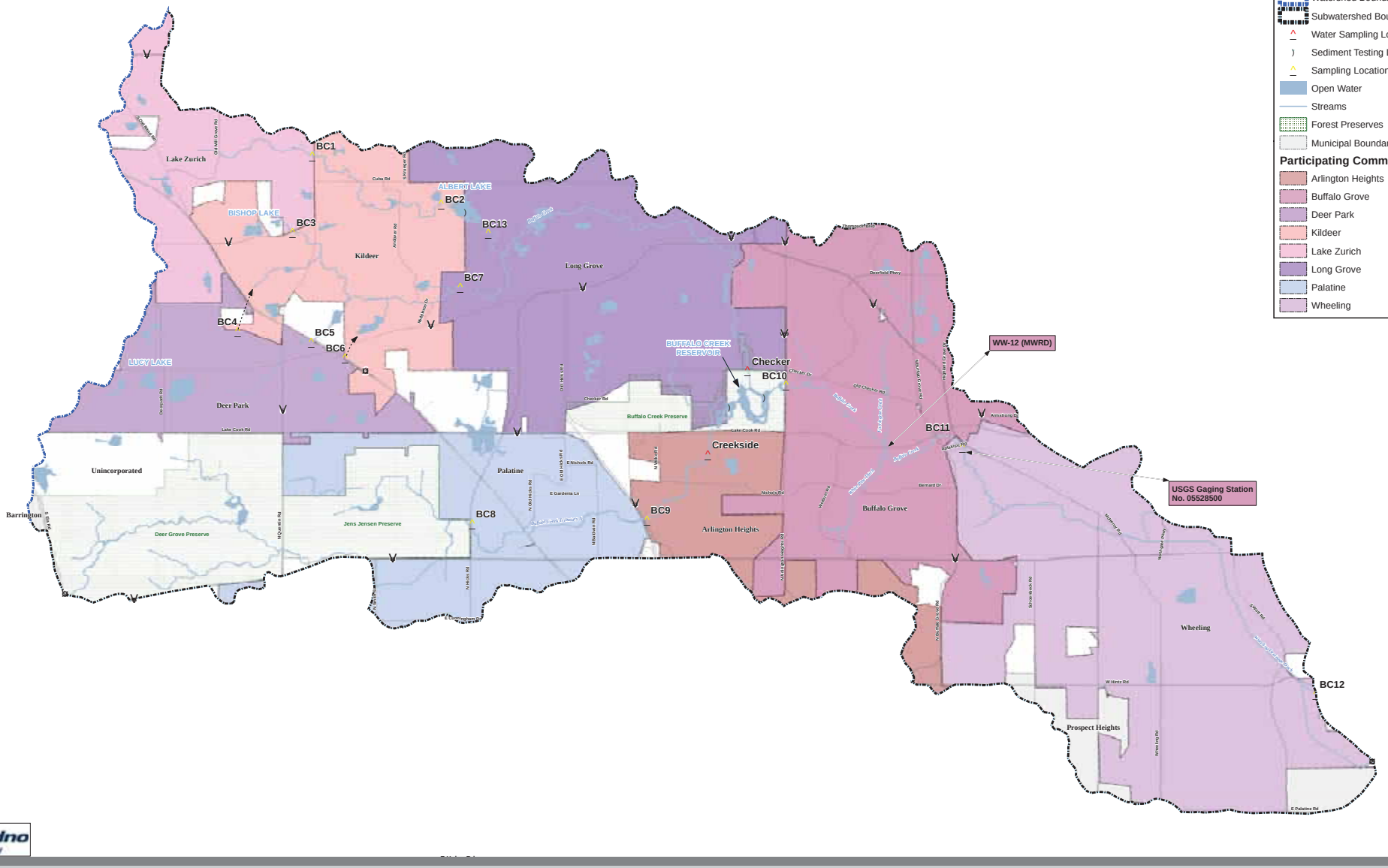
All water quality monitoring samples will be tested for the following parameters:

Parameter	Estimated Lab Fee
Fecal Coliform	$16.00
Chloride	$11.00
Dissolved Oxygen	$15.00
Total Kjeldahl Nitrogen	$23.00
Calcium	$12.00
Conductivity	$12.00
Biochemical Oxygen Demand	$21.00
Total Phosphorus	$16.00
Total Suspended Solids	$15.00
Total Volatile Solids	$11.00
Temperature (will be taken on-site)	N/A
pH (will be taken on-site)	N/A
Estimated Total Per Sample Cost (Lab fee only)	**$152.00**

2014 Water Quality Report

Buffalo Creek Watershed

BUFFALO CREEK SAMPLING LOCATIONS MAP



Cardno JFNew

1 inch = 1,800 Feet

Coordinated Pollutant Monitoring Program

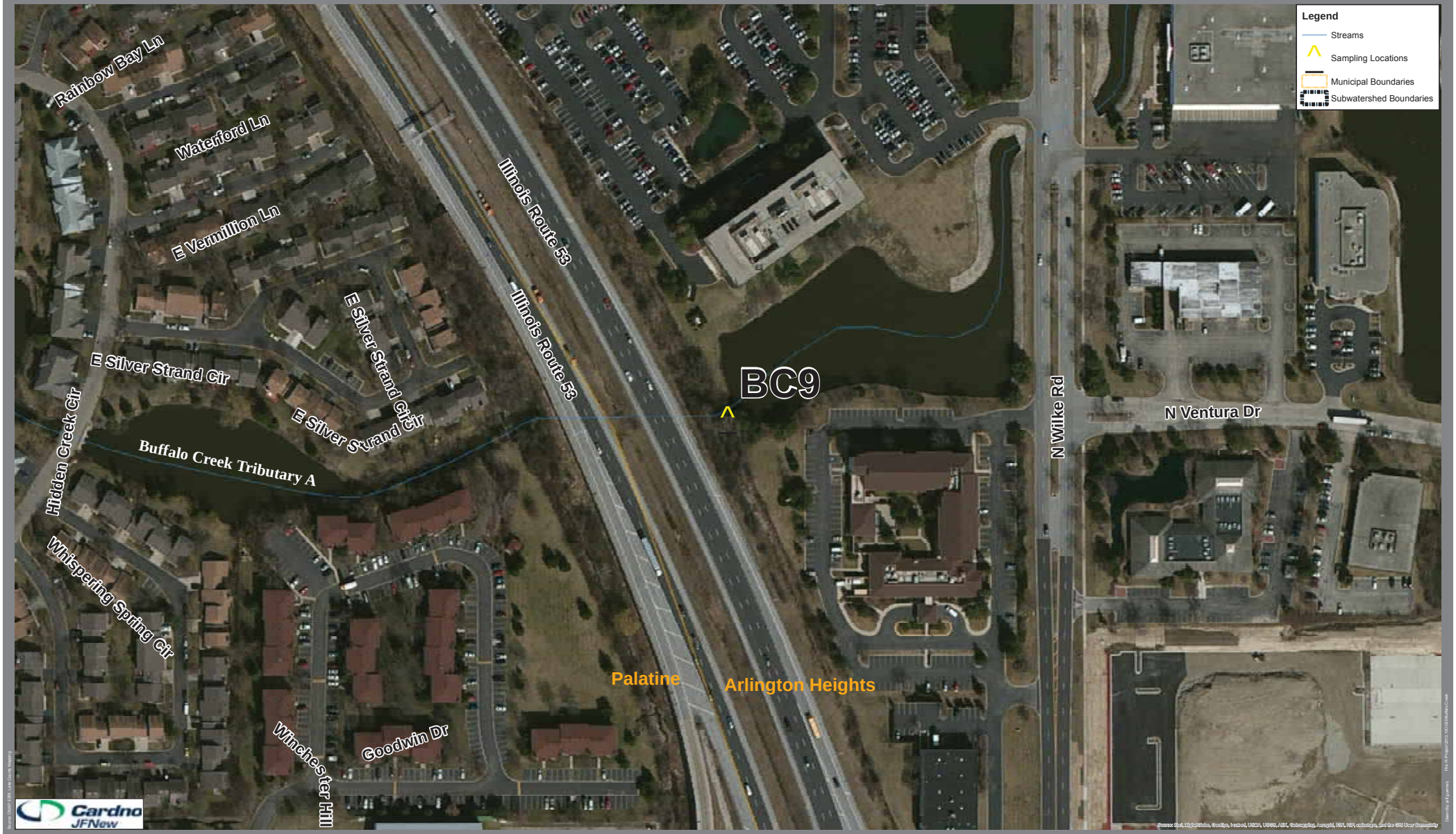
Water Quality Testing Map

Buffalo Creek Watershed

Map Center: -88.00392 42.15627

Date: 2/13/2014

Project: 2013.10C



Coordinated Pollutant Monitoring Program

Water Quality Testing Map

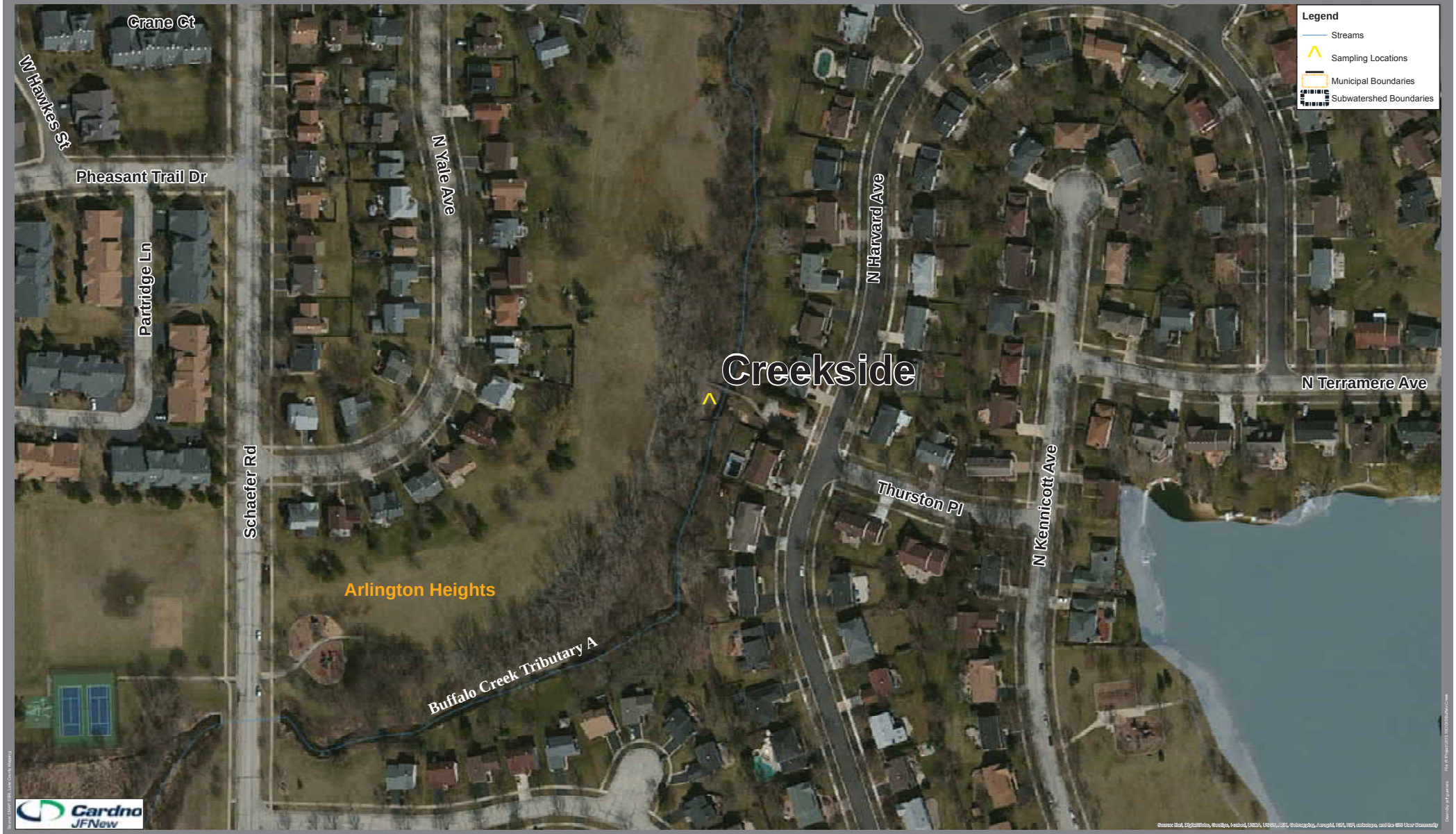
Buffalo Creek Watershed

0 1 inch = 60 Feet

Map Center: -88.00639 42.14387

Date: 2/5/2014

Project: 2013.10C



Cardno JFNew

0 1 inch = 60 Feet

Coordinated Pollutant Monitoring Program

Water Quality Testing Map

Buffalo Creek Watershed

Map Center: -87.99683 42.15117 Date: 2/5/2014 Project: 2013.10C

2014 Water QualityReport

Buffalo Creek Watershed

SAMPLING LOCATION PHOTOS

Photo 9: BC 9 facing east, creek flowing east.

Photo 10: BC 10 facing west, creek flowing east.

Photo 11: BC 11 facing southeast, creek flowing southeast.

Photo 12: BC 12 facing southeast, creek flowing southeast.

Photo 13: Creekside site facing north, creek flowing north.

Photo 14: Checker site facing north, creek flowing south.

MAY 5, 2014
LAB RESULTS

Environmental Monitoring and Technologies, Inc.

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Analytical Report

Jeff Weiss
Cardno JFNew
1000 Hart Road, Suite 130
Barrington, IL 60010

May 21, 2014

Work Order: 14E0178

RE: Water Quality Analysis

Dear Jeff Weiss:

Enclosed are the analytical reports for the EMT Work Order listed. Also included with this analytical report is a copy of the chain of custody associated with these samples. If you have any questions, please contact me.

Sincerely,

Mark Steuer
Project Manager
847.967.6666
MSteuer@emt.com
Approved for release: 5/19/2014 2:59:38PM

Approved by,

Marilyn Krueding
Laboratory Director

Table of Contents

Environmental Monitoring and Technologies, Inc.

8100 N. Austin Avenue Morton Grove, IL 60053-3203 P 847.967.6666 800.246.0663 F 847.967.6735 www.emt.com

Case Narrative

Client: Cardno JFNew
Project: Water Quality Analysis

Date: 05/21/2014

Work Order: 14E0178

Sample Summary

Lab ID	Client Sample ID	Matrix	Sampled Date
14E0178-01	BC1	Water	5/5/2014 8:10:00 AM
14E0178-02	BC3	Water	5/5/2014 8:35:00 AM
14E0178-03	BC6	Water	5/5/2014 9:45:00 AM
14E0178-04	BC2	Water	5/5/2014 10:15:00 AM
14E0178-05	BC4	Water	5/5/2014 8:55:00 AM
14E0178-06	BC5	Water	5/5/2014 9:15:00 AM
14E0178-07	BC7	Water	5/5/2014 10:45:00 AM
14E0178-08	BC13	Water	5/5/2014 11:15:00 AM
14E0178-09	BC8	Water	5/5/2014 11:55:00 AM
14E0178-10	BC9	Water	5/5/2014 12:30:00 PM
14E0178-11	BC10	Water	5/5/2014 1:30:00 PM
14E0178-12	BC11	Water	5/5/2014 1:50:00 PM
14E0178-13	BC12	Water	5/5/2014 2:20:00 PM
14E0178-14	BCR LOWER	Water	5/5/2014 12:50:00 PM
14E0178-15	BCR UPPER	Water	5/5/2014 1:10:00 PM

Work Order: 14E0178

The samples were received on 5/5/2014 5:10:00 PM . The samples arrived in good condition and properly preserved. The temperature of the cooler at receipt was 2 degrees C.

Refer to Qualifiers and Definitions for quality and analytical clarifications or deviations.

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14E0178

Client Sample ID: BC9
Report Date: 05/21/2014
Collection Date: 05/05/2014 12:30
Matrix: Water
Lab ID: 14E0178-10

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
Field Analysis							
Method: SM2510B							
Specific Conductance	2230	0.00		uS/cm	05/05/14 12:30	B4E0338	SDS
Method: SM2550-B							
Temperature	54.6	1.00		°F	05/05/14 12:30	B4E0338	SDS
Method: SM4500-H							
pH	8.74	0.05		pH Units	05/05/14 12:30	B4E0338	SDS
Method: SM4500-O G							
Dissolved Oxygen (O2)	12.0	2.00		mg/L	05/05/14 12:30	B4E0338	SDS
Metals by ICP-MS							
Method: E200.8 / SW3015							
Calcium	113	6.25		mg/L	05/08/14 15:34	B4E0393	AG
Anions by Ion Chromatography							
Method: E300							
Chloride	491	20.0		mg/L	05/09/14 12:15	B4E0445	SG
Wet Chemistry							
Method: SM2540C							
Total Dissolved Solids (Residue, Filterable)	1100	10.0		mg/L	05/07/14 11:10	B4E0405	TB2
Method: SM2540D							
Suspended Solids (Residue, Non-filterable)	21.0	15.0		mg/L	05/06/14 13:30	B4E0304	TB2
Method: SM4500-Norg B / SM4500-NH3 BC							
Nitrogen, Kjeldahl, Total	< 2.50	2.50		mg/L	05/08/14 14:12	B4E0359	TTT
Method: SM4500-P E / SW846 3015 / SW3015							
Phosphorus, Total (As P)	< 0.0500	0.0500		mg/L	05/09/14 13:38	B4E0461	TTT
Method: SM5210 B							
Biochemical Oxygen Demand	< 4	4	BOD DO	mg/L	05/06/14 14:06	B4E0260	SL1

Lake County Health Department, Subcontract

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14E0178

Client Sample ID: BC9
Report Date: 05/21/2014
Collection Date: 05/05/2014 12:30
Matrix: Water
Lab ID: 14E0178-10 (Continued)

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
Lake County Health Department, Subcontract							
Subcontracted Analyses							
Method: SM9222D							
Fecal Coliform	58	2		cfu/100 ml	05/05/14 00:00		

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14E0178

Client Sample ID: BCR LOWER
Report Date: 05/21/2014
Collection Date: 05/05/2014 12:50
Matrix: Water
Lab ID: 14E0178-14

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
Field Analysis							
Method: SM2510B							
Specific Conductance	2180	0.00		uS/cm	05/05/14 12:50	B4E0338	SDS
Method: SM2550-B							
Temperature	56.2	1.00		°F	05/05/14 12:50	B4E0338	SDS
Method: SM4500-H							
pH	8.04	0.05		pH Units	05/05/14 12:50	B4E0338	SDS
Method: SM4500-O G							
Dissolved Oxygen (O2)	15.4	2.00		mg/L	05/05/14 12:50	B4E0338	SDS
Metals by ICP-MS							
Method: E200.8 / SW3015							
Calcium	97.3	6.25		mg/L	05/08/14 18:48	B4E0409	AG
Anions by Ion Chromatography							
Method: E300							
Chloride	499	20.0		mg/L	05/09/14 12:15	B4E0445	SG
Wet Chemistry							
Method: SM2540C							
Total Dissolved Solids (Residue, Filterable)	1080	10.0		mg/L	05/07/14 11:10	B4E0405	TB2
Method: SM2540D							
Suspended Solids (Residue, Non-filterable)	15.0	15.0		mg/L	05/06/14 13:30	B4E0304	TB2
Method: SM4500-Norg B / SM4500-NH3 BC							
Nitrogen, Kjeldahl, Total	< 2.50	2.50		mg/L	05/08/14 14:12	B4E0359	TTT
Method: SM4500-P E / SW846 3015 / SW3015							
Phosphorus, Total (As P)	0.0500	0.0500		mg/L	05/09/14 13:38	B4E0461	TTT
Method: SM5210 B							
Biochemical Oxygen Demand	6	2		mg/L	05/06/14 14:06	B4E0260	SL1

Lake County Health Department, Subcontract

Subcontracted Analyses

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14E0178

Client Sample ID: BCR LOWER
Report Date: 05/21/2014
Collection Date: 05/05/2014 12:50
Matrix: Water
Lab ID: 14E0178-14 (Continued)

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
Lake County Health Department, Subcontract							
Subcontracted Analyses (Continued)							
Method: SM9222D							
Fecal Coliform	24	2		cfu/100 ml	05/05/14 00:00		

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Dates Report

(Continued)

Client: Cardno JFNew **Date:** 05/21/2014

Project: Water Quality Analysis

Work Order: 14E0178

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leached Date	Prep Date	Analysis Date	Batch ID
14E0178-08	BC13	05/05/2014 11:15	Water	pH, Tested On Site		05/05/2014 11:15	05/05/2014 11:15	B4E0338
				Solids, Total Dissolved (TDS)		05/06/2014 11:10	05/06/2014 11:10	B4E0340
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/07/2014 16:57	B4E0359
				Calcium, Total ICP-MS		05/08/2014 11:00	05/08/2014 15:30	B4E0393
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-09	BC8	05/05/2014 11:55		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304
				Temperature in F, Field		05/05/2014 11:55	05/05/2014 11:55	B4E0338
				pH, Tested On Site		05/05/2014 11:55	05/05/2014 11:55	
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 11:55	05/05/2014 11:55	
				Conductance, Field		05/05/2014 11:55	05/05/2014 11:55	
				Solids, Total Dissolved (TDS)		05/06/2014 11:10	05/06/2014 11:10	B4E0340
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Calcium, Total ICP-MS		05/08/2014 11:00	05/08/2014 15:32	B4E0393
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-10	BC9	05/05/2014 12:30		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304
				Temperature in F, Field		05/05/2014 12:30	05/05/2014 12:30	B4E0338
				pH, Tested On Site		05/05/2014 12:30	05/05/2014 12:30	
				Conductance, Field		05/05/2014 12:30	05/05/2014 12:30	
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 12:30	05/05/2014 12:30	
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Calcium, Total ICP-MS		05/08/2014 11:00	05/08/2014 15:34	B4E0393
				Solids, Total Dissolved (TDS)		05/07/2014 11:10	05/07/2014 11:10	B4E0405
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-11	BC10	05/05/2014 13:30		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304
				Temperature in F, Field		05/05/2014 13:30	05/05/2014 13:30	B4E0338
				pH, Tested On Site		05/05/2014 13:30	05/05/2014 13:30	
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 13:30	05/05/2014 13:30	
				Conductance, Field		05/05/2014 13:30	05/05/2014 13:30	
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Calcium, Total ICP-MS		05/08/2014 11:00	05/08/2014 15:35	B4E0393
				Solids, Total Dissolved (TDS)		05/07/2014 11:10	05/07/2014 11:10	B4E0405
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-12	BC11	05/05/2014 13:50		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304

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Dates Report

(Continued)

Client: Cardno JFNew **Date:** 05/21/2014

Project: Water Quality Analysis

Work Order: 14E0178

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leached Date	Prep Date	Analysis Date	Batch ID
14E0178-12	BC11	05/05/2014 13:50	Water	pH, Tested On Site		05/05/2014 13:50	05/05/2014 13:50	B4E0338
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 13:50	05/05/2014 13:50	
				Temperature in F, Field		05/05/2014 13:50	05/05/2014 13:50	
				Conductance, Field		05/05/2014 13:50	05/05/2014 13:50	
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Solids, Total Dissolved (TDS)		05/07/2014 11:10	05/07/2014 11:10	B4E0405
				Calcium, Total ICP-MS		05/08/2014 13:30	05/08/2014 18:45	B4E0409
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-13	BC12	05/05/2014 14:20		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304
				Temperature in F, Field		05/05/2014 14:20	05/05/2014 14:20	B4E0338
				pH, Tested On Site		05/05/2014 14:20	05/05/2014 14:20	
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 14:20	05/05/2014 14:20	
				Conductance, Field		05/05/2014 14:20	05/05/2014 14:20	
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Solids, Total Dissolved (TDS)		05/07/2014 11:10	05/07/2014 11:10	B4E0405
				Calcium, Total ICP-MS		05/08/2014 13:30	05/08/2014 18:46	B4E0409
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-14	BCR LOWER	05/05/2014 12:50		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 12:50	05/05/2014 12:50	B4E0338
				pH, Tested On Site		05/05/2014 12:50	05/05/2014 12:50	
				Temperature in F, Field		05/05/2014 12:50	05/05/2014 12:50	
				Conductance, Field		05/05/2014 12:50	05/05/2014 12:50	
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Solids, Total Dissolved (TDS)		05/07/2014 11:10	05/07/2014 11:10	B4E0405
				Calcium, Total ICP-MS		05/08/2014 13:30	05/08/2014 18:48	B4E0409
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461
14E0178-15	BCR UPPER	05/05/2014 13:10		Subcontracted Analyses		05/05/2014 00:00	05/05/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		05/06/2014 14:06	05/06/2014 14:06	B4E0260
				Solids, Total Suspended (TSS)		05/06/2014 13:30	05/06/2014 13:30	B4E0304
				pH, Tested On Site		05/05/2014 13:10	05/05/2014 13:10	B4E0338
				Oxygen, Dissolved (DO) Tested On Site		05/05/2014 13:10	05/05/2014 13:10	
				Temperature in F, Field		05/05/2014 13:10	05/05/2014 13:10	
				Conductance, Field		05/05/2014 13:10	05/05/2014 13:10	
				Nitrogen, Total Kjeldahl (TKN)		05/07/2014 07:40	05/08/2014 14:12	B4E0359
				Solids, Total Dissolved (TDS)		05/07/2014 11:10	05/07/2014 11:10	B4E0405
				Calcium, Total ICP-MS		05/08/2014 13:30	05/08/2014 18:50	B4E0409
				Chloride, Anions by Ion Chromatography		05/08/2014 11:07	05/09/2014 12:15	B4E0445
				Phosphorous, Total (Automated)		05/09/2014 06:30	05/09/2014 13:38	B4E0461

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Quality Control

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 05/21/2014
Matrix: Water

Work Order: 14E0178

Metals by ICP-MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	
Batch: B4E0393 - SW3015											
Blank (B4E0393-BLK1)				*Prepared: 05/08/2014 11:00*			*Analyzed: 05/08/2014 15:08*				
Calcium	< 0.625	0.625	mg/L								5
LCS (B4E0393-BS1)				*Prepared: 05/08/2014 11:00*			*Analyzed: 05/08/2014 15:10*				
Calcium	6.38	0.625	mg/L	6.25		102	85-115				5
Matrix Spike (B4E0393-MS1)		**Source: 14E0178-02**		*Prepared: 05/08/2014 11:00*			*Analyzed: 05/08/2014 15:15*				
Calcium	109	6.25	mg/L	6.25	104	79.2	70-130				50
Matrix Spike Dup (B4E0393-MSD1)		**Source: 14E0178-02**		*Prepared: 05/08/2014 11:00*			*Analyzed: 05/08/2014 15:17*				
Calcium	118	6.25	mg/L	12.5	104	107	70-130	7.39	20		50
Batch: B4E0409 - SW3015											
Blank (B4E0409-BLK1)				*Prepared: 05/08/2014 13:30*			*Analyzed: 05/08/2014 18:32*				
Calcium	< 0.625	0.625	mg/L								5
LCS (B4E0409-BS1)				*Prepared: 05/08/2014 13:30*			*Analyzed: 05/08/2014 18:34*				
Calcium	6.30	0.625	mg/L	6.25		101	85-115				5
Matrix Spike (B4E0409-MS1)		**Source: 14E0192-01**		*Prepared: 05/08/2014 13:30*			*Analyzed: 05/08/2014 18:53*				
Calcium	212	0.625	mg/L	6.25	204	134	70-130			S	5
Matrix Spike Dup (B4E0409-MSD1)		**Source: 14E0192-01**		*Prepared: 05/08/2014 13:30*			*Analyzed: 05/08/2014 18:55*				
Calcium	211	0.625	mg/L	6.25	204	115	70-130	0.536	20		5

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 05/21/2014
Matrix: Water

Work Order: 14E0178

Anions by Ion Chromatography

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4E0445										
Blank (B4E0445-BLK1)				*Prepared: 05/08/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	< 0.200	0.200	mg/L							1
LCS (B4E0445-BS2)				*Prepared: 05/08/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	4.83		mg/L	5.00		96.7	90-110			1
LCS (B4E0445-BS3)				*Prepared: 05/08/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	5.01		mg/L	5.00		100	90-110			1
Matrix Spike (B4E0445-MS1)		**Source: 14E0123-03**		*Prepared: 05/09/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	930	20.0	mg/L	250	645	114	80-120			100
Matrix Spike (B4E0445-MS2)		**Source: 14E0178-09**		*Prepared: 05/09/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	702	20.0	mg/L	250	414	115	80-120			100
Matrix Spike Dup (B4E0445-MSD1)		**Source: 14E0123-03**		*Prepared: 05/09/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	919	20.0	mg/L	250	645	110	80-120	1.10	20	100
Matrix Spike Dup (B4E0445-MSD2)		**Source: 14E0178-09**		*Prepared: 05/09/2014 11:07*			*Analyzed: 05/09/2014 12:15*			
Chloride	704	20.0	mg/L	250	414	116	80-120	0.239	20	100

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 05/21/2014
Matrix: Water

Work Order: 14E0178

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	
Batch: B4E0260											
Blank (B4E0260-BLK1)				*Prepared: 05/06/2014 14:06*			*Analyzed: 05/06/2014 14:06*				
Biochemical Oxygen Demand	< 15	15	mg/L							BOD Blank	1
LCS (B4E0260-BS1)				*Prepared: 05/06/2014 14:06*			*Analyzed: 05/06/2014 14:06*				
Biochemical Oxygen Demand	208	15	mg/L	198		105	84.6-115.4				1
Duplicate (B4E0260-DUP1)		**Source: 14E0163-01**		*Prepared: 05/06/2014 14:06*			*Analyzed: 05/06/2014 14:06*				
Biochemical Oxygen Demand	75300	15	mg/L		73800			2.01	9.46		1
Duplicate (B4E0260-DUP2)		**Source: 14E0147-05**		*Prepared: 05/06/2014 14:06*			*Analyzed: 05/06/2014 14:06*				
Biochemical Oxygen Demand	1920	15	mg/L		1890			1.42	9.46		1
Matrix Spike (B4E0260-MS1)		**Source: 14E0163-01**		*Prepared: 05/06/2014 14:06*			*Analyzed: 05/06/2014 14:06*				
Biochemical Oxygen Demand	79800	15	mg/L	9900	73800	60.6	80-120			S	1
Matrix Spike (B4E0260-MS2)		**Source: 14E0147-05**		*Prepared: 05/06/2014 14:06*			*Analyzed: 05/06/2014 14:06*				
Biochemical Oxygen Demand	4250	15	mg/L	1980	1890	119	80-120				1
Batch: B4E0304											
Blank (B4E0304-BLK1)				*Prepared: 05/06/2014 13:30*			*Analyzed: 05/06/2014 13:30*				
Suspended Solids (Residue, Non-filterable)	< 15.0	15.0	mg/L								1
LCS (B4E0304-BS1)				*Prepared: 05/06/2014 13:30*			*Analyzed: 05/06/2014 13:30*				
Suspended Solids (Residue, Non-filterable)	1000	15.0	mg/L	950		106	85-115				1
Duplicate (B4E0304-DUP1)		**Source: 14E0178-10**		*Prepared: 05/06/2014 13:30*			*Analyzed: 05/06/2014 13:30*				
Suspended Solids (Residue, Non-filterable)	21.0	15.0	mg/L		21.0			0.00	10		1
Duplicate (B4E0304-DUP2)		**Source: 14E0179-08**		*Prepared: 05/06/2014 13:30*			*Analyzed: 05/06/2014 13:30*				
Suspended Solids (Residue, Non-filterable)	270	15.0	mg/L		274			1.47	10		1
Batch: B4E0340											
Blank (B4E0340-BLK1)				*Prepared: 05/06/2014 11:10*			*Analyzed: 05/06/2014 11:10*				
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0	mg/L								1
LCS (B4E0340-BS1)				*Prepared: 05/06/2014 11:10*			*Analyzed: 05/06/2014 11:10*				

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Quality Control
(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Report Date: 05/21/2014
Matrix: Water

Work Order: 14E0178

Wet Chemistry
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	
Batch: B4E0340 *(Continued)*											
Total Dissolved Solids (Residue, Filterable)	966	10.0	mg/L	962		100	85-115				1
Duplicate (B4E0340-DUP1)		**Source: 14E0178-09**		*Prepared: 05/06/2014 11:10*			*Analyzed: 05/06/2014 11:10*				
Total Dissolved Solids (Residue, Filterable)	1060	10.0	mg/L		1050			0.951	5		1
Batch: B4E0354 - SW3015											
Blank (B4E0354-BLK1)				*Prepared: 05/07/2014 09:30*			*Analyzed: 05/07/2014 16:03*				
Phosphorus, Total (As P)	< 0.0500	0.0500	mg/L								1
LCS (B4E0354-BS1)				*Prepared: 05/07/2014 09:30*			*Analyzed: 05/07/2014 16:03*				
Phosphorus, Total (As P)	0.243	0.0500	mg/L	0.250		97.2	80-120				1
LCS (B4E0354-BS2)				*Prepared: 05/07/2014 15:58*			*Analyzed: 05/07/2014 16:03*				
Phosphorus, Total (As P)	0.407	0.0500	mg/L	0.500		81.5	80-120				1
Duplicate (B4E0354-DUP1)		**Source: 14D0924-07**		*Prepared: 05/07/2014 09:30*			*Analyzed: 05/07/2014 16:03*				
Phosphorus, Total (As P)	3.86	1.00	mg/L		31.5			156	20	P	1
Matrix Spike (B4E0354-MS1)		**Source: 14E0178-04**		*Prepared: 05/07/2014 09:30*			*Analyzed: 05/07/2014 16:03*				
Phosphorus, Total (As P)	0.243	0.0500	mg/L	0.250	0.0340	83.6	80-120				1
Matrix Spike Dup (B4E0354-MSD1)		**Source: 14E0178-04**		*Prepared: 05/07/2014 09:30*			*Analyzed: 05/07/2014 16:03*				
Phosphorus, Total (As P)	0.259	0.0500	mg/L	0.250	0.0340	90.0	80-120	6.37	9.53		1
Batch: B4E0359											
Blank (B4E0359-BLK1)				*Prepared: 05/07/2014 07:40*			*Analyzed: 05/07/2014 16:57*				
Nitrogen, Kjeldahl, Total	< 5.00	5.00	mg/L								3
LCS (B4E0359-BS1)				*Prepared: 05/07/2014 07:40*			*Analyzed: 05/07/2014 16:57*				
Nitrogen, Kjeldahl, Total	10.1	5.00	mg/L	10.0		101	90-120				3
Matrix Spike (B4E0359-MS1)		**Source: 14E0002-03**		*Prepared: 05/07/2014 07:40*			*Analyzed: 05/07/2014 16:57*				
Nitrogen, Kjeldahl, Total	286	100	mg/L	200	89.6	98.0	80-120				3
Matrix Spike Dup (B4E0359-MSD1)		**Source: 14E0002-03**		*Prepared: 05/07/2014 07:40*			*Analyzed: 05/07/2014 16:57*				
Nitrogen, Kjeldahl, Total	280	100	mg/L	200	89.6	95.2	80-120	1.98	7.15		3
Batch: B4E0405											

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 05/21/2014
Matrix: Water

Work Order: 14E0178

Wet Chemistry

(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4E0405 *(Continued)*										
Blank (B4E0405-BLK1)				*Prepared: 05/07/2014 11:10*			*Analyzed: 05/07/2014 11:10*			
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0	mg/L							1
LCS (B4E0405-BS1)				*Prepared: 05/07/2014 11:10*			*Analyzed: 05/07/2014 11:10*			
Total Dissolved Solids (Residue, Filterable)	934	10.0	mg/L	968		96.5	85-115			1
Duplicate (B4E0405-DUP1)		**Source: 14E0205-05**		*Prepared: 05/07/2014 11:10*			*Analyzed: 05/07/2014 11:10*			
Total Dissolved Solids (Residue, Filterable)	2490	10.0	mg/L		2510			1.04	5	1
Duplicate (B4E0405-DUP2)		**Source: 14E0232-03**		*Prepared: 05/07/2014 11:10*			*Analyzed: 05/07/2014 11:10*			
Total Dissolved Solids (Residue, Filterable)	129000	10.0	mg/L		131000			1.69	5	1
Batch: B4E0461 - SW3015										
Blank (B4E0461-BLK1)				*Prepared: 05/09/2014 06:30*			*Analyzed: 05/09/2014 13:38*			
Phosphorus, Total (As P)	< 0.0500	0.0500	mg/L							1
LCS (B4E0461-BS1)				*Prepared: 05/09/2014 06:30*			*Analyzed: 05/09/2014 13:44*			
Phosphorus, Total (As P)	0.250	0.0500	mg/L	0.250		100	80-120			1
LCS (B4E0461-BS2)				*Prepared: 05/09/2014 06:30*			*Analyzed: 05/09/2014 13:44*			
Phosphorus, Total (As P)	0.509	0.0500	mg/L	0.500		102	80-120			1
Matrix Spike (B4E0461-MS1)		**Source: 14E0178-15**		*Prepared: 05/09/2014 06:30*			*Analyzed: 05/09/2014 13:44*			
Phosphorus, Total (As P)	0.286	0.0500	mg/L	0.250	0.0630	89.2	80-120			1
Matrix Spike Dup (B4E0461-MSD1)		**Source: 14E0178-15**		*Prepared: 05/09/2014 06:30*			*Analyzed: 05/09/2014 13:44*			
Phosphorus, Total (As P)	0.305	0.0500	mg/L	0.250	0.0630	96.8	80-120	6.43	9.53	1

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Certified Analyses included in this Report

Analyte	Certifications
E200.8 in Water	
Calcium	DoD,ILEPA
E300 in Water	
Chloride	DoD,WDNR,ILEPA
SM2510B in Water	
Specific Conductance	DoD,ILEPA
SM2540C in Water	
Total Dissolved Solids (Residue, Filterable)	DoD,ILEPA,WDNR
SM2540D in Water	
Suspended Solids (Residue, Non-filterable)	DoD,ILEPA,WDNR
SM2550-B in Water	
Temperature	ILEPA
SM4500-H in Water	
pH	DoD,ILEPA,WDNR
SM4500-Norg B / SM4500-NH3 BC in Water	
Nitrogen, Kjeldahl, Total	DoD,ILEPA,WDNR
SM4500-P E / SW846 3015 in Water	
Phosphorus, Total (As P)	DoD,ILEPA,WDNR
SM5210 B in Water	
Biochemical Oxygen Demand	LELAP,ILEPA,DoD,WDNR

List of Certifications

Code	Description	Number	Expires
AKDEC	State of Alaska, Dept. Environmental Conservation	UST-105	07/16/2014
CPSC	US Consumer Product Safety Commission, Accredited by PJLA Lab No. 1050	L14-56	04/30/2016
DoD	Department of Defense, Accredited by PJLA	L14-55	04/30/2016
ILEPA	State of Illinois, NELAC Accredited Lab No. 100256	003041	07/27/2014
ISO	ISO/IEC 17025, Accredited by PJLA	L14-56	04/30/2016
LELAP	State of Louisiana, NELAC Accredited Lab No. 171344	05015	06/30/2014
WDNR	State of Wisconsin Dept of Natural Resources	999888890	08/31/2014

Environmental Monitoring and Technologies, Inc.

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Qualifiers and Definitions

Item	Description
BOD Blank	The average blank recovery of 0.27 is above the laboratory control limit of 0.20.
BOD DO	The dissolved oxygen loss is less than 2 ppm on the largest volume of sample analyzed.
P	The %RPD result is above the laboratory control limits.
S	The recovery is outside of the laboratory control limits.
%Rec	Percent Recovery

ENVIRONMENTAL MONITORING AND TECHNOLOGIES, INC.

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Morton Grove, Illinois 60053-3203

847-967-6666
FAX: 847-967-6735
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Chain of Custody Record

TURNARAOUND TIME:
☐ RUSH
7 day turnaround
☒ ROUTINE

Due Date: ____-____-____ COC #: 133505

Company: CARDNO JFNEW
Address: 10000 Hart Road Suite 130
Barrington, IL 60010

Phone #: (847) 732-5172 Fax #: (____) ____-____
P.O. #: ____ Proj.#: ____-____
Client Contact: Marcy Knysz
Project ID / Location: Cardno Water Quality Analysis

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater Surface water

Container Type:
P - Plastic V - VOC Vial O - Other
G - Glass B - Tedlar Bag ____

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH $Na_2S_2O_3$

Analyses

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	Sampling pH	Sampling Temp.	Preservation Field	Preservation Lab	BOD, TSS, TDS, Chloride	Calcium	TKN, Total phosphorus	Field temp, Field pH, Field conductivity	Fecal Coliform	EMT WORKORDER # 140176
BC 8	8	1000ml	P	1		05/05/14	11:55	8.32	51.9°F	1		X		X			09 A
BC 8	8	500ml	P	1		05/05/14	11:55			3			X				09 B
BC 8	8	1000ml	P	1		05/05/14	11:55			2				X			09 C
BC 8	8	120ml	P	1		05/05/14	11:55			8					X		09 D
BC 9	8	1000ml	P	1		05/05/14	12:30	8.74	54.6°F	1		X		X			10 A
BC 9	8	500ml	P	1		05/05/14	12:30			3			X				10 B
BC 9	8	1000ml	P	1		05/05/14	12:30			2				X			10 C
BC 9	8	120ml	P	1		05/05/14	12:30			8					X		10 D

Relinquished By:	Date: 05-05-14 Time: 17:10	Received By:	Date: - - Time: :	EMT USE ONLY Client Code: CARDNO
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D. Cardno water Quality Analysis
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: 5-5-14 Time: 17:10	Jar Lot No.

☐ SAMPLE RECEIVED ON ICE
☑ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)
2

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS: BC8 – DO 10.7 – Conductivity 2001
BC9 – DO 12.0 – Conductivity 2227
pH 7.00 → 7.01 @ 07:55 on 05/05/14 TE

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Morton Grove, Illinois 60053-3203

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Chain of Custody Record

TURNARAOUND TIME:
☐ RUSH
7 day turnaround
☒ ROUTINE

Due Date: ____-____-____ COC #: 133504

Company: CARDNO JF NEW
Address: 10000 Hart Road Suite 130
Barrington, IL 60010

Phone #: (847) 732 - 5172 Fax #: (____) ____-____
P.O. #: ____ Proj.#: ____-____
Client Contact: Marcy Knysz
Project ID / Location: Cardno water Quality Analysis

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater Surface water

Container Type:
P - Plastic V - VOC Vial O - Other 05/05 ~~$Na_2S_2O_3$~~ 2
G - Glass B - Tedlar Bag

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH $Na_2S_2O_3$

Analyses

EMT USE ONLY

EMT WORKORDER # 140178

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	pH	Temp.	Preservation Field	Preservation Lab	BOD, TSS, TDS, Chloride	Calcium	TKN, Total phosphorus	Field pH, field DO, field conductivity	Fecal coliforms	
BCR Lower	G	1000ml	P	1		05/05/14	12:50	8.04	56.2°F	1		X					14 A
BCR Lower	G	500ml	P	1		05/05/14	12:50			3			X				14 B
BCR Lower	G	1000ml	P	1		05/05/14	12:50			2				X			14 C
BCR Lower	G	120ml	P	1		05/05/14	12:50			8					X		14 D
BCR Upper	G	1000ml	P	1		05/05/14	13:10	7.93	55.9°F	1		X					15 A
BCR Upper	G	500ml	P	1		05/05/14	13:10			3			X				15 B
BCR Upper	G	1000ml	P	1		05/05/14	13:10			2				X			15 C
BCR Upper	G	120ml	P	1		05/05/14	13:10			8					X		15 D

Relinquished By:	Date: 05-05-14 Time: 17:10	Received By:	Date: - - Time: :	EMT USE ONLY Client Code: CARDNO	☒ SAMPLE RECEIVED ON ICE ☒ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt) 2
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D. Cardno water Quality Analysis	
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: 5-5-14 Time: 17:10	Jar Lot No.	EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS: BCR Lower - DO 15.4 - conductivity 2177
BCR Upper - DO 17.8 - conductivity 1653 pH 7.00 -> 7.00 @ 12:40 on 05/05/14

LAKE COUNTY
HEALTH DEPARTMENT AND
COMMUNITY HEALTH CENTER

Lake County Environmental Laboratory
IEPA Accreditation # 100267
IDPH Registry # 17541

500 W. Winchester Rd
Libertyville, IL 60048
Telephone (847) 377-8017
Fax: (847) 984-5623

REPORT OF ANALYSIS

EMT ATTN M GREGORY
8100 AUSTIN AVE
MORTON GROVE IL 60053

Report Date: May 6, 2014

Date Collected: 5/5/2014
Sample Description: Surface Water
Collected by: S Suhajda
Project ID: **Buffalo Creek** between Lake Zurich and Arlington Heights
Analysis Date/Time: 5/5/2014 11:40 - 15:55

Lab ID Number	Sample Location	Collected Time	Volume (mL) Tested	Colony Count	Fecal Coliforms / 100 mL
622579	BC1	8:10 AM	50	26	52
622585	BC2	10:15 AM	50	7	14 est
622580	BC3	8:35 AM	50	8	16 est
622581	BC4	8:55 AM	50	51	100
622582	BC5	9:15 AM	50	64	>130
622583	BC6	9:45 AM	50	0	<2
622586	BC7	10:45 AM	50	24	48
622588	BC8	11:55 AM	50	24	48
622589	BC9	12:30 PM	50	29	58
622607	BC10	1:30 PM	50	2	4 est
622608	BC11	1:50 PM	50	10	20 est
622609	BC12	2:20 PM	50	16	32 est
622587	BC13	11:15 AM	50	4	8 est
622605	BCR LOWER	12:50 PM	50	12	24 est
622606	BCR UPPER	1:10 PM	50	19	38 est

** Analysis date is the initiation date of analysis.

Methods:
Name: **Fecal Coliform**
Reported Units: membrane filter count per 100 mL
Test Method Used: Method 9222 D, "Standard Methods", 18th Edition
Minimum Reporting Limit: 10 fecal coliform / 100 mL for the volume tested.

GGrillo 5-7-14
Gloria E. Grillo
Laboratory Supervisor

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Morton Grove, Illinois 60053-3203

847-967-6666
FAX: 847-967-6735
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Chain of Custody Record

TURNARAOUND TIME
☐ RUSH
_____ day turnaround
☐ ROUTINE

Due Date: ____-____-____ COC #: 1333_

Company: EMT
Address: 8100 N. Austin Ave.,
Morton Grove, IL, 60053
Phone #: (847) 967-6666 Fax #: (____) ____-____
P.O. #: __________ Proj. #: ____-____
Client Contact: Matt Gregory
Project ID / Location: __________

Sample Type: 1. Waste Water 2. Drinking Water 3. Soil 4. Sludge 5. Oil 6. Groundwater 7. Groundwater (filtered) 8. Other

Container Type: P - Plastic V - VOC Vial O - Other G - Glass B - Tedlar Bag

Preservative: 1. None 2. H_2SO_4 3. HNO_3 4. NaOH 5. HCl 6. MeOH 7. Zn Ace 8. Other $Na_2S_2O_3$

Analyses: Fecal Coliform / Volume (mL) / Count / #/100mL / Analyst / Date (5-6-14)

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	pH	Temp.	Preservation Field	Preservation Lab	Fecal Coliform	Volume (mL)	Count	#/100mL	EMT WORKORDER #
BC 2	8	120mL	P	1	SDS KL	05-05-14	10:15	7.14	48.5°F	8		X	50	7	14est	622585
BC 7	8	120 mL	P	1	SDS KL	05-05-14	10:45	8.37	51.7°F	8		X	50	24	48	622586
BC 13	8	120mL	P	1	SDS KL	05-05-14	11:15	7.48	55.8°F	8		X	50	4	8est	622587
BC 8	8	120 mL	P	1	SDS KL	05-05-14	11:55	8.32	51.9°F	8		X	50	24	48	622588
BC 9	8	120mL	P	1	SDS KL	05-05-14	12:30	8.74	54.6°F	8		X	50	29	58	622589

Analyst: [signature]
Date reported: 5/6/14

Relinquished By:	Date / Time	Received By:	Date / Time	EMT USE ONLY
Kathy Layton	Date: 5-5-14 Time: 13:30	Peggy Rott	Date: 5-5-14 Time: 1:30pm	Client Code:
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D.
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: - - Time: :	Jar Lot No.

☐ SAMPLE RECEIVED ON ICE
☐ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS: 5/6/14 - collected by Sean Suhajda - per M. Gregory
EMail results to mgregory@EMT.com - pr

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Chain of Custody Record

TURNAROUND TIME
☐ RUSH
_____ day turnaround
☐ ROUTINE

Due Date: ____-____-____ COC #: 133426

Company: EMT
Address: 8100 N. Austin Ave
Morton Grove, IL 60053

Phone #: (847) 967-6666 Fax #: (____) ____-____
P.O. #: ____ Proj. #: ____-____
Client Contact: Matt Gregory 1327
Project ID / Location: Surface water Sampling

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater Surface water

Container Type:
P - Plastic V - VOC Vial O - Other
G - Glass B - Tedlar Bag ____

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH $Na_2S_2O_3$

Analyses

EMT USE ONLY

EMT WORKORDER # ____

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	pH	Temp.	Preservation Field	Preservation Lab	Total Fecal Coliform	Volume (mL)	Convert to 100mL	Dilution Factor	Date Analyzed	EMT USE ONLY
BCR Lower	8	120ml	P	1		05/05/14	12:50	8.04	56.2°F	8		X	50	12	24	5/6/14	622605
BCR Upper	8	120ml	P	1		05/05/14	13:10	7.93	55.7°F	8		X	50	19	38	5/6/14	622606
BC 10	8	120ml	P	1		05/05/14	13:30	8.53	55.0°F	8		X	50	2	4	5/6/14	622607
BC 11	8	120ml	P	1		05/05/14	13:50	8.04	57.6°F	8		X	50	10	20	5/6/14	622608
BC 12	8	120ml	P	1		05/05/14	14:20	7.74	56.6°F	8		X	50	16	32	5/6/14	622609

Analyst: JS
Date Reported: 5/8/14

Relinquished By:	Date: 05-05-14 Time: 15:05	Received By: B Crandall	Date: 5-5-14 Time: 15:05	EMT USE ONLY Client Code:
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D.
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: - - Time: :	Jar Lot No.

☐ SAMPLE RECEIVED ON ICE
☐ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS: 5/6/14 - Collected by Sean Surhigher M. Gregory
Email results to mgregory@EMT.com

October 7, 2014

LAB RESULTS

Environmental Monitoring and Technologies, Inc.

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Analytical Report

Marcy Knysz
Cardno JFNew
1000 Hart Road, Suite 130
Barrington, IL 60010

October 16, 2014

Work Order: 14J0362

RE: Water Quality Analysis

Dear Marcy Knysz:

Enclosed are the analytical reports for the EMT Work Order listed. Also included with this analytical report is a copy of the chain of custody associated with these samples. If you have any questions, please contact me.

Sincerely,

Mark Steuer
Project Manager
847.967.6666
MSteuer@emt.com
Approved for release: 10/15/2014 4:42:08PM

Approved by,

Matthew Gregory
Technical Manager

The contents of this report apply to the sample(s) analyzed. No duplication is allowed except in its entirety.
Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

Table of Contents

Environmental Monitoring and Technologies, Inc.

8100 N. Austin Avenue Morton Grove, IL 60053-3203 P 847.967.6666 800.246.0663 F 847.967.6735 www.emt.com

Case Narrative

Client: Cardno JFNew
Project: Water Quality Analysis

Date: 10/16/2014

Work Order: 14J0362

Sample Summary

Lab ID	Client Sample ID	Matrix		Sampled Date
14J0362-01		BC1	Water	10/7/2014 7:30:00 AM
14J0362-02		BC3	Water	10/7/2014 7:50:00 AM
14J0362-03		BC6	Water	10/7/2014 8:45:00 AM
14J0362-04		BC2	Water	10/7/2014 9:15:00 AM
14J0362-05		BC4	Water	10/7/2014 8:08:00 AM
14J0362-06		BC5	Water	10/7/2014 8:25:00 AM
14J0362-07		BC7	Water	10/7/2014 9:35:00 AM
14J0362-08		BC13	Water	10/7/2014 10:00:00 AM
14J0362-09		BC8	Water	10/7/2014 10:25:00 AM
14J0362-10		BC9	Water	10/7/2014 10:45:00 AM
14J0362-11		BC10	Water	10/7/2014 11:25:00 AM
14J0362-12		BC11	Water	10/7/2014 11:45:00 AM
14J0362-13		BC12	Water	10/7/2014 12:05:00 PM
14J0362-14		BRC LOWER	Water	10/7/2014 11:00:00 AM
14J0362-15		BRC UPPER	Water	10/7/2014 11:15:00 AM

Work Order: 14J0362

The samples were received on 10/7/2014 1:45:00 PM . The samples arrived in good condition and properly preserved. The temperature of the cooler at receipt was 2 degrees C.

This work order contains analyses that were subcontracted. Subcontract data and receipt information is provided.

Refer to Qualifiers and Definitions for quality and analytical clarifications or deviations.

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14J0362

Client Sample ID: BC9
Report Date: 10/16/2014
Collection Date: 10/07/2014 10:45
Matrix: Water
Lab ID: 14J0362-10

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
On Site Analysis							
Method: SM2510B							
Specific Conductance	**1350**	0.00		uS/cm	10/07/14 10:45	B4J0315	AR
Method: SM2550-B							
Temperature	**12.9**	1.00		°C	10/07/14 10:45	B4J0315	AR
Method: SM4500-H							
pH	**7.47**	0.05		pH Units	10/07/14 10:45	B4J0315	AR
Method: SM4500-O G							
Dissolved Oxygen (O2)	**10.2**	2.00		mg/L	10/07/14 10:45	B4J0315	AR
Metals by ICP-AES							
Method: E200.7 / SW3015							
Calcium	**68.1**	1.56		mg/L	10/10/14 16:27	B4J0377	CS2
Anions by Ion Chromatography							
Method: E300							
Chloride	**259**	20.0		mg/L	10/09/14 09:52	B4J0310	GSB
Wet Chemistry							
Method: SM2540C							
Total Dissolved Solids (Residue, Filterable)	**704**	10.0		mg/L	10/10/14 07:50	B4J0387	TB2
Method: SM2540D							
Suspended Solids (Residue, Non-filterable)	**13.0**	15.0		mg/L	10/09/14 13:10	B4J0369	TB2
Method: SM4500-Norg B / SM4500-NH3 BC							
Nitrogen, Kjeldahl, Total	**1.68**	5.00		mg/L	10/14/14 15:16	B4J0452	TTT
Method: SM4500-P E / SW846 3015 / SW3015							
Phosphorus, Total (As P)	**0.0880**	0.0500		mg/L	10/14/14 15:13	B4J0543	TTT
Method: SM5210 B							
Biochemical Oxygen Demand	**6**	7	BOD DO	mg/L	10/08/14 12:56	B4J0278	CS1

Lab County Health Department, Subcontract

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Client Sample Results

(Continued)

Client:	Cardno JFNew	**Client Sample ID:**	BC9
Project:	Water Quality Analysis	**Report Date:**	10/16/2014
		Collection Date:	10/07/2014 10:45
Work Order:	14J0362	**Matrix:**	Water
		Lab ID:	14J0362-10 (Continued)

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
Lake County Health Department, Subcontract							
Subcontracted Analyses							
Method: SM9222D							
Fecal Coliform	**400**	1		cfu/100 ml	10/07/14 00:00		

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14J0362

Client Sample ID: BRC LOWER
Report Date: 10/16/2014
Collection Date: 10/07/2014 11:00
Matrix: Water
Lab ID: 14J0362-14

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
On Site Analysis							
Method: SM2510B							
Specific Conductance	**1210**	0.00		uS/cm	10/07/14 11:00	B4J0315	AR
Method: SM2550-B							
Temperature	**14.0**	1.00		°C	10/07/14 11:00	B4J0315	AR
Method: SM4500-H							
pH	**7.57**	0.05		pH Units	10/07/14 11:00	B4J0315	AR
Method: SM4500-O G							
Dissolved Oxygen (O2)	**8.54**	2.00		mg/L	10/07/14 11:00	B4J0315	AR
Metals by ICP-AES							
Method: E200.7 / SW3015							
Calcium	**55.9**	1.56		mg/L	10/10/14 16:56	B4J0377	CS2
Anions by Ion Chromatography							
Method: E300							
Chloride	**234**	20.0		mg/L	10/09/14 12:24	B4J0310	GSB
Wet Chemistry							
Method: SM2540C							
Total Dissolved Solids (Residue, Filterable)	**618**	10.0		mg/L	10/10/14 07:50	B4J0387	TB2
Method: SM2540D							
Suspended Solids (Residue, Non-filterable)	**10.0**	15.0		mg/L	10/09/14 13:10	B4J0369	TB2
Method: SM4500-Norg B / SM4500-NH3 BC							
Nitrogen, Kjeldahl, Total	**1.68**	5.00		mg/L	10/14/14 15:16	B4J0452	TTT
Method: SM4500-P E / SW846 3015 / SW3015							
Phosphorus, Total (As P)	**0.0960**	0.0500		mg/L	10/14/14 15:13	B4J0543	TTT
Method: SM5210 B							
Biochemical Oxygen Demand	**3**	5	BOD DO	mg/L	10/08/14 12:56	B4J0278	CS1

Lake County Health Department, Subcontract

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Client Sample Results

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis
Work Order: 14J0362

Client Sample ID: BRC LOWER
Report Date: 10/16/2014
Collection Date: 10/07/2014 11:00
Matrix: Water
Lab ID: 14J0362-14 (Continued)

Analyses	Result	EMT Reporting Limit	Qual	Units	Date/Time Analyzed	Batch	Analyst
Lake County Health Department, Subcontract							
Subcontracted Analyses							
Method: SM9222D							
Fecal Coliform	> 270	1		cfu/100 ml	10/07/14 00:00		

Environmental Monitoring and Technologies, Inc.

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Dates Report

(Continued)

Client: Cardno JFNew **Date:** 10/16/2014

Project: Water Quality Analysis

Work Order: 14J0362

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leached Date	Prep Date	Analysis Date	Batch ID
14J0362-08	BC13	10/07/2014 10:00	Water	Temperature		10/07/2014 10:00	10/07/2014 10:00	B4J0315
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:19	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/13/2014 14:55	10/13/2014 18:39	B4J0486
14J0362-09	BC8	10/07/2014 10:25		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 09:14	B4J0310
				pH, Tested On Site		10/07/2014 10:25	10/07/2014 10:25	B4J0315
				Oxygen, Dissolved (DO) Tested On Site		10/07/2014 10:25	10/07/2014 10:25	
				Temperature		10/07/2014 10:25	10/07/2014 10:25	
				Conductance, Field		10/07/2014 10:25	10/07/2014 10:25	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:23	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543
14J0362-10	BC9	10/07/2014 10:45		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 09:52	B4J0310
				Oxygen, Dissolved (DO) Tested On Site		10/07/2014 10:45	10/07/2014 10:45	B4J0315
				Conductance, Field		10/07/2014 10:45	10/07/2014 10:45	
				pH, Tested On Site		10/07/2014 10:45	10/07/2014 10:45	
				Temperature		10/07/2014 10:45	10/07/2014 10:45	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:27	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543
14J0362-11	BC10	10/07/2014 11:25		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 10:30	B4J0310
				pH, Tested On Site		10/07/2014 11:25	10/07/2014 11:25	B4J0315
				Temperature		10/07/2014 11:25	10/07/2014 11:25	
				Conductance, Field		10/07/2014 11:25	10/07/2014 11:25	
				Oxygen, Dissolved (DO) Tested On Site		10/07/2014 11:25	10/07/2014 11:25	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:30	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543
14J0362-12	BC11	10/07/2014 11:45		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 11:08	B4J0310

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Dates Report

(Continued)

Client: Cardno JFNew **Date:** 10/16/2014

Project: Water Quality Analysis

Work Order: 14J0362

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leached Date	Prep Date	Analysis Date	Batch ID
14J0362-12	BC11	10/07/2014 11:45	Water	Oxygen, Dissolved (DO) Tested On Site		10/07/2014 11:45	10/07/2014 11:45	B4J0315
				pH, Tested On Site		10/07/2014 11:45	10/07/2014 11:45	
				Conductance, Field		10/07/2014 11:45	10/07/2014 11:45	
				Temperature		10/07/2014 11:45	10/07/2014 11:45	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:48	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543
14J0362-13	BC12	10/07/2014 12:05		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 11:46	B4J0310
				Oxygen, Dissolved (DO) Tested On Site		10/07/2014 12:05	10/07/2014 12:05	B4J0315
				pH, Tested On Site		10/07/2014 12:05	10/07/2014 12:05	
				Temperature		10/07/2014 12:05	10/07/2014 12:05	
				Conductance, Field		10/07/2014 12:05	10/07/2014 12:05	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:52	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543
14J0362-14	BRC LOWER	10/07/2014 11:00		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 12:24	B4J0310
				Temperature		10/07/2014 11:00	10/07/2014 11:00	B4J0315
				Oxygen, Dissolved (DO) Tested On Site		10/07/2014 11:00	10/07/2014 11:00	
				Conductance, Field		10/07/2014 11:00	10/07/2014 11:00	
				pH, Tested On Site		10/07/2014 11:00	10/07/2014 11:00	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:56	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543
14J0362-15	BRC UPPER	10/07/2014 11:15		Subcontracted Analyses		10/07/2014 00:00	10/07/2014 00:00	'[none]'
				Biological Oxygen Demand (BOD)		10/08/2014 12:56	10/08/2014 12:56	B4J0278
				Chloride, Anions by Ion Chromatography		10/09/2014 00:21	10/09/2014 13:01	B4J0310
				Temperature		10/07/2014 11:15	10/07/2014 11:15	B4J0315
				Conductance, Field		10/07/2014 11:15	10/07/2014 11:15	
				pH, Tested On Site		10/07/2014 11:15	10/07/2014 11:15	
				Oxygen, Dissolved (DO) Tested On Site		10/07/2014 11:15	10/07/2014 11:15	
				Solids, Total Suspended (TSS)		10/09/2014 13:10	10/09/2014 13:10	B4J0369
				Calcium, Total ICP-AES		10/09/2014 15:00	10/10/2014 16:59	B4J0377
				Solids, Total Dissolved (TDS)		10/10/2014 07:50	10/10/2014 07:50	B4J0387
				Nitrogen, Total Kjeldahl (TKN)		10/13/2014 09:30	10/14/2014 15:16	B4J0452
				Phosphorous, Total (Automated)		10/14/2014 10:30	10/14/2014 15:13	B4J0543

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Quality Control

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 10/16/2014
Matrix: Water

Work Order: 14J0362

Metals by ICP-AES

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4J0377 - SW3015										
Blank (B4J0377-BLK1)				*Prepared: 10/09/2014 15:00*			*Analyzed: 10/10/2014 15:33*			
Calcium	< 0.0449	0.156	mg/L							
LCS (B4J0377-BS1)				*Prepared: 10/09/2014 15:00*			*Analyzed: 10/10/2014 15:36*			
Calcium	6.31	0.156	mg/L	6.25		101	85-115			
Matrix Spike (B4J0377-MS1)		**Source: 14J0362-08**		*Prepared: 10/09/2014 15:00*			*Analyzed: 10/10/2014 17:03*			
Calcium	56.0	1.56	mg/L	6.25	48.0	128	70-130			
Matrix Spike Dup (B4J0377-MSD1)		**Source: 14J0362-08**		*Prepared: 10/09/2014 15:00*			*Analyzed: 10/10/2014 17:07*			
Calcium	54.0	1.56	mg/L	6.25	48.0	96.0	70-130	3.59	20	

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 10/16/2014
Matrix: Water

Work Order: 14J0362

Anions by Ion Chromatography

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4J0310										
Blank (B4J0310-BLK1)				*Prepared: 10/08/2014 15:21*			*Analyzed: 10/08/2014 16:52*			
Chloride	< 0.00600	0.200	mg/L							
LCS HR (B4J0310-BS2)				*Prepared: 10/08/2014 15:21*			*Analyzed: 10/08/2014 18:07*			
Chloride	4.87		mg/L	5.00		97.5	90-110			
Matrix Spike (B4J0310-MS2)		**Source: 14J0362-15**		*Prepared: 10/09/2014 15:21*			*Analyzed: 10/09/2014 16:11*			
Chloride	412	20.0	mg/L	250	163	99.5	80-120			
Matrix Spike Dup (B4J0310-MSD2)		**Source: 14J0362-15**		*Prepared: 10/09/2014 15:21*			*Analyzed: 10/09/2014 16:49*			
Chloride	411	20.0	mg/L	250	163	99.4	80-120	0.0364	20	

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 10/16/2014
Matrix: Water

Work Order: 14J0362

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4J0278										
Blank (B4J0278-BLK1)				*Prepared: 10/08/2014 12:56*		*Analyzed: 10/13/2014 13:51*				
Biochemical Oxygen Demand	< 0.8	15	mg/L							BOD Blank,
LCS (B4J0278-BS1)				*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	233	15	mg/L	198		118	84.6-115.4			S
Duplicate (B4J0278-DUP1)		**Source: 14J0298-04**		*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	3140	15	mg/L		3190			1.52	9.46	
Duplicate (B4J0278-DUP2)		**Source: 14J0298-06**		*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	3220	15	mg/L		2960			8.36	9.46	
Duplicate (B4J0278-DUP3)		**Source: 14J0331-01**		*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	5680	15	mg/L		5400			5.09	9.46	
Matrix Spike (B4J0278-MS1)		**Source: 14J0298-04**		*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	21600	15	mg/L	3960	3190	465	80-120			S
Matrix Spike (B4J0278-MS2)		**Source: 14J0298-06**		*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	16500	15	mg/L	3170	2960	426	80-120			S
Matrix Spike (B4J0278-MS3)		**Source: 14J0331-01**		*Prepared: 10/08/2014 12:56*		*Analyzed: 10/08/2014 12:56*				
Biochemical Oxygen Demand	23100	15	mg/L	4950	5400	358	80-120			S
Batch: B4J0337										
Blank (B4J0337-BLK1)				*Prepared: 10/09/2014 08:30*		*Analyzed: 10/09/2014 08:30*				
Total Dissolved Solids (Residue, Filterable)	< 3.70	10.0	mg/L							
LCS (B4J0337-BS1)				*Prepared: 10/09/2014 08:30*		*Analyzed: 10/09/2014 08:30*				
Total Dissolved Solids (Residue, Filterable)	981	10.0	mg/L	970		101	85-115			
Duplicate (B4J0337-DUP1)		**Source: 14J0343-09**		*Prepared: 10/09/2014 08:30*		*Analyzed: 10/09/2014 08:30*				
Total Dissolved Solids (Residue, Filterable)	143000	10.0	mg/L		144000			0.0279	5	
Batch: B4J0369										
Blank (B4J0369-BLK1)				*Prepared: 10/09/2014 13:10*		*Analyzed: 10/09/2014 13:10*				

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 10/16/2014
Matrix: Water

Work Order: 14J0362

Wet Chemistry

(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4J0369 *(Continued)*										
Blank (B4J0369-BLK1) (Continued)				*Prepared: 10/09/2014 13:10*			*Analyzed: 10/09/2014 13:10*			
Suspended Solids (Residue, Non-filterable)	< 3.10	15.0	mg/L							
LCS (B4J0369-BS1)				*Prepared: 10/09/2014 13:10*			*Analyzed: 10/09/2014 13:10*			
Suspended Solids (Residue, Non-filterable)	1010	15.0	mg/L	930		108	85-115			
Duplicate (B4J0369-DUP1)		**Source: 14J0362-10**		*Prepared: 10/09/2014 13:10*			*Analyzed: 10/09/2014 13:10*			
Suspended Solids (Residue, Non-filterable)	12.0	15.0	mg/L		13.0			8.00	10	
Duplicate (B4J0369-DUP2)		**Source: 14J0367-02**		*Prepared: 10/09/2014 13:10*			*Analyzed: 10/09/2014 13:10*			
Suspended Solids (Residue, Non-filterable)	41.0	15.0	mg/L		41.0			0.00	10	
Batch: B4J0387										
Blank (B4J0387-BLK1)				*Prepared: 10/10/2014 07:50*			*Analyzed: 10/10/2014 07:50*			
Total Dissolved Solids (Residue, Filterable)	< 3.70	10.0	mg/L							
LCS (B4J0387-BS1)				*Prepared: 10/10/2014 07:50*			*Analyzed: 10/10/2014 07:50*			
Total Dissolved Solids (Residue, Filterable)	987	10.0	mg/L	963		102	85-115			
Duplicate (B4J0387-DUP1)		**Source: 14J0362-12**		*Prepared: 10/10/2014 07:50*			*Analyzed: 10/10/2014 07:50*			
Total Dissolved Solids (Residue, Filterable)	612	10.0	mg/L		632			3.22	5	
Duplicate (B4J0387-DUP2)		**Source: 14J0362-15**		*Prepared: 10/10/2014 07:50*			*Analyzed: 10/10/2014 07:50*			
Total Dissolved Solids (Residue, Filterable)	572	10.0	mg/L		566			1.05	5	
Batch: B4J0424										
Blank (B4J0424-BLK1)				*Prepared: 10/10/2014 07:00*			*Analyzed: 10/10/2014 14:59*			
Nitrogen, Kjeldahl, Total	0.280	5.00	mg/L							
LCS (B4J0424-BS1)				*Prepared: 10/10/2014 07:00*			*Analyzed: 10/10/2014 14:59*			
Nitrogen, Kjeldahl, Total	10.1	5.00	mg/L	10.0		101	90-120			
Matrix Spike (B4J0424-MS1)		**Source: 14J0362-07**		*Prepared: 10/10/2014 07:00*			*Analyzed: 10/10/2014 15:02*			
Nitrogen, Kjeldahl, Total	10.8	2.50	mg/L	10.0	0.980	98.0	80-120			

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 10/16/2014
Matrix: Water

Work Order: 14J0362

Wet Chemistry

(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4J0424 *(Continued)*										
Matrix Spike Dup (B4J0424-MSD1)		**Source: 14J0362-07**		*Prepared: 10/10/2014 07:00*			*Analyzed: 10/10/2014 15:02*			
Nitrogen, Kjeldahl, Total	10.6	2.50	mg/L	10.0	0.980	96.6	80-120	1.31	7.15	
Batch: B4J0452										
Blank (B4J0452-BLK1)							*Prepared: 10/13/2014 09:30*	*Analyzed: 10/14/2014 15:16*		
Nitrogen, Kjeldahl, Total	< 0.249	5.00	mg/L							
LCS (B4J0452-BS1)							*Prepared: 10/13/2014 09:30*	*Analyzed: 10/14/2014 15:16*		
Nitrogen, Kjeldahl, Total	9.80	5.00	mg/L	10.0		98.0	90-120			
Matrix Spike (B4J0452-MS1)		**Source: 14J0335-01**		*Prepared: 10/13/2014 09:30*			*Analyzed: 10/14/2014 15:16*			
Nitrogen, Kjeldahl, Total	21.3	10.0	mg/L	20.0	1.12	101	80-120			
Matrix Spike Dup (B4J0452-MSD1)		**Source: 14J0335-01**		*Prepared: 10/13/2014 09:30*			*Analyzed: 10/14/2014 15:16*			
Nitrogen, Kjeldahl, Total	20.7	10.0	mg/L	20.0	1.12	98.0	80-120	2.67	7.15	
Batch: B4J0486 - SW3015										
Blank (B4J0486-BLK1)							*Prepared: 10/13/2014 14:55*	*Analyzed: 10/13/2014 18:39*		
Phosphorus, Total (As P)	< 0.00400	0.0500	mg/L							
LCS (B4J0486-BS1)							*Prepared: 10/13/2014 14:55*	*Analyzed: 10/13/2014 18:39*		
Phosphorus, Total (As P)	0.247	0.0500	mg/L	0.250		98.8	80-120			
LCS (B4J0486-BS2)							*Prepared: 10/13/2014 14:55*	*Analyzed: 10/13/2014 18:39*		
Phosphorus, Total (As P)	0.504	0.0500	mg/L	0.500		101	80-120			
Matrix Spike (B4J0486-MS1)		**Source: 14J0362-08**		*Prepared: 10/13/2014 14:55*			*Analyzed: 10/13/2014 18:39*			
Phosphorus, Total (As P)	0.278	0.0500	mg/L	0.250	0.0580	88.0	80-120			
Matrix Spike Dup (B4J0486-MSD1)		**Source: 14J0362-08**		*Prepared: 10/13/2014 14:55*			*Analyzed: 10/13/2014 18:39*			
Phosphorus, Total (As P)	0.273	0.0500	mg/L	0.250	0.0580	86.0	80-120	1.81	9.53	
Batch: B4J0543 - SW3015										
Blank (B4J0543-BLK1)							*Prepared: 10/14/2014 10:30*	*Analyzed: 10/14/2014 15:13*		
Phosphorus, Total (As P)	< 0.00400	0.0500	mg/L							

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Quality Control

(Continued)

Client: Cardno JFNew
Project: Water Quality Analysis

Report Date: 10/16/2014
Matrix: Water

Work Order: 14J0362

Wet Chemistry

(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B4J0543 - SW3015 *(Continued)*										
LCS (B4J0543-BS1)				*Prepared: 10/14/2014 10:30*			*Analyzed: 10/14/2014 15:13*			
Phosphorus, Total (As P)	0.232	0.0500	mg/L	0.250		92.8	80-120			
LCS (B4J0543-BS2)				*Prepared: 10/14/2014 15:11*			*Analyzed: 10/14/2014 15:13*			
Phosphorus, Total (As P)	0.544	0.0500	mg/L	0.500		109	80-120			
Duplicate (B4J0543-DUP1)		**Source: 14J0362-15**		*Prepared: 10/14/2014 10:30*			*Analyzed: 10/14/2014 15:13*			
Phosphorus, Total (As P)	0.0230	0.0500	mg/L		0.0270			16.0	20	

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Certified Analyses included in this Report

Analyte	CAS #	Certifications
E200.7 in Water		
Calcium	7440-70-2	ILEPA,LELAP,WDNR,DoD
E300 in Water		
Chloride	16887-00-6	DoD,WDNR,ILEPA
SM2510B in Water		
Specific Conductance		DoD,ILEPA
SM2540C in Water		
Total Dissolved Solids (Residue, Filterable)		DoD,ILEPA,WDNR
SM2540D in Water		
Suspended Solids (Residue, Non-filterable)		DoD,ILEPA,WDNR
SM2550-B in Water		
Temperature		ILEPA
SM4500-H in Water		
pH		DoD,ILEPA,WDNR
SM4500-Norg B / SM4500-NH3 BC in Water		
Nitrogen, Kjeldahl, Total	7727-37-9	DoD,ILEPA,WDNR
SM4500-P E / SW846 3015 in Water		
Phosphorus, Total (As P)	7723-14-0	DoD,ILEPA,WDNR
SM5210 B in Water		
Biochemical Oxygen Demand		LELAP,ILEPA,DoD,WDNR

List of Certifications

Code	Description	Number	Expires
AKDEC	State of Alaska, Dept. Environmental Conservation	UST-105	07/16/2015
CPSC	US Consumer Product Safety Commission, Accredited by PJLA Lab No. 1050	L14-56	04/30/2016
DoD	Department of Defense, Accredited by PJLA	L14-55	04/30/2016
ILEPA	State of Illinois, NELAC Accredited Lab No. 100256	003041	07/27/2015
ISO	ISO/IEC 17025, Accredited by PJLA	L14-56	04/30/2016
LELAP	State of Louisiana, NELAC Accredited Lab No. 171344	05015	06/30/2015
WDNR	State of Wisconsin Dept of Natural Resources	999888890	08/31/2015

Environmental Monitoring and Technologies, Inc.

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Qualifiers and Definitions

Item	Description
BOD Blank	The average blank recovery of 0.32 is above the laboratory control limit of 0.20.
BOD DO	The dissolved oxygen loss is less than 2 ppm on the largest volume of sample analyzed.
BOD Seed	The seed correction value of 0.48 is outside the lab control range of 0.6 to 1.0.
S	The recovery is outside of the laboratory control limits.
TDS Cru	The residue remaining in the crucible was greater than 0.20 g.
%Rec	Percent Recovery

ENVIRONMENTAL MONITORING AND TECHNOLOGIES, INC.

8100 North Austin Avenue
Morton Grove, Illinois 60053-3203

847-967-6666
FAX: 847-967-6735
www.emt.com

Chain of Custody Record

TURNARAOUND TIME:
☐ RUSH
____ day turnaround
☒ ROUTINE

Due Date: ____-____-____ COC #: 138721

Company: Cardno JFNew
Address: 1000 Hart Rd Suite 150
Barrington IL 60010

Phone #: (847) 732-5102 Fax #: (____) ____-____
P.O. #: ____ Proj.#: ____-____
Client Contact: Mary Knight
Project ID / Location: Cardno Work Quality Audit

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater ____

Container Type:
P - Plastic V - VOC Vial O - Other
G - Glass B - Tedlar Bag ____

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH ____

Analyses

EMT USE ONLY

EMT WORKORDER # 14T0362

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	Sampling pH	Sampling Temp.	Preservation Field	Preservation Lab	Bacteria TDS/Chloride	Carbon	TKN/Total phosphorus	Fecal Coliform	Temperature pH/DO Cond						EMT USE ONLY
BC8	2	Q	P	1	R	10/7	10:25			1		X				X						09A,E
BC8	2	P	P	1	R	10/7	10:25			3			X									09B
BC8	2	Q	P	1	R	10/7	10:25			2				X								09C
BC8	2	40Z	P	1	R	10/7	10:25	7.32	12.10	8					X							09D
BC9	2	Q	P	1	R	10/7	10:45			1		X				X						10A,E
BC9	2	P	P	1	R	10/7	10:45			3			X									10B
BC9	2	Q	P	1	R	10/7	10:45			2				X								10C
BC9	2	40Z	P	1	R	10/7	10:45	7.92	12.73	8					X							10D

Relinquished By:	Date: 10-7-14 Time: 13:47	Received By:	Date: - - Time: :	EMT USE ONLY Client Code: CARDNO
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D. Cardno Work Quality Audit
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: 10-7-14 Time: 13:45	Jar Lot No.

☒ SAMPLE RECEIVED ON ICE
☒ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)
2

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS:

EMTFIELDDOC2014001

BC8 cond 1418 DO BC9 cond 1349 DO

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8100 North Austin Avenue
Morton Grove, Illinois 60053-3203

847-967-6666
FAX: 847-967-6735
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Chain of Custody Record

TURNARAOUND TIME:
☐ RUSH ____ day turnaround
☒ ROUTINE

Due Date: ____-____-____ COC #: 138723

Company: CARPRO / FNOW
Address: 1000 Hart Rd Suite 130
Barrington IL 60010

Phone #: (847) 732-5702 Fax #: (____) ____-____
P.O. #: ____ Proj.#: ____-____
Client Contact: Macey Kruse
Project ID / Location: Chicago Water Quality Study

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater ____

Container Type:
P - Plastic V - VOC Vial O - Other
G - Glass B - Tedlar Bag ____

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH ____

Analyses

EMT USE ONLY
EMT WORKORDER # 14J0362

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	pH	Temp.	Preservation Field	Preservation Lab	Analyses	EMT USE ONLY
BRC Lower	2	Q	P	1	M	10/7	11:00			1		X X	14A,E
BRC Lower	2	P	P	1	M	10/7	11:00			3		X	14B
BRC Lower	2	Q	P	1	M	10/7	11:00			2		X	14C
BRC Lower	2	40z	P	1	M	10/7	11:00	7.57	14.01	8		X	14D
BRC Upper	2	Q	P	1	M	10/7	11:15			1		X X	15A,E
BRC Upper	2	P	P	1	M	10/7	11:15			3		X	15B
BRC Upper	2	Q	P	1	M	10/7	11:15			2		X	15C
BRC Upper	2	40z	P	1	M	10/7	11:15	7.50	12.27	8		X	15D

Relinquished By:	Date: 10-7-14 Time: 13:45	Received By:	Date: - - Time: :	EMT USE ONLY Client Code: CARPRO
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D. CARPRO Water Quality Study
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: 10-7-14 Time: 13:45	Jar Lot No.

☐ SAMPLE RECEIVED ON ICE
☐ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS:

EMTFIELDDOC2014001

BRC Lower cond 1207 DO

BRC Upper cond 1071 DO

LakeCounty

Central Permit Facility
500 W. Winchester Rd.
Libertyville, IL 60048
847-377-8020

CUSTOMER RECEIPT

Receipt Date:	15-OCT-2014
Document Number:	401082
Customer:	Jim Cronin - EMT
Comments:	Buffalo Creek water analysis 10/7/14 #626620-626634
Method of Payment:	IL Fund-CC-American Express.
Amount:	240.00

LAKE COUNTY
HEALTH DEPARTMENT AND
COMMUNITY HEALTH CENTER

Lake County Environmental Laboratory
IEPA Accreditation # 100267
IDPH Registry # 17541

500 W. Winchester Rd
Libertyville, IL 60048
Telephone (847) 377-8017
Fax: (847) 984-5623

REPORT OF ANALYSIS

EMT ATTN M GREGORY
8100 AUSTIN AVE
MORTON GROVE IL 60053

Report Date: October 8, 2014

Date Collected: 10/7/2014
Sample Description: Surface Water
Collected by: A. Richert
Project ID: **Buffalo Creek** between Lake Zurich and Arlington Heights
Analysis Date/Time: 10/7/14 1:45 PM

Lab ID Number	Sample Location	Collected Time	Volume (mL) Tested	Colony Count	Fecal Coliforms / 100 mL
626620	BC 1	7:30 AM	5	21	420
626621	BC 3	7:50 AM	50	100	>200
626622	BC 4	8:08 AM	5	22	440
626623	BC 5	8:25 AM	50	123	>250
626624	BC 6	8:45 AM	5	30	600
626625	BC 2	9:15 AM	50	148	>300
626626	BC 7	9:35 AM	50	93	>190
626627	BC 13	10:00 AM	5	35	700
626628	BC 8	10:25 AM	50	122	>240
626629	BC 9	10:45 AM	5	20	400
626630	BRC Lower	11:00 AM	50	137	>270
626631	BRC Upper	11:15 AM	5	21	420
626632	BC 10	11:25 AM	50	46	92
626633	BC 11	11:45 AM	50	79	>160
626634	BC 12	12:05 PM	50	101	>200

** Analysis date is the initiation date of analysis.

Methods:

Name: **Fecal Coliform**
Reported Units: membrane filter count per 100 mL
Test Method Used: Method 9222 D, "Standard Methods", 18th Edition
Minimum Reporting Limit: 20 fecal coliform / 100 mL for the volume tested.

Monica T Bofani
Laboratory Supervisor

mgregory@EMT.com

ENVIRONMENTAL MONITORING AND TECHNOLOGIES, INC.

8100 North Austin Avenue
Morton Grove, Illinois 60053-3203

847-967-6666
FAX: 847-967-6735
www.emt.com

Chain of Custody Record

TURNARAOUND TIME:
☐ RUSH
____ day turnaround
☐ ROUTINE

Due Date: ____-____-____ COC #: 139288

Company: EMT
Address: 8100 W. Austin Ave, Morton Grove, IL, 60053

Phone #: (847) 967-6666 Fax #: (____) ____-____
P.O. #: 60028 Proj. #: ____-____
Client Contact: Matt Gregory
Project ID / Location: ____

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater ____

Container Type:
P - Plastic V - VOC Vial O - Other
G - Glass B - Tedlar Bag ____

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH ____

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	pH	Temp.	Preservation Field	Preservation Lab	Analyses: Fecal Coli form	Volume	Count	Count Control	EMT USE ONLY: EMT WORKORDER #
BC 1	1	120 mL	P	1	~~AR~~	~~10/7/14~~	7:30	—	—	1		X	5	21	420	626620
BC 3	1	120 mL	P	1	AR	10/7/14	7:50	—	—	1		X	50	100	>200	626621
BC 4	1	120 mL	P	1	AR	10/7/14	8:08	—	—	1		X	5	22	440	626622
BC 5	1	120 mL	P	1	AR	10/7/14	8:25	—	—	1		X	50	123	>240	626623
BC 6	1	120 mL	P	1	AR	10/7/14	8:45	—	—	1		X	5	30	600	626624
BC 2	1	120 mL	P	1	AR	10/7/14	9:15	—	—	1		X	50	148	~~240~~ TES 10/9/14	626625
BC 7	1	120 mL	P	1	AR	10/7/14	9:35	—	—	1		X	50	93	>190	626626
BC 13	1	120 mL	P	1	AR	10/7/14	10:00	—	—	1		X	5	35	700	626627
BC 8	1	120 mL	P	1	AR	10/7/14	10:25	—	—	1		X	50	122	>240	626628
BC 9	1	120 mL	P	1	AR	10/7/14	10:45	—	—	1		X	5	20	400	626629

Relinquished By:	Date: 10-7-14 Time: 12:40	Received By:	Date: - - Time: :	EMT USE ONLY Client Code:
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D.
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: 10-7-14 Time: 12:40	Jar Lot No.

☐ SAMPLE RECEIVED ON ICE
☐ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS: collector - Andrew Richert

Analyst: JR
Date reported: 10/8/14 1330

EMTFIELDDOC2014001

ENVIRONMENTAL MONITORING AND TECHNOLOGIES, INC.

8100 North Austin Avenue
Morton Grove, Illinois 60053-3203

847-967-6666
FAX: 847-967-6735
www.emt.com

Chain of Custody Record

TURNARAOUND TIME:
☐ RUSH
____ day turnaround
☐ ROUTINE

Due Date: ____-____-____ COC #: 139290

Company: EMT
Address: 8100 N. Austin Ave., Morton Grove, IL, 60053

Phone #: (847) 967-6666 Fax #: (____) ____-____
P.O. #: 60028 Proj. #: ____-____
Client Contact: Matt Gregory
Project ID / Location: ____

Sample Type:
1. Waste Water 4. Sludge 7. Groundwater (filtered)
2. Drinking Water 5. Oil 8. Other
3. Soil 6. Groundwater ____

Container Type:
P - Plastic V - VOC Vial O - Other
G - Glass B - Tedlar Bag ____

Preservative:
1. None 4. NaOH 7. Zn Ace
2. H_2SO_4 5. HCl 8. Other
3. HNO_3 6. MeOH ____

Analyses

Sample I.D.	Sample Type	Container Size	Container Type	Container No.	Sampling By	Sampling Date	Sampling Time	pH	Temp.	Preservation Field	Preservation Lab	Fecal coliform	Volume	Count	Count/100mL	EMT USE ONLY EMT WORKORDER #
BRC lower	1	120mL	P	1	AR	10/7/14	11:00	—	—	1		X	50	137	>270	626630
BRC upper	1	120mL	P	1	AR	10/7/14	11:15	—	—	1		X	5	21	420	626631
BC 10	1	120mL	P	1	AR	10/7/14	11:35	—	—	1		X	50	46	92	626632
BC 11	1	120mL	P	1	AR	10/7/14	11:45	—	—	1		X	50	79	>160	626633
BC 12	1	120mL	P	1	AR	10/7/14	12:05	—	—	1		X	50	101	>200	626634

Relinquished By:	Date: 10-07-14 Time: 12 40	Received By:	Date: - - Time: :	EMT USE ONLY Client Code:
Relinquished By:	Date: - - Time: :	Received By:	Date: - - Time: :	EMT Project I.D.
Relinquished By:	Date: - - Time: :	Received For Lab By:	Date: 10-07-14 Time: 12:40	Jar Lot No.

☐ SAMPLE RECEIVED ON ICE
☐ TEMPERATURE (Must be recorded if sampling was greater than 6 hrs. prior to sample receipt)

EMT SAMPLE RETURN POLICY ON BACK

SPECIAL INSTRUCTIONS: collector-Andrea Robert

Analyst: [signature]
Date reported: 10/8/14 1330

EMTFIELDDOC2014001

Part D. Village Summary of Year 13 Stormwater Activities

The table below indicates the stormwater management activities that the Village plans to undertake during Year 13. Additional information about the BMPs and measurable goals that the Village will implement during Year 13 is provided in the section following the table.

Note: X indicates BMPs that will be implemented during Year 13

Year 13 Village of Arlington Heights	
A. Public Education and Outreach	
X	**A.1 Distributed Paper Material**
	A.2 Speaking Engagement
X	**A.3 Public Service Announcement**
	A.4 Community Event
	A.5 Classroom Education Material
	A.6 Other Public Education
B. Public Participation/Involvement	
	B.1 Public Panel
	B.2 Educational Volunteer
	B.3 Stakeholder Meeting
X	**B.4 Public Hearing**
	B.5 Volunteer Monitoring
	B.6 Program Coordination
	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
X	**C.1 Storm Sewer Map Preparation**
X	**C.2 Regulatory Control Program**
X	**C.3 Detection/Elimination Prioritization Plan**
	C.4 Illicit Discharge Tracing Procedures
X	**C.5 Illicit Source Removal Procedures**
	C.6 Program Evaluation and Assessment
	C.7 Visual Dry Weather Screening
	C.8 Pollutant Field Testing
X	**C.9 Public Notification**
	C.10 Other Illicit Discharge Controls

Year 13 Village of Arlington Heights	
D. Construction Site Runoff Control	
X	**D.1 Regulatory Control Program**
X	**D.2 Erosion and Sediment Control BMPs**
	D.3 Other Waste Control Program
X	**D.4 Site Plan Review Procedures**
X	**D.5 Public Information Handling Procedures**
X	**D.6 Site Inspection/Enforcement Procedures**
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	**E.2 Regulatory Control Program**
X	**E.3 Long Term O&M Procedures**
	E.4 Pre-Const Review of BMP Designs
X	**E.5 Site Inspections During Construction**
X	**E.6 Post-Construction Inspections**
	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	**F.1 Employee Training Program**
X	**F.2 Inspection and Maintenance Program**
X	**F.3 Municipal Operations Storm Water Control**
X	**F.4 Municipal Operations Waste Disposal**
	F.5 Flood Management/Assess Guidelines
	F.6 Other Municipal Operations Controls

Please note that the most recent version of IEPA's General NPDES Permit No. ILR40 (Permit) expired on March 31, 2014, and that the new version of the Permit, which will likely be issued during Year 13, has not yet been released to the public. Although it is difficult to accurately predict the changes that IEPA will make to the new version of the Permit, the Village remains committed to performing activities related to the six MCMs described in the most recent version of the Permit. The stormwater management activities that the Village plans to undertake during Year 13 are described in detail in the Village's SWMP and in brief below. The Village will continue to use tracking forms to track the implementation of the BMPs described in its SWMP.

A. Public Education and Outreach

The Village is committing to implementing the Public Education and Outreach component of its SWMP. The Village's Public Education and Outreach program includes: the distribution of educational material to the community or conducting equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce those impacts and supporting classroom education.

Measurable Goal(s): Maintain current practices. Implement, and track progress, of BMPs..

B. Public Participation/Involvement

The Village is committing to implementing the Public Participation/Involvement component of its SWMP. The Village's Public Participation/Involvement program includes: maintaining a process for receiving and processing citizen input; attending and publicizing stakeholder meetings.

Measurable Goal(s): Maintain current practices. Implement, and track progress, of BMPs.

C. Illicit Discharge Detection and Elimination

The Village will conduct activities related to the Illicit Discharge Detection and Elimination (IDDE) minimum control measure. According to the current General NPDES Permit No. ILR40, the Village's IDDE program must include:

- A storm sewer system map showing the locations of all outfalls and the names and locations of all waters that receive discharges from those outfalls;
- An ordinance or other regulatory mechanism that prohibits all non-storm water discharges into the storm sewer system and provides the authority for appropriate enforcement procedures and actions;
- A plan to detect and address all non-stormwater discharges, including illegal dumping, into the storm sewer system;
- A program to educate public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste; and,
- Periodic (annual is recommended) inspection of storm sewer outfalls for detection of non-stormwater discharges and illegal dumping.

Measurable Goal(s): Continue existing practices.

D. Construction Site Runoff Control
As described above, the Village code and the Cook County Watershed Management Ordinance establish minimum requirements for development in the Village.

Measurable Goal(s): Continue existing practices.

E. Post-Construction Runoff Control
As described above, the Village code and the Cook County Watershed Management Ordinance establish minimum requirements for development in the Village.

Measurable Goal(s): Continue existing practices.

F. Pollution Prevention/Good Housekeeping
The Village is committing to implementing the Pollution Prevention/Good Housekeeping component of its stormwater management program. The Village's Pollution Prevention/Good Housekeeping program includes: the evaluation and improvement of municipal policies and procedures to reduce the discharge of pollutants from municipal activities and operations; and, a training program for municipal employees.

Maintain current practices. Implement and track progress of BMPs.

Part E. Notice of Qualifying Local Program

Not applicable (N/A)

Part F. Village Construction Projects Conducted During Year 12

Project Name	Project Size (acres)	Construction Start Date	Construction End Date